

## California Regional Water Quality Control Board, San Diego Region

May 16, 2013

**Certified Mail – Return Receipt Requested**  
Article Number: 7011 0470 0002 8961 5834

Ms. Laura Coley Eisenberg  
Rancho Mission Viejo  
28811 Ortega Highway  
San Juan Capistrano, CA 92675

**In reply refer to / attn:**  
**784704:dbradford**

**SUBJECT: CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION  
NO. 12C-067; COW CAMP ROAD, TRAIL, AND ASSOCIATED UTILITIES  
PROJECT**

Ms. Coley Eisenberg:

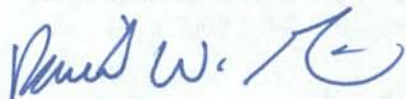
Enclosed find Clean Water Act Section 401 Water Quality Certification 12C-067 (Certification) for discharges to waters of the United States/State and acknowledgment of enrollment under State Water Resources Control Board Order No. 2003-017-DWQ for the **Cow Camp Road, Trail, and Associated Utilities** (Project). A description of the Project can be found in the Project information sheet, location map, and site maps which are included as Attachments 1 through 5 to the Certification.

Any petition for reconsideration of this Certification must be filed with the State Water Resources Control Board within 30 days of certification action (23 CCR section 3867). If no petition is received, it will be assumed that you have accepted and will comply with all the conditions of this Certification.

Failure to comply with all conditions of this Certification may subject you to enforcement actions by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), including administrative enforcement orders requiring you to cease and desist from violations, or to clean up waste and abate existing or threatened conditions of pollution or nuisance; administrative civil liability in amounts of up to \$10,000 per day per violation; referral to the State Attorney General for injunctive relief; and referral to the District Attorney for criminal prosecution.

In the subject line of any response, please include the reference number 784704:dbradford. For questions or comments, please contact Darren Bradford by phone at (858) 637-7137 or by email at [dbradford@waterboards.ca.gov](mailto:dbradford@waterboards.ca.gov).

Respectfully,



DAVID W. GIBSON  
Executive Officer  
San Diego Water Board

DG:js:db:kd:dlb

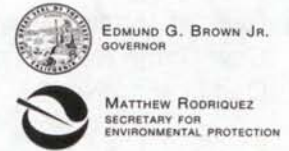
Enclosure:

Clean Water Act Section 401 Water Quality Certification No. 12C-067 for Cow Camp Road, Trail, and Associated Utilities Project, with 5 attachments.

E-copies: Refer to Attachment 2 of Certification 12C-067 for Distribution List.

Tech Staff Info & Use	
File No.	12C-067
WDID	9000002496
Reg. Measure ID	386814
Place ID	784704
Party ID	297330
Person ID	73367





California Regional Water Quality Control Board, San Diego Region

Action on Request for
Clean Water Act Section 401 Water Quality Certification
and Waste Discharge Requirements
for Discharge of Dredged and/or Fill Materials

PROJECT: Cow Camp Road, Trail, and Associated Utilities
Certification Number 12C-067, WDID: 9000002496

APPLICANT: Rancho Mission Viejo
2811 Ortega Highway
San Juan Capistrano, CA 92675

CIWQS
Reg. Meas. ID: 386814
Place ID: 784704
Party ID: 297330
Person ID: 73367

ACTION:

Table with 2 columns and 3 rows of action items with checkboxes. Checked items include: Order for Technically-conditioned Certification, Enrollment in SWRCB GWDR Order No. 2003-017 DWQ.

PROJECT DESCRIPTION

Rancho Mission Viejo (hereinafter Applicant) submitted an application dated August 1, 2012, for Water Quality Certification pursuant to section 401 of the Clean Water Act for the proposed Cow Camp Road, Trail, and Associated Utilities (Project).

The Applicant proposes to construct a portion of a new east-west arterial highway on the north side of San Juan Creek in compliance with the County of Orange Master Plan of Arterial Highways (MPAH). The Project will consist of three components: Cow Camp Road, including two bridges; a Class I Bikeway (Cow Camp Trail); and associated wet and dry utilities.



constructed. The bridges will span the Chiquita Creek-San Juan Creek confluence with 14 columns per bridge being placed in the canyon and/or creek. The Cow Camp Trail will be constructed on the north side of San Juan Creek and south of Cow Camp Road. This facility will follow the alignment of an existing ranch road and consist of 20 feet of pavement and an additional four (4) feet of water quality Best Management Practices (BMPs). Associated wet utilities (domestic water, recycled water and sewer) and dry utilities (conduits and cable TV) will be installed as part of the Project.

The Project will add approximately 8.73 acres of additional impervious surface. Post-construction BMPs will consist of four bioretention basins with underdrains that will meet Orange County's Low Impact Development (LID) Capture Volume and hydromodification treatment requirements. Flow splitters will convey flows up to the 2-year sized storm intensity to the basins. The second system will convey flows generated within the road right-of-way through proprietary bioretention planter box systems. Catch basin insert type BMPs will be used to treat Chiquita Bridges stormwater run-off.

The Project application includes a description of the design objective, operation, and degree of treatment expected to be attained from equipment, facilities, or activities (including construction and post-construction BMPs) to treat waste and reduce runoff or other effluents which may be discharged. Compliance with the Certification conditions will help ensure that construction and post-construction discharges from the Project will not cause onsite or offsite downstream erosion, damage to downstream properties, or otherwise damage stream habitats in violation of water quality standards in the Water Quality Control Plan for the San Diego Region (9) (Basin Plan).

Project construction will permanently impact 0.157 acre (1,119 linear feet) of jurisdictional vegetated and unvegetated waters of the United States and/or State. The Applicant reports that the Project purpose cannot be practically accomplished in a manner which would avoid or result in less adverse impacts to aquatic resources considering all potential practicable alternatives, such as the potential for alternate available locations, designs, reductions in size, configuration or density.

The Applicant reports that compensatory mitigation for the permanent loss of 0.157 acre of jurisdictional waters will be achieved through the establishment and enhancement of waters of the United States and/or State in the vicinity of the Project. All waters of the United States and/or State receiving temporary discharges will be restored upon removal of the fill. Mitigation for discharges of fill to wetland and vegetated non-wetland waters of the State and/or U.S. has already been created by the Applicant at the Gobernadora Ecological Restoration Area (GERA) located in the Canada Gobernadora hydrologic sub-area (HSA 901.24) at a minimum ratio of 1:1 (area mitigated:area impacted). This is reasonable mitigation for the wetland component given the high quality of the GERA wetlands. The GERA is conserved through a recorded conservation easement.



Mitigation for discharges of fill to non-vegetated waters of the State and/or U.S. (streambed) will be achieved at a minimum ratio of 4:1 (area mitigated:area impacted) by implementation of the Invasive Species Control Plan (ISCP) (July 2006, Glenn Lukos Associates, Inc.) in accordance with the San Juan Creek/Western San Mateo Creek Watershed Special Area Management Plan (SAMP). The Applicant has demonstrated through the functional assessment that such a ratio for invasive species removal will provide more than a 1:1 functional replacement for the loss of the on-site streambeds. In addition, implementation of the SAMP will ensure that the highest value aquatic resources in the Ranch Plan are maintained in a manner that will ensure long-term viability. Without the comprehensive planning efforts conducted to develop the SAMP/Master Streambed Alteration Agreement (MSAA) and southern Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP), which provide the context for the mitigation program, invasive species removal would likely not be an acceptable mitigation proposal for the significant loss of streambeds. Invasive species removal is proposed to mitigate for streambed fills because the SAMP process identified the eradication of exotic, invasive species in San Juan Creek and tributaries as a high priority for meeting the SAMP objectives of long-term viability of the aquatic resources.

In addition, the Applicant shall implement the Aquatic Resource Conservation Plan to promote aquatic resource functions and services within San Juan Creek and western San Mateo Creek watersheds. The Applicant's development plans include a funding mechanism for in perpetuity monitoring and maintenance of the mitigation sites. The mitigation plans will adequately compensate for the loss of beneficial uses and habitat within waters of the State associated with the discharge of fill material. Project impacts and mitigation are summarized in Section V of this Certification.

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### Attachments:

- 1. Project Information**
- 2. Distribution List**
- 3. Location Maps**
- 4. Project Site Plans**
- 5. Mitigation Figures**



## I. STANDARD CONDITIONS

Pursuant to section 3860 of Title 23 of the California Code of Regulations (23 CCR), the following three standard conditions apply to all water quality certification actions:

- A. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the Water Code and Article 6 (commencing with section 3867 of 23 CCR).
- B. This Certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility and requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to 23 CCR subsection 3855(b), and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- C. This Certification action is conditioned upon total payment of any fee required under chapter 28 (commencing with section 3830) of 23 CCR and owed by the applicant.

## II. GENERAL CONDITIONS

- A. Water Quality Certification No. 12C-067 (Certification) is only valid if the project begins no later than 5 (five) years from the date of issuance. If the project has not begun within 5 years from the date of issuance, then this Certification shall expire 5 years from the date of issuance.
- B. Rancho Mission Viejo (Applicant) must comply with the requirements of State Water Resources Control Board Water Quality Order No. 2003-0017-DWQ, *Statewide General Waste Discharge Requirements for Discharges of Dredged or Fill Material that have Received State Water Quality Certification*. These General Waste Discharge Requirements are accessible at:  
[http://www.waterboards.ca.gov/water\\_issues/programs/cwa401/docs/generalorders/gowdr401regulated\\_projects.pdf](http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/gowdr401regulated_projects.pdf).
- C. The Applicant must, at all times, fully comply with the engineering plans, specifications and technical reports submitted to the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), to support this Certification and all subsequent submittals required as part of this Certification and as described herein. The conditions within this Certification must supersede conflicting provisions within such plans submitted as part of this Certification action. Any modifications thereto, would require notification to the San Diego Water Board and reevaluation for individual Waste Discharge Requirements and/or Certification amendment.



- D. During construction, the Applicant must maintain a copy of this Certification at the Project site. This Certification must be available at all times to site personnel and agencies.
- E. The Applicant must allow the San Diego Water Board or the State Water Resources Control Board, and/or their authorized representative(s), upon the presentation of credentials and other documents as may be required under law, to:
1. Enter upon the Project premises where a regulated facility or activity is located or conducted, including all areas on which wetland fill or wetland mitigation is located or in which records are kept.
  2. Have access to copy, at reasonable times, any records that must be kept under the terms and conditions of this Certification.
  3. Inspect and photograph, at reasonable times, any facilities (including monitoring and control equipment, practices, or operations) regulated or required under this Certification.
  4. Sample or monitor, at reasonable times, for the purposes of assuring Certification compliance, or as otherwise authorized by the Clean Water Act or California Water Code (Water Code), any substances or parameters at any location.
- F. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation must be subject to any remedies, penalties, process or sanctions as provided for under State law. For purposes of section 401(d) of the Clean Water Act (CWA), the applicability of any State law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.
- G. In response to a suspected violation of any condition of this Certification, the San Diego Water Board may, pursuant to Water Code sections 13267 and 13383, require the holder of any permit or license subject to this Certification to investigate, monitor, and report information on the violation. The only restriction is that the burden, including costs of preparing the reports, must bear a reasonable relationship to the need for and the benefits to be obtained from the reports.
- H. In response to any violation of the conditions of this Certification, or if the results of the Project have unintended impacts to water quality, the San Diego Water Board may modify the conditions of this Certification as appropriate to ensure compliance.



### III. CONSTRUCTION BEST MANAGEMENT PRACTICES

- A. Prior to the start of the Project, and annually thereafter, the Applicant must educate all personnel on the requirements in this Certification, pollution prevention measures, spill response measures, and Best Management Practices (BMPs) implementation and maintenance.
- B. The Applicant must, at all times, maintain appropriate types and sufficient quantities of materials on-site to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the United States and/or State.
- C. The Applicant must enroll in and comply with the requirements of State Water Resources Control Board Water Quality Order No. 2009-0009-DWQ, the *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activity*, and any reissuance as applicable.
- D. The treatment, storage, and disposal of wastewater during the life of the project must be done in accordance with waste discharge requirements established by the San Diego Water Board pursuant to Water Code section 13260.
- E. Discharges of concentrated flow during construction or after completion must not cause downstream erosion or damage to properties or stream habitat.
- F. Water containing mud, silt, or other pollutants from equipment washing or other activities, must not be discharged to waters of the United States and/or State or placed in locations that may be subjected to storm flows. Pollutants discharged to areas within a stream diversion area must be removed at the end of each work day or sooner if rain is predicted.
- G. All surface waters, including ponded waters, must be diverted away from areas undergoing grading, construction, excavation, vegetation removal, and/or any other activity which may result in a discharge to the receiving water. Diversion activities must not result in the degradation of beneficial uses or exceedance of water quality objectives of the receiving waters. Any temporary dam or other artificial obstruction constructed must only be built from materials such as clean gravel which will cause little or no siltation. Normal flows must be restored to the affected stream immediately upon completion of work at that location.
- H. All areas that have 14 or more days of inactivity must be stabilized within 14 days of the last activity. The Applicant is responsible for implementing and maintaining BMPs to prevent erosion of the rough graded areas. After completion of grading, all areas must be revegetated with native species appropriate for the area. The revegetation palette must not contain any plants listed on the California Invasive Plant Council Invasive Plant



Inventory, which can be found online at <http://www.cal-ipc.org/ip/inventory/weedlist.php>.

- I. Except as authorized by this Certification, substances hazardous to aquatic life including, but not limited to, petroleum products, raw cement/concrete, asphalt, and coating materials, must be prevented from contaminating the soil and/or entering waters of the United States and/or State. BMPs must be implemented to prevent such discharges during each project activity involving hazardous materials.
- J. Removal of vegetation must occur by hand, mechanically, or using United States Environmental Protection Agency (USEPA) approved herbicides deployed using applicable BMPs to prevent impacts to beneficial uses of waters of the State. Use of aquatic pesticides must be done in accordance with State Water Resources Control Board Water Quality Order No. 2004-0009-DWQ, the *Statewide General National Pollution Discharge Elimination System Permit for the Discharge of Aquatic Weed Control in Waters of the United States*, and any subsequent reissuance as applicable.
- K. The Applicant shall demarcate all areas of temporary and planned disturbance to waters of the State prior to implementing activities within those areas such that all personnel working in those areas can clearly identify the limits of disturbance. The Applicant shall staff a qualified biologist on site during project construction of any activities within or next to waters of the State to ensure compliance with the Certification requirements. The biologist shall be given the authority to stop all work onsite if a violation occurs or has the potential to occur. The Applicant must report violations to the San Diego Water Board consistent with section VII.A. of this Certification. Records from the biologist's activities shall be kept on-site and made available for review by San Diego Water Board inspectors.

#### IV. POST-CONSTRUCTION BEST MANAGEMENT PRACTICES

- A. The Applicant shall not allow post-construction discharges to cause onsite or offsite downstream erosion, and/or damage to properties or damage to stream habitats from the Project site.
- B. All storm drain inlet structures within the Project boundaries must be stamped and/or stenciled (or equivalent) with appropriate language prohibiting non-storm water discharges.
- C. The Project must be designed to comply with the draft Model Water Quality Management Plan (Model WQMP) for South Orange County, dated December 16, 2011, and the draft South Orange County Hydromodification Plan (HMP), dated December 11, 2011.
- D. All post-construction BMPs, including those described in the *Water Quality Management Plan (WQMP) County of Orange Public/Private Project For: Cow Camp Road Improvements Phase 1B (Planning Area; STA 29 to 76)*, dated April 2012, prepared by



RBF Consulting, must be implemented, installed, and functional prior to construction completion and maintained in perpetuity.

- E. Post-construction BMPs, including those described in the WQMP (and any subsequent versions submitted to the San Diego Water Board), must treat 100 percent of the added impervious surface and all must be sized to comply with the following numeric sizing criteria:

1. Volume

Volume-based BMPs must be designed to mitigate (infiltrate, filter, or treat) either:

- a. The volume of runoff produced from a 24-hour 85<sup>th</sup> percentile storm event, as determined from the local historical rainfall record; or
- b. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85<sup>th</sup> percentile 24-hour runoff event; or

2. Flow

Flow-based BMPs must be designed to mitigate (infiltrate, filter, or treat) either:

- a. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour; or
- b. The maximum flow rate of runoff produced by the 85<sup>th</sup> percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or
- c. The maximum flow rate of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85<sup>th</sup> percentile hourly rainfall intensity multiplied by a factor of two

- F. All post-construction BMPs, including those described in the WQMP (and any subsequent versions submitted to the San Diego Water Board), prepared by RBF Consulting, must comply with the current (as of the issuance date of this Certification) requirements in *California Regional Water Quality Control Board, San Diego Region Order No. R9-2009-0002, NPDES No. CAS0108740, Waste Discharge Requirements for Discharges of Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County Of Orange, The Incorporated Cities of Orange County, and The Orange County Flood Control District Within the San Diego Region*. The Applicant must:

1. Not less than two times per year, assess the performance of the systems on protection of the receiving waters and identify any necessary corrective measures;
2. Have all preventive and corrective maintenance performed;
3. Maintain a log documenting all BMP inspections and maintenance activities.



G. The post construction BMPs must be designed, constructed, and maintained in accordance with the most recent California Stormwater Quality Association (CASQA) <sup>1</sup> guidance. Maintenance activities shall include, but are not limited to:

1. Semiannual inspection for the beginning and end of the wet season for standing water, slope stability, sediment accumulation, trash and debris, and presence of burrows; and
2. Removal of accumulated trash and debris as needed to ensure proper functioning of the BMP.

H. Post-construction BMPs must be installed and functional prior to occupancy and/or planned use of development areas.

## V. PROJECT IMPACTS AND COMPENSATORY MITIGATION

A. Unavoidable impacts to San Juan Creek, Chiquita Creek, and their unnamed tributaries within the San Juan Watershed must be limited to the impacts listed in the table below. At a minimum, compensatory mitigation for these impacts to waters of the State must be achieved as follows:

	Impacts (acres)	Impacts (linear ft.)	Mitigation for Impacts (acres)	Mitigation for Impacts (linear ft.)	Mitigation Ratio (area mitigated :area impacted)
<b>Permanent Impacts</b>					
Streambed	0.057	832	0.24 Enhancement <sup>1</sup>		4:1
Vegetated non-wetland (Riparian)	0.09	204	0.096 Establishment <sup>2</sup>	130	1:1
Wetland	0.01	83	0.01 Establishment <sup>3</sup>	130	1:1
<b>Temporary Impacts<sup>4</sup></b>					
Streambed and Riparian	0.519	159			
Wetland	0.869	1,106			

1. Arundo removal enhancement per the ISCP. See Section V.C.2.b, if success criteria are not met this requirement will change to 1:1 in-kind establishment mitigation.
2. Wetland/Riparian establishment at the GERA.
3. Wetland establishment at the GERA.
4. Must restore all areas of temporary impacts to pre-project contours and revegetation with native species.

<sup>1</sup> California Storm Water Quality Association (*California Storm Water BMP Handbook, New Development and Redevelopment 2003*), available on-line at: <http://www.cabmphandbooks.org/> [Accessed on January 15, 2012]



- B. Compensatory mitigation and the long-term management of the mitigation areas are described in the (1) *Aquatic Resources Habitat Restoration Plan (ARHRP)* prepared for the EIR, and (2) *Invasive Species Control Plan (ISCP)* (July 2006, Glenn Lukos Associates, Inc.) within San Juan Creek. Any deviations must be approved by the San Diego Water Board. Mitigation, monitoring, maintenance, and the long-term management of the mitigation areas must be implemented as described in these documents. Mitigation shall be considered acceptable once it has met the predetermined success criteria for the mitigation site, and must be maintained, in perpetuity, in a manner that consistently meets the final success criteria identified in the ARHRP and ISCP. All mitigation areas shall be protected in perpetuity from land-use and maintenance activities that may threaten water quality or beneficial uses within the mitigation area.
- C. Compensatory mitigation for permanent discharges of fill to 0.157 acres of waters of the State shall be achieved as follows:
1. Vegetated Waters: Mitigation for permanent discharges of fill into wetlands and other vegetated waters of the State and/or U.S. shall be achieved at a minimum 1:1 ratio by the maintenance in perpetuity of no less than 0.106 acres of previously established wetland waters of the State at the Gobernadora Ecological Restoration Area (GERA). The 0.106 acres shall serve as mitigation exclusively for this Project; and
  2. Streambed:
    - a. Mitigation for permanent discharges of fill into unvegetated waters of the State and/or U.S. shall be achieved at a 1:1 functional ratio, which is a minimum mitigation ratio of 4:1 (area mitigated:area impacted). Mitigation must be achieved by implementation of the ISCP for enhancement of no less than 0.24 acres within San Juan Creek. For the purpose of determining mitigation credit for the removal of exotic/invasive plant species, only the actual area occupied by exotic/invasive plant species shall be quantified to comply with mitigation requirements.
    - b. If the functional assessment monitoring, described in the ISCP, cannot demonstrate after five years that the estimated functional benefits have been achieved, the Applicant must propose and implement mitigation for streambed impacts within the same watershed as the impact site. The applicant shall propose in-kind establishment at a 1:1 ratio (area mitigated: area impacted), or restoration at a 2:1 ratio, or a combination thereof as appropriate for the site conditions and functional benefits achieved to date. The mitigation proposal must be submitted as part of the year five mitigation monitoring report required in section VIII.C of this Certification. The Applicant shall implement the mitigation proposal in accordance with the schedule



contained in the proposal unless otherwise directed in writing by the San Diego Water Board.

- D. The Applicant must restore all areas of temporary impacts and all other areas of temporary disturbance which could result in a discharge or a threatened discharge to waters of the United States and/or State. Restoration must include grading of disturbed areas to pre-project contours and revegetation with native species. The Applicant must implement all necessary BMPs to control erosion and runoff from areas associated with this Project.
- E. The mitigation sites must be designed, constructed, and maintained, in perpetuity, in conformance with the following conditions:
1. Most of the channels through the mitigation sites are characterized by equilibrium conditions, with no evidence of severe aggradation or degradation;
  2. As viewed along cross-sections, the channel and buffer have a variety of slopes, or elevations, that are characterized by different moisture gradients. Each sub-slope contains physical patch types or features that contribute to irregularity in height, edges, or surface and to complex topography overall; and
  3. The mitigation sites have a well-developed plant community characterized by a high degree of horizontal and vertical interspersion among plant zones and layers.
- F. The arundo removal per the *ISCP* must be completed no later than nine months following the discharge of fill into on-site waters of the State. Delays in implementing mitigation shall result in increased mitigation requirements by 0.01 acre for each month of delay.
- G. Mitigation sites must be maintained, in perpetuity, free of perennial exotic plant species including, but not limited to, pampas grass, giant reed, tamarisk, sweet fennel, tree tobacco, castor bean, and pepper tree. Annual exotic plant species must not occupy more than 5 percent of the mitigation sites.
- H. Any maintenance activities that do not contribute to the success of the mitigation site and enhancement of beneficial uses and ecological functions and services are prohibited. Maintenance activities are limited to the removal of trash and debris, removal of exotic plant species, replacement of dead native plant species, and remedial measures deemed necessary for the success of the restoration program.
- I. If at any time during the implementation and establishment of the mitigation area(s), and prior to verification of meeting success criteria, a catastrophic natural event (e.g., fire, flood) occurs and impacts the mitigation area, the Applicant is responsible for repair and replanting of the damaged area(s).



- J. **Within five years following enhancement activities**, mitigation areas in San Juan Creek shall closely resemble the expected functional success scores in the *Hybrid Wetland Functional Assessment* (Glenn Lukos Associates, Inc., July 2006) prepared for this project. If mitigation areas fail to meet their expected functional success criteria, the Applicant shall prepare remedial measures, acceptable to the San Diego Water Board, to be implemented within three months following the determination that success criteria were not reached.
- K. San Diego Water Board acceptance of the final mitigation plan applies only to the Project described in this Certification and must not be construed as approval for other current or future projects that are planning to use additional acreage at the site for mitigation.
- L. For purposes of this Certification, establishment is defined as the creation of vegetated or unvegetated waters of the United States/State where the resource has never previously existed (e.g. conversion of nonnative grassland to a freshwater marsh). Restoration is divided into two activities, re-establishment and rehabilitation. Re-establishment is defined as the return of natural/historic functions to a site where vegetated or unvegetated waters of the United States/State previously existed (e.g., removal of fill material to restore a drainage). Rehabilitation is defined as the improvement of the general suite of functions of degraded vegetated or unvegetated waters of the United States/State (e.g., removal of a heavy infestation or monoculture of exotic plant species from jurisdictional areas and replacing with native species). Enhancement is defined as the improvement to one or two functions of existing vegetated or unvegetated waters of the United States/State (e.g., removal of small patches of exotic plant species from an area containing predominantly natural plant species). Preservation is defined as the acquisition and legal protection from future impacts in perpetuity of existing vegetated or unvegetated waters of the United States/State (e.g., conservation easement).

## VI. MONITORING REQUIREMENTS

### A. **Hybrid Wetland Functional Assessment**

The Hybrid Wetland Functional Assessment must be utilized at the impact and mitigation sites prior to impacts to establish pre-project baseline conditions, set success criteria, and assess mitigation site progress as specified in the Hybrid Wetland Functional Assessment (July 2006) prepared by Glenn Lukos Associates, Inc. If the assessment cannot demonstrate that the estimated benefits have been achieved, the functional assessment shall be repeated every two years afterwards until the benefits have been demonstrated. The functional assessments shall be conducted using the same methodology as in the Draft Hybrid Wetland Functional Assessment.



**B. Progress Monitoring**

The Applicant must monitor compliance with this Certification, including BMP implementation, and report the monitoring results to the San Diego Water Board in accordance with the reporting requirements in section VIII of this Certification.

- C. The San Diego Water Board may make revisions to the monitoring program at any time during the five-year monitoring term, and may include a reduction or increase in the number of parameters to be monitored, locations monitored, the frequency of monitoring, or the number and size of samples collected.

**VII. NOTIFICATION REQUIREMENTS**

- A. The Applicant shall report any noncompliance which may endanger health or the environment. Any such information shall be provided orally to the San Diego Water Board within **24 hours** from the time the Applicant becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Applicant becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The San Diego Water Board, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

- B. This Certification is not transferable in its entirety or in part to any person or organization except after notice to the San Diego Water Board in accordance with the following terms:

- 1. Transfer of Property Ownership:** The Applicant must notify the San Diego Water Board of any change in ownership of the project area. Notification of change in ownership must include, but not be limited to, a statement that the Applicant has provided the purchaser with a copy of the Section 401 Water Quality Certification and that the purchaser understands and accepts the certification requirements and the obligation to implement them or be subject to liability for failure to do so; the seller and purchaser must sign and date the notification and provide such notification to the San Diego Water Board **within 10 days of the transfer of ownership.**
- 2. Transfer of Mitigation Responsibility:** Any notification of transfer of responsibilities to satisfy the mitigation requirements set forth in this Certification must include a signed statement from an authorized representative of the new party (transferee) demonstrating acceptance and understanding of the responsibility to comply with and fully satisfy the mitigation conditions and agreement that failure to comply with the mitigation conditions and associated requirements may subject the transferee to enforcement by the San Diego Water Board under Water Code section



13385, subdivision (a). Notification of transfer of responsibilities meeting the above conditions must be provided to the San Diego Water Board **within 10 days of the transfer date.**

3. **Transfer of Post-Construction BMP Maintenance Responsibility:** The Applicant assumes responsibility for the inspection and maintenance of all post-construction structural BMPs until such responsibility is legally transferred to another entity. At the time maintenance responsibility for post-construction BMPs is legally transferred the Applicant must submit to the San Diego Water Board a copy of such documentation and must provide the transferee with a copy of a long-term BMP maintenance plan that complies with manufacturer specifications. The Applicant must provide such notification to the San Diego Water Board within **10 days** of the transfer of BMP maintenance responsibility.

Upon properly noticed transfers of responsibility, the transferee assumes responsibility for compliance with this Certification and references in this Certification to the Applicant will be interpreted to refer to the transferee as appropriate. Transfer of responsibility does not necessarily relieve the Applicant of this Certification in the event that a transferee fails to comply.

- C. The Applicant must record conservation easements for the ISCP areas pursuant to the Phased Dedication Program as set forth in the Special Area Management Plan (SAMP) and the Southern Orange County Subregion Habitat Conservation Plan (HCP) Implementation Agreement. **Within 90 days** following recordation of the conservation easement, the Applicant must submit proof of the completed conservation easement protecting all mitigation areas and their buffers in perpetuity. The conservation easement, deed restriction, or other legal limitation on the mitigation property must be adequate to demonstrate that the site will be maintained without future development or encroachment on the site which could otherwise reduce the functions and values of the site for the variety of beneficial uses of waters of the State that it supports. The legal limitation must prohibit all residential, commercial, industrial, institutional, and transportation development, and any other infrastructure development that would not maintain or enhance the wetland and streambed functions and values of the site, except those specific uses defined as "Covered Activities" in the HCP and SAMP that are allowed within the HCP Habitat Reserve and/or SAMP Aquatic Resource Conservation Areas, respectively. The preservation mechanism must clearly prohibit activities that would result in soil disturbance or vegetation removal, other than the removal of non-native vegetation. Other infrastructure development to be prohibited includes, but is not limited to, additional utility lines, maintenance roads, and areas of maintained landscaping for recreation.
- D. The Applicant must notify the San Diego Water Board in writing **at least 5 days prior to** the actual commencement of dredge, fill, and discharge activities.



## VIII. REPORTING REQUIREMENTS

- A. **Annual Project Reports.** The Applicant must submit annual progress reports describing status of BMP implementation and compliance with all requirements of this Certification to the San Diego Water Board prior to **March 1** of each year following the issuance of this Certification until the project has reached completion. The report must contain a description of each incident of noncompliance and its cause, the period of the noncompliance including exact dates and times, and if the noncompliance has not been corrected, state the anticipated time it is expected to continue; and identify the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- B. **Final Project Completion Report.** The Applicant must submit a Final Project Completion Report to the San Diego Water Board **within 30 days of completion of the Project**. The final report must include the following information:
1. Date of construction initiation.
  2. Date of construction completion.
  3. Status of BMPs for the project.
  4. As-built drawings no bigger than 11"X17."
  5. Photo documentation of implemented post-construction BMPs. Photo documentation must be conducted in accordance with guidelines posted at [http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/401\\_certification/docs/StreamPhotoDocSOP.pdf](http://www.waterboards.ca.gov/sandiego/water_issues/programs/401_certification/docs/StreamPhotoDocSOP.pdf). In addition, photo documentation must include Global Positioning System (GPS) coordinates for each of the photo points referenced.
- C. **Mitigation Monitoring Reports.** Mitigation monitoring reports must be submitted annually until mitigation has been deemed successful. Annual mitigation monitoring reports must be submitted prior to **March 1** of each year. Monitoring reports must include, but not be limited to, the following information:
1. Names, qualifications, and affiliations of the persons contributing to the report;
  2. A description of the progress toward establishing a program to provide for maintenance in perpetuity of all mitigation areas subject to the ISCP, including a timetable for future steps;
  3. Results of the annual mitigation monitoring program described in the ISCP and results from the functional assessment conducted after the fifth year of monitoring;



4. Tables and an analysis of the raw quantitative and qualitative data collected in the field and the following information:
    - i. Detritus cover;
    - ii. General topographic complexity characteristics at each mitigation site;
    - iii. General upstream and downstream habitat and hydrologic connectivity; and
    - iv. Source of hydrology to the mitigation areas.
  5. Qualitative and quantitative comparisons of current mitigation conditions with pre-construction conditions and previous mitigation monitoring results;
  6. An evaluation of upstream and downstream habitat and hydrologic connectivity;
  7. Stream photo documentation, including all areas of permanent and temporary impact, prior to and after project construction, and mitigation sites, including all areas of permanent and temporary impact, prior to and after project construction. Photo documentation must be conducted in accordance with guidelines posted at [http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/401\\_certification/docs/StreamPhotoDocSOP.pdf](http://www.waterboards.ca.gov/sandiego/water_issues/programs/401_certification/docs/StreamPhotoDocSOP.pdf). In addition, photo documentation must include Geographic Positioning System (GPS) coordinates for each of the photo points referenced.
  8. A qualitative comparison to adjacent preserved streambed areas;
  9. A survey report documenting boundaries of mitigation area;
  10. All other items specified in the Invasive Control Plan; and
  11. As required by section V.C.2.b of this Certification, a streambed mitigation proposal.
- D. The submittal of information under this Certification is required pursuant to Water Code section 13267 and 13383. Civil liability may be administratively imposed by the San Diego Water Board for failure to submit information pursuant to Water Code sections 13268 or 13383.
- E. All reports and information submitted to the San Diego Water Board must be submitted in both hardcopy and electronic format. The preferred electronic format for each report submission is one file in PDF format that is also Optical Character Recognition (OCR) capable.
- F. All applications, reports, or information submitted to the San Diego Water Board must be signed and certified as follows:
1. For a corporation, by a responsible corporate officer of at least the level of vice president.



2. For a partnership or sole proprietorship, by a general partner or proprietor, respectively.
3. For a municipality, or a state, federal, or other public agency, by either a principal executive officer or ranking elected official.
4. A duly authorized representative may sign applications, reports, or information if:
  - a. The authorization is made in writing by a person described above.
  - b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated activity.

The written authorization is submitted to the San Diego Water Board Executive Officer.

If such authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the Project, a new authorization satisfying the above requirements must be submitted to the San Diego Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative.

- G. All applications, reports, or information submitted to the San Diego Water Board must be signed and certified as follows:

*"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."*

- H. The Applicant must submit reports required under this Certification, or other information required by the San Diego Water Board, to:

Executive Officer  
California Regional Water Quality Control Board  
San Diego Region  
Attn: 401 Certification Project No. 12C-067  
9174 Sky Park Court, Suite 100  
San Diego, California 92123



## IX. CEQA FINDINGS

- A. The County of Orange is the lead agency under the California Environmental Quality Act (Public Resources Code section 21000, et seq., (CEQA)), and filed Notice of Determination of their Environmental Impact Report (EIR) titled *The Ranch Plan (Planning Application PA010114*, on November 9, 2004 (SCH# 2003021141)). The County of Orange has determined the project will have a significant effect on the environment and mitigation measures were made a condition of the Project.
- B. The San Diego Water Board has reviewed the lead agency's Notice of Determination and also finds that the Project as proposed will have a significant effect on the environment and has conditioned mitigation measures accordingly and therefore determines that issuance of this Certification is consistent with the Notice of Determination.

## X. PUBLIC NOTIFICATION OF PROJECT APPLICATION

On December 17, 2012, receipt of the project application was posted on the San Diego Water Board web site to serve as appropriate notification to the public. No public comments were received.

## XI. SAN DIEGO WATER BOARD CONTACT PERSON

Darren Bradford, Environmental Scientist  
California Regional Water Quality Control Board, San Diego Region  
9174 Sky Park Court, Suite 100  
San Diego, CA 92123  
Telephone: 858-637-7137  
Email: [DBradford@waterboards.ca.gov](mailto:DBradford@waterboards.ca.gov)


## XII. WATER QUALITY CERTIFICATION

I hereby certify that the proposed discharge from the **Cow Camp Road, Trail, and Associated Utilities** (Certification Project No. 12C-067) will comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Board Order No. 2003-0017-DWQ, "*Statewide General Waste Discharge Requirements for Dredged or Fill Discharges that have Received State Water Quality Certification (General WDRs)*," which requires compliance with all conditions of this Water Quality Certification. Please note that enrollment under Order No. 2003-017-DWQ is conditional and, should new information come to our attention that indicates a water quality problem, the San Diego Water Board may issue individual waste discharge requirements at that time.



Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited to, and all proposed mitigation being completed in strict compliance with, the applicants' project description and/or the description on the attached Project Information Sheet, and (b) on compliance with all applicable requirements of the Water Quality Control Plan for the San Diego Basin Region (9) (Basin Plan).

I, David W. Gibson, Executive Officer, do hereby certify the forgoing is a full, true, and correct copy of Certification No. 12C-067 issued on May 16, 2013.



DAVID W. GIBSON  
Executive Officer  
San Diego Water Board

5-16-2013

Date



**ATTACHMENT 1  
PROJECT INFORMATION**

**Applicant:** Ms. Laura Coley Eisenberg (Agent)  
Rancho Mission Viejo (Applicant)  
28811 Ortega Highway  
San Juan Capistrano, CA 92675  
Telephone: 949-240-3363  
Email: LColeyEisenberg@Ranchomv.com

**Applicant Representatives:** Glenn Lukos Associates  
Attention: Tony Bomkamp  
29 Orchard  
Lake Forest, CA 92630  
Telephone: 949-837-0404 x41  
Facsimile: 949-837-5834  
Email: tbomkamp@wetlandpermitting.com

**Project Name:** The Cow Camp Road, Trail, and Associated Utilities

**Project Location:** The proposed project site is located at Rancho Mission Viejo, east of Interstate 5, and north of San Juan Creek, at 28811 Ortega Highway (33.526459, -117.613518), in the City of San Juan Capistrano, Orange County, California.

**Type of Project:** Transportation Development.

**Project Description:** The Cow Camp Road, Trail, and Associated Utilities (Project) is the construction of a portion of a new east-west arterial highway on the north side of San Juan Creek in compliance with the County of Orange Master Plan of Arterial Highways (MPAH). The Project will consist of three components: Cow Camp Road including two bridges, a Class I Bikeway (Cow Camp Trail) and associated wet and dry utilities. The Cow Camp Road alignment will include four "T" signalized intersections and two bridges at Canada Chiquita (Chiquita Bridges). The alignment will entail 6 general purpose lanes (3 westbound and 3 eastbound), 8-foot-wide shoulders, 6-foot-wide sidewalks with a raised curbed median 20 feet wide. The alignment will be graded to its ultimate width and constructed in phases. Two bridges of approximately 53 feet



in width, and 1,427 feet and 1,404 feet respectively in length in the eastbound and westbound direction will be constructed. The bridges will span the Chiquita Creek-San Juan Creek confluence with 14 columns per bridge being placed in the canyon and/or creek. The Cow Camp Trail will be constructed on the north side of San Juan Creek and south of Cow Camp Road. This facility will follow the alignment of an existing ranch road and consist of 20 feet of pavement and an additional four (4) feet of water quality Best Management Practices (BMPs), associated wet utilities (domestic water, recycled water and sewer) and dry utilities (conduits and cable TV) will be installed as part of the Project.

The Project will add approximately 8.73 acres of additional impervious surface. Post-construction BMPs will consist of four bioretention basins with underdrains that will meet Orange County's Low Impact Development (LID) Design Capture Volume and hydromodification treatment requirements. Flow splitters will convey flows up to the 2-year storm intensity to the basins. The second system type will convey flows generated within the road right-of-way through proprietary bioretention planter box systems. Catch basin insert type BMPs will be used to treat Chiquita Bridges stormwater run-off.

Federal  
Agency/Permit:

U.S. Army Corps of Engineers CWA section 404, fills to federal waters are proposed to be authorized by Letters of Permission consistent with the Special Area Management Plan (SAMP) developed for the San Juan and Western San Mateo Watersheds, Mr. Jason Lambert.

Other Required  
Regulatory Approvals:

California Department of Fish and Game (CDFG) Code section 1602 Master Streambed Alteration Agreement, Ms. Kelly Fisher.

California  
Environmental Quality  
Act (CEQA)  
Compliance:

Environmental Impact Report, *The Ranch Plan (Planning Application PA010114)*, County of Orange, State Clearing House No. 2003021141, November 9, 2004.



Receiving Waters: San Juan Creek, Chiquita Creek, and their unnamed tributaries. San Juan hydrologic unit, Mission Viejo hydrologic area, Gobernadora hydrologic sub area.

Impacted Wetlands of the United States and State:

Permanent –	
Wetlands	0.01-acre, 83-linear feet
Riparian	0.09-acre, 204-linear feet
Streambed	0.057-acre, 832-linear feet
Temporary –	
Wetlands	0.869-acre, 1,106-linear feet
Riparian	0.500-acre, 1,106-linear feet
Streambed	0.019-acre, 159-linear feet

Dredge Volume: None

Related Projects Implemented/to be Implemented by the Applicant(s): The applicant proposes to develop the entire Ranch Plan within 20 to 25 years. Additional 401 certification and/or waste discharge requirements may be necessary.

Compensatory Mitigation: All temporary impacts must be fully restored. Compensatory Mitigation for permanent impacts must be implemented at a minimum 1:1 ratio as follows: Impacts to vegetated waters (riparian and wetlands) will be mitigated through wetland and riparian establishment at the Gobernadora Ecosystem Restoration Area (GERA) owned by the applicant. That mitigation has already occurred.

Permanent Impacts to non-vegetated waters (streambed) will be achieved at a minimum ratio of 4:1 (area mitigated:area impacted) by implementation of the Invasive Species Control Plan (ISCP) (July 2006, Glenn Lukos Associates, Inc.) in accordance with the San Juan Creek/Western San Mateo Creek Watershed Special Area Management Plan (SAMP). The Applicant has prepared a functional assessment that demonstrates a net gain in water resource functions from implementation of the proposed mitigation for non-vegetated waters.



Compensatory Mitigation for permanent impacts must be implemented at a minimum ratio of 1:1 as follows:

- Wetland establishment at the GERA: 0.01 acres, 130 LF
- Wetland/riparian establishment at the GERA: 0.096 acres, 130 LF
- Streambed: 0.24 acres of arundo removal enhancement per the ISCP

**Best Management Practices (BMPs):**

Construction and Post-construction BMPs are described in the *Water Quality Management Plan (WQMP) County of Orange Public/Private Project For: Cow Camp Road Improvements Phase 1B (Planning Area; STA 29 to 76)*, prepared by RBF Consulting, and dated April 2012. BMPs must include, but not be limited to:

- Catch basin and inlet protection.
- Headwall outlet protection.
- Silt fencing
- Fiber rolls.
- Gravel bag berms.
- Concrete washout area.
- Stabilized construction entrance/exit.
- Spill prevention and control.
- Street sweeping and vacuuming.

**Public Notice:**

On August 1, 2012, receipt of the project application was posted on the San Diego Water Board web site to serve as appropriate notification to the public. No public comments were received.

**Fees:**

Total Due: \$0.00  
Paid: \$24,280.00 (Check No. 27577)

**CIWQS:**

Regulatory Measure ID: 386814  
Place ID: 784704  
Party ID: 297330  
Person ID: 73367  
WDID 9000002496



**ATTACHMENT 2  
DISTRIBUTION LIST**

Mr. Jason Lambert  
U.S. Army Corps of Engineers  
Regulatory Branch  
Jason.P.Lambert@usace.army.mil

Ms. Kelly Fisher  
California Department of Fish and Game  
Kelly.Fisher@wildlife.ca.gov

U.S. EPA, OWOW, Region 9  
75 Hawthorne St.,  
San Francisco, CA 94105  
R9-WTR8-Mailbox@epa.gov

State Water Resources Control Board  
Division of Water Quality  
401 Water Quality Certification and Wetlands Unit  
P.O. Box 100  
Sacramento, CA 95812-0100  
Stateboard401@waterboards.ca.gov

Tony Bomkamp  
Glenn Lukos Associates  
tbomkamp@wetlandpermitting.com

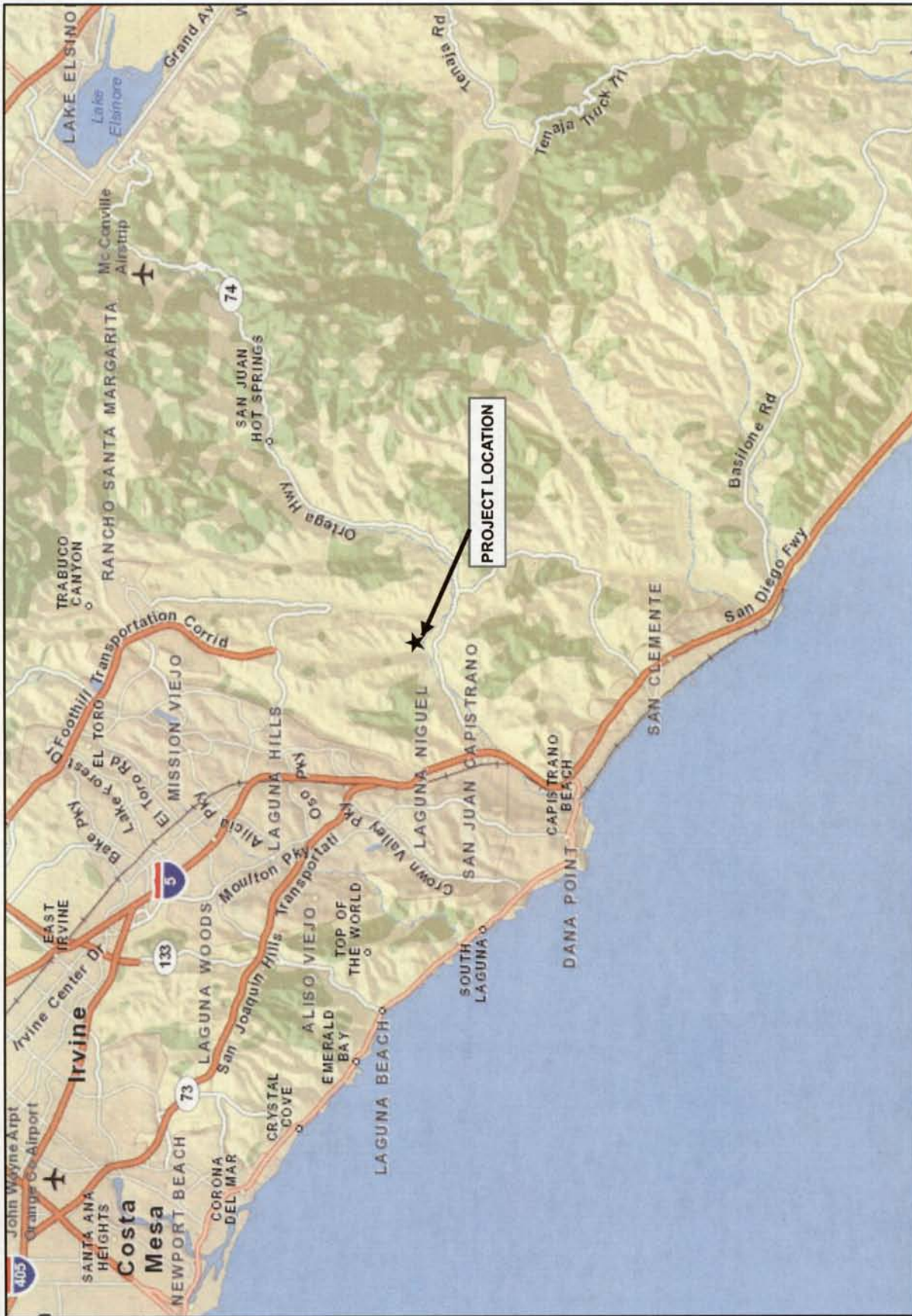


Rancho Mission Viejo  
Cow Camp Road, Trail, and Associated Utilities  
Certification No. 12C-067

May 13, 2013

**ATTACHMENT 3  
LOCATION MAPS**





Source: ESRI World Street Map



**COW CAMP ROAD PROJECT**  
Regional Map



GLENN LUKOS ASSOCIATES

Exhibit 1





GLENN LUKOS ASSOCIATES

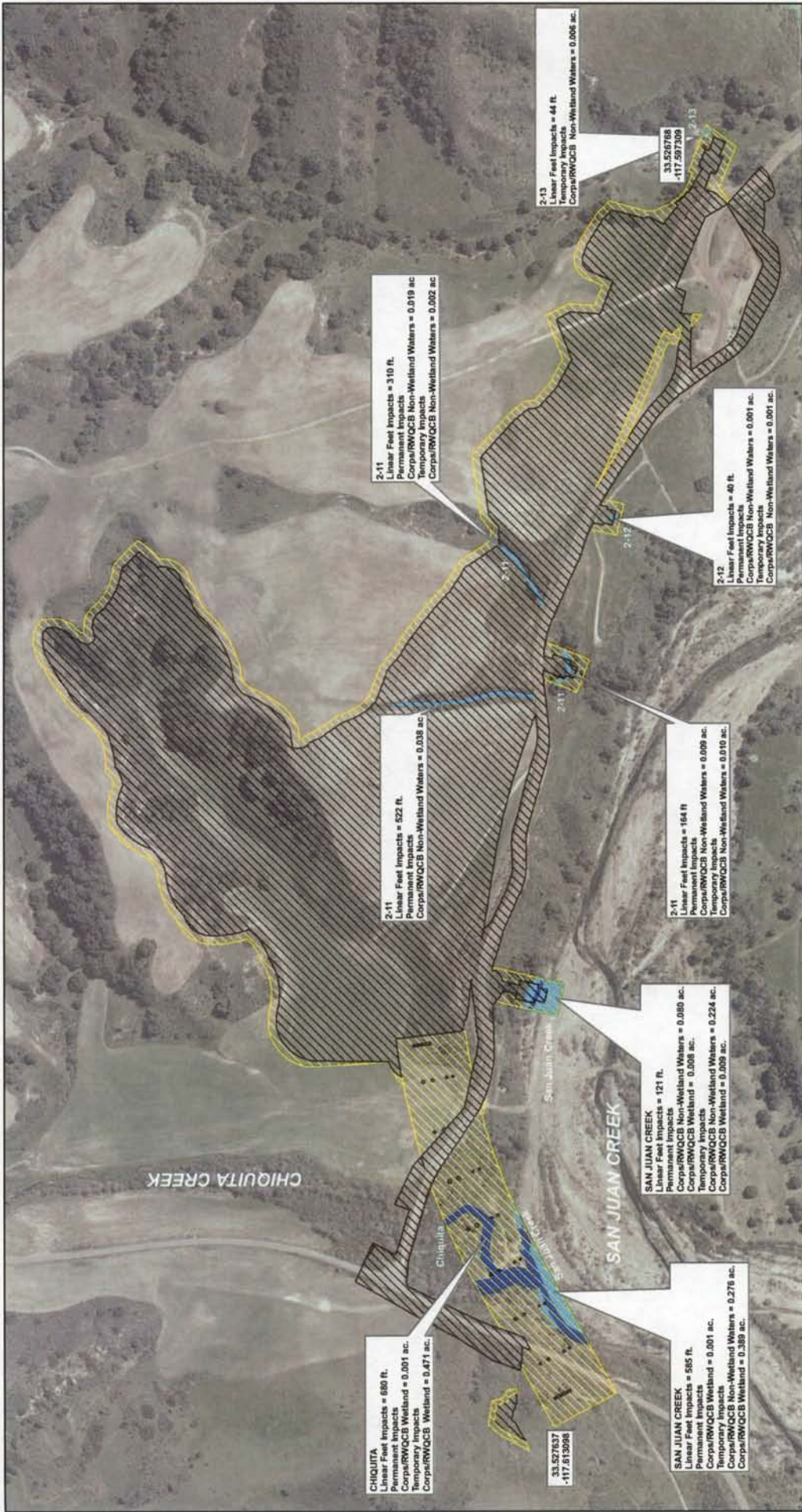
Exhibit 2

**COW CAMP ROAD PROJECT**  
Vicinity Map

Adapted from Canada Gobernadora, CA quadrangle







**Legend**

- Permanent Impacts
- Temporary Impacts
- Corps/RWQCB Non-Wetland Waters
- Corps/RWQCB Wetlands

**COW CAMP ROAD PROJECT**  
**Corps/RWQCB Delineation Impact Map**

Reference Elevation Datum: State Plane 6 NAD 83  
 Aerial Photo: ESRI Basemap  
 Map Prepared by: K. Kattunen, GLA  
 July 26, 2012

**GLENN LUKOS ASSOCIATES**

**Exhibit 3a**

X:\00 - 0880 ONLY\028-ACC\028-001\_GLENN LUKOS\08REV1\028-001.dwg  
 July 16, 2014



Rancho Mission Viejo  
Cow Camp Road, Trail, and Associated Utilities  
Certification No. 12C-067

May 13, 2013

**ATTACHMENT 4  
PROJECT SITE PLANS**



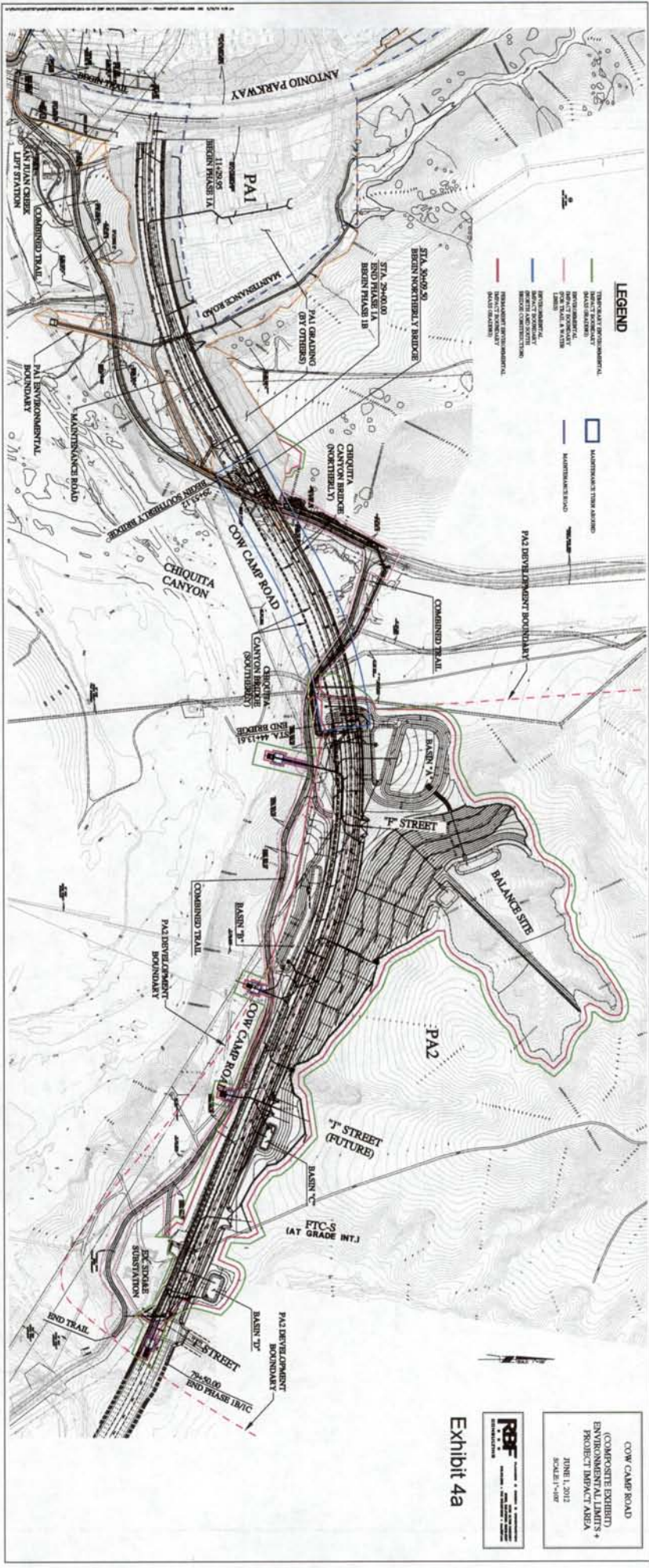


Exhibit 4a

**RF**  
 CONSULTING ENGINEERS  
 1000 W. 10th Street, Suite 100  
 Fort Collins, CO 80501  
 PHONE: 970.221.1111  
 FAX: 970.221.1112  
 WWW.RFCENGINEERS.COM

COW CAMP ROAD  
 (COMPOSITE EXHIBIT)  
 ENVIRONMENTAL LIMITS +  
 PROJECT IMPACT AREA  
 JUNE 1, 2012  
 SCALE 1"=100'





MARK	DESCRIPTION	DATE	DATE

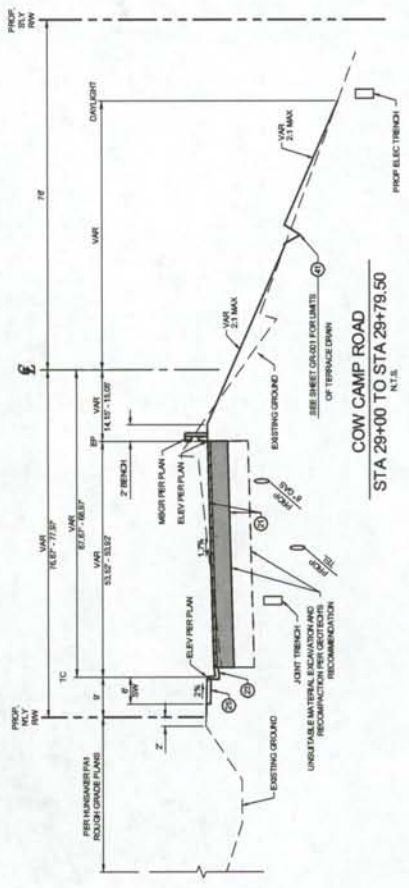
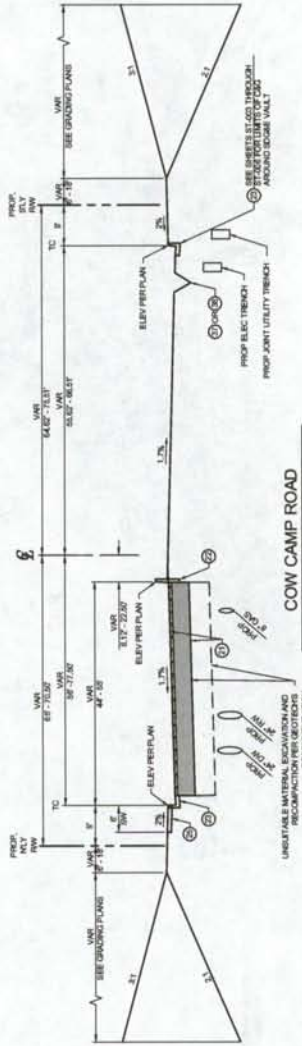
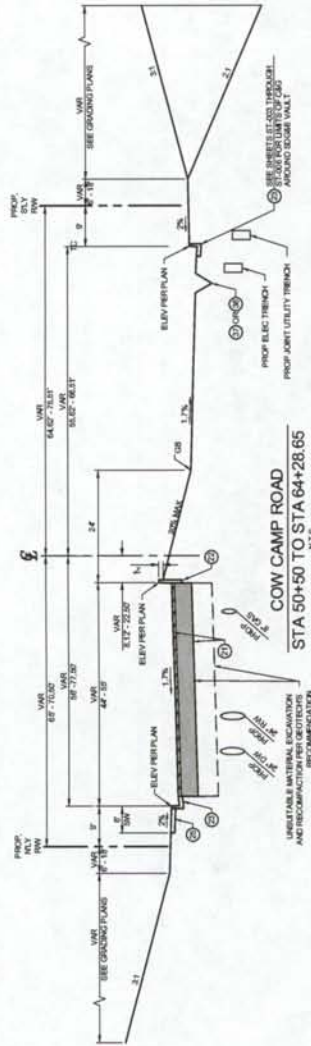


DESIGNED BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

ORANGE COUNTY  
 PUBLIC WORKS  
 PREPARED BY: \_\_\_\_\_  
 FILE NAME: \_\_\_\_\_  
 DRAWING CODE: \_\_\_\_\_  
 SCALE: \_\_\_\_\_  
 PLT DATE: \_\_\_\_\_

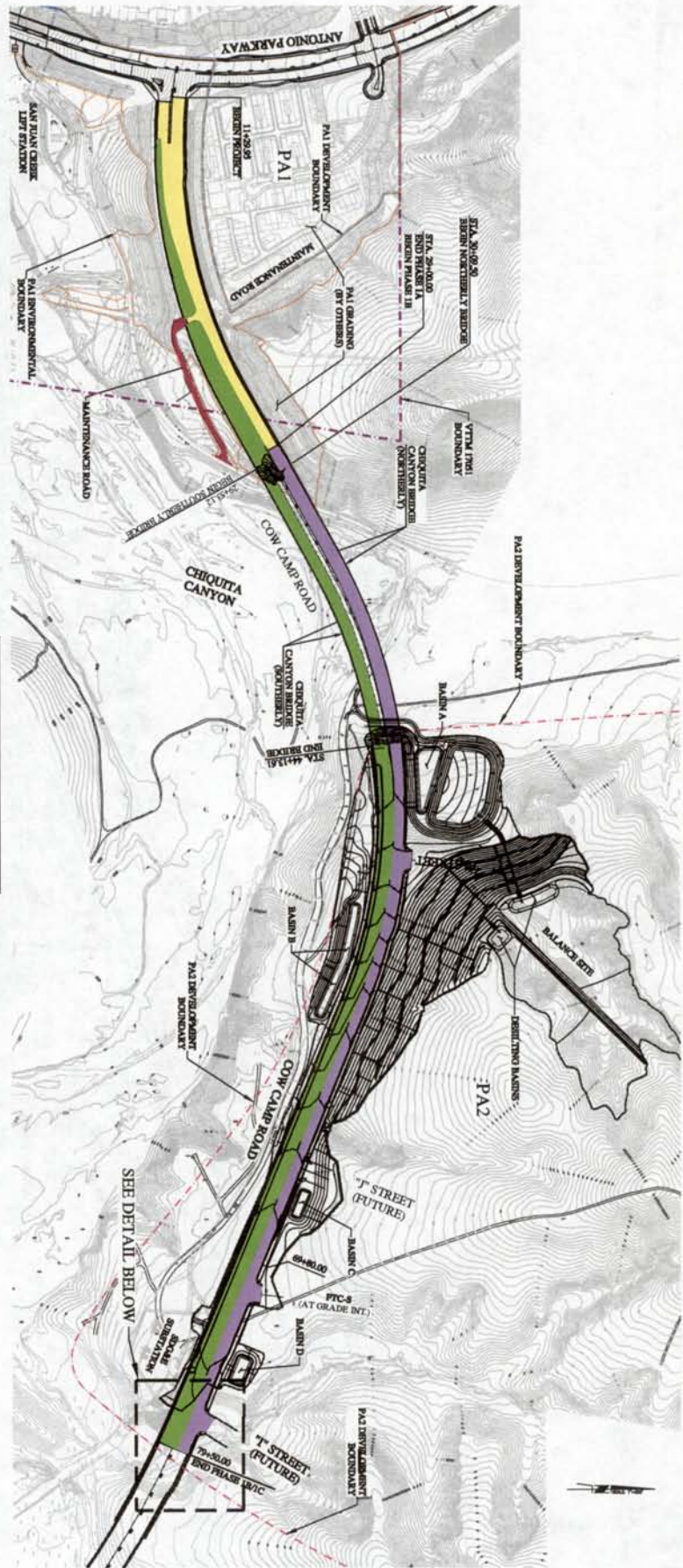
Sheet Reference Number  
**TX-001**  
 Sheet 4 of 300

- CONSTRUCTION NOTES (PHASE 1B)**
- CONSTRUCT 2.0' ANTI-OVERFLOW WALL
  - CONSTRUCT MEDIAN CURB TYPE A-1 PER CODM STD PLAN 150-142
  - CONSTRUCT CURB & GUTTER, TYPE A-5.1 W/2' PER DOWN STD PLAN 150-142
  - CONSTRUCT 4" THICK CONCRETE SIDEWALK PER CODM STD PLAN 150-142 (WIDTH PER PLAN)
  - CONSTRUCT EARTHEN SWALE PER DETAIL 1 SHOWN ON SHEET DT-002
  - CONSTRUCT EARTHEN SWALE PER DETAIL 2 SHOWN ON SHEET DT-002
  - CONSTRUCT TERRACE DRAIN PER CODM STD PLAN 151



**NOTE**  
 1. FOR STATION 29+00 TO 44+43.74, SEE BRIDGE PLANS





**LEGEND**

	PHASE 1A
	PHASE 1B
	PHASE 1C
	MAINTENANCE ROAD
	PAC2 BOUNDARY
	PAC1 BOUNDARY
	PAC1 ENVIRONMENTAL BOUNDARY
	TTM 17051 BOUNDARY



**Exhibit 5**

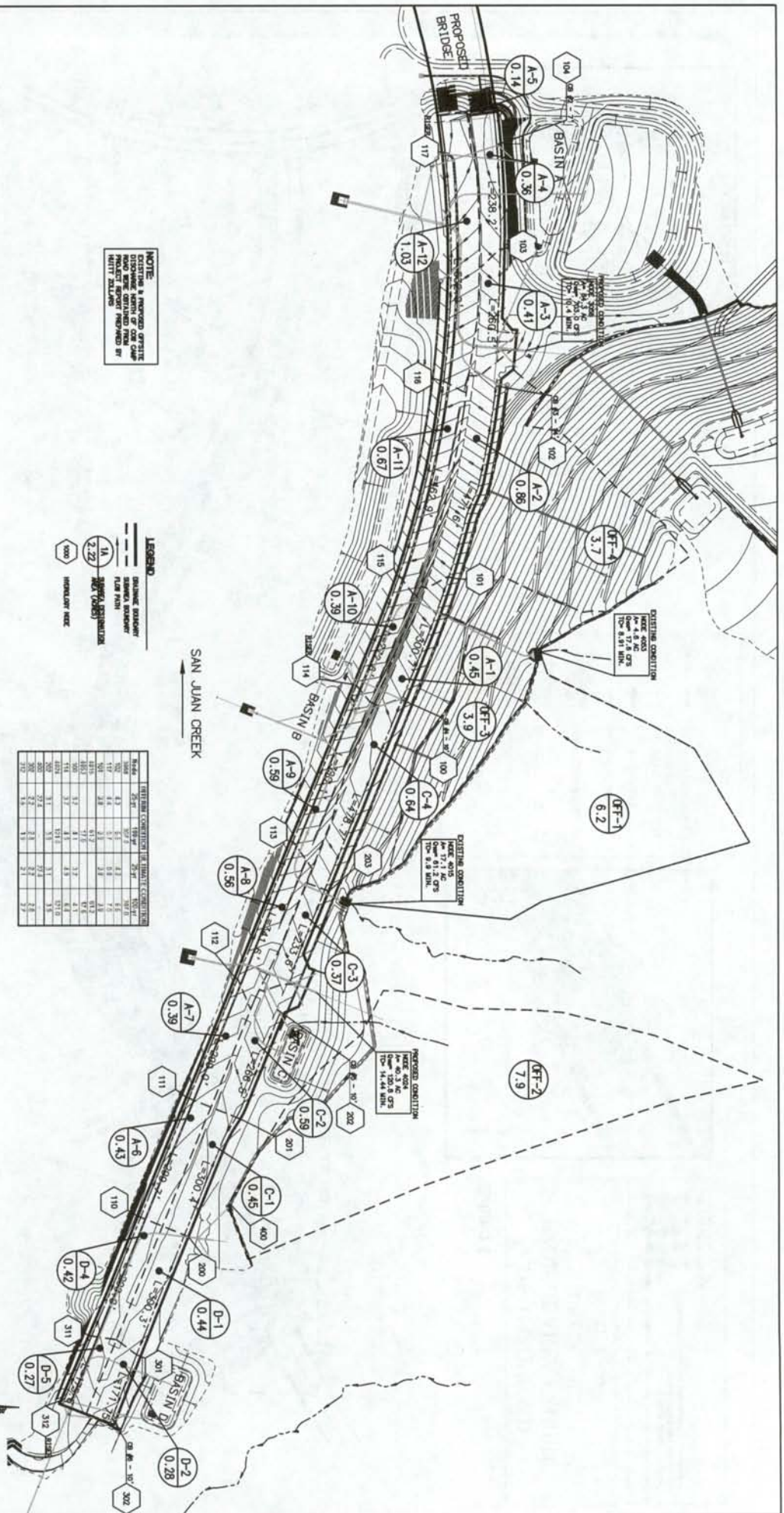
**COW CAMP ROAD  
PROJECT AREA EXHIBIT**  
JUNE 26, 2012  
SCALE: 1"=500'

**PBF CONSULTING**

PLANNING ■ DESIGN ■ CONSTRUCTION

4375 ALTON PARKWAY  
IRVINE, CALIFORNIA 92618-2027  
949.472.2000 • FAX 949.857.2027 • WWW.PBF.COM





**NOTE:**  
EXISTING & PROPOSED FLOW PATHS  
DISCLOSED HEREIN ARE FOR INFORMATION ONLY  
AND DO NOT CONSTITUTE A GUARANTEE OF  
ACCURACY OR COMPLETENESS. THE USER  
SHALL BE RESPONSIBLE FOR VERIFYING THE  
ACCURACY AND COMPLETENESS OF THE  
INFORMATION PROVIDED HEREIN.

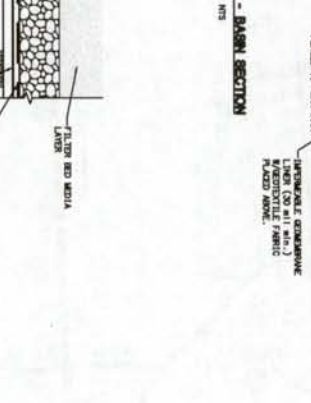
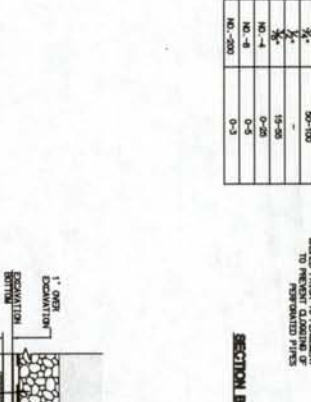
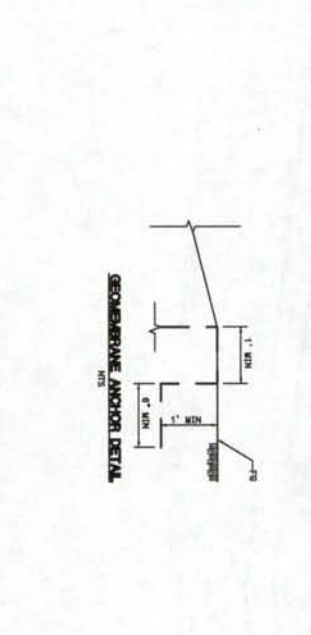
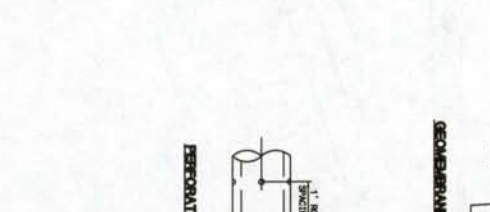
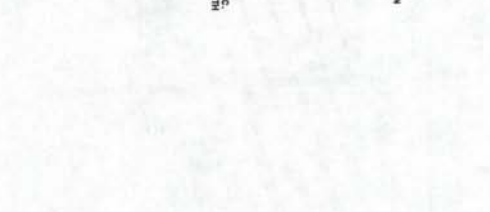
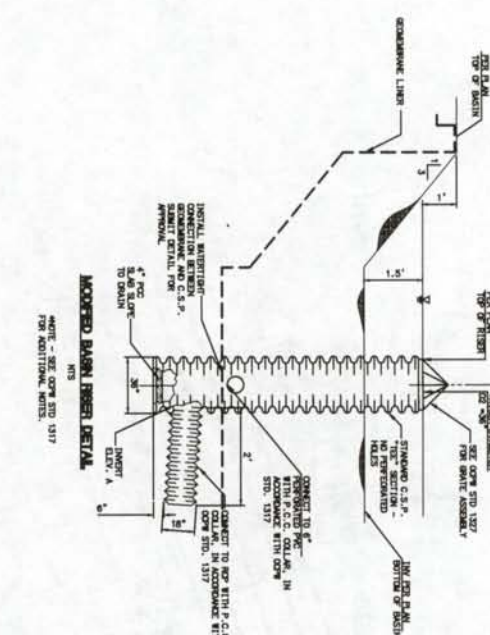
**LEGEND:**  

 DRAINAGE BOUNDARY  
 FLOW PATH  
 ELEVATION (FEET)  
 11.1  
 2.22  
 1000  
 HORIZONTAL SIZE

Basin	EXISTING CONDITION OF FLOW PATH		PROPOSED CONDITION OF FLOW PATH	
	Flow Rate (cfs)	Flow Direction	Flow Rate (cfs)	Flow Direction
A-1	0.45	SE	0.45	SE
A-2	0.56	SE	0.56	SE
A-3	0.41	SE	0.41	SE
A-4	0.36	SE	0.36	SE
A-5	0.14	SE	0.14	SE
A-6	0.43	SE	0.43	SE
A-7	0.39	SE	0.39	SE
A-8	0.56	SE	0.56	SE
A-9	0.59	SE	0.59	SE
A-10	0.39	SE	0.39	SE
A-11	0.67	SE	0.67	SE
A-12	1.00	SE	1.00	SE
C-1	0.45	SE	0.45	SE
C-2	0.59	SE	0.59	SE
C-3	0.37	SE	0.37	SE
C-4	0.64	SE	0.64	SE
D-1	0.44	SE	0.44	SE
D-2	0.28	SE	0.28	SE
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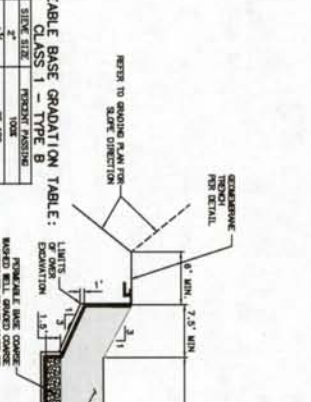
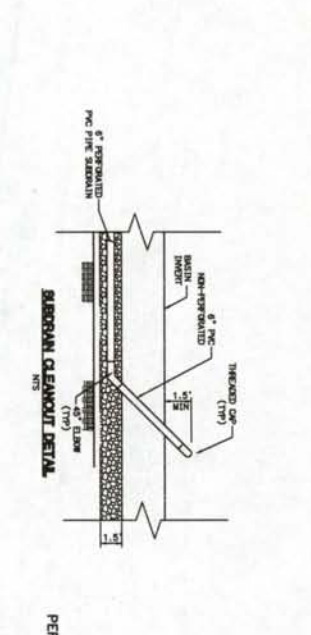
**Exhibit 1**  
**COW CAMP ROAD - PHASE 1B**  
**HYDROLOGY MAP**





PERFORABLE BASE GRADUATION TABLE:  
CLASS 1 - TYPE B

SIEVE SIZE	PERCENT PASSING
3/8"	100
1/2"	85-100
3/4"	50-100
1"	15-50
1 1/4"	5-25
NO. 4	0-5
NO. 10	0-3
NO. 200	0-3



MARK	DESCRIPTION	DATE	APPV.

SD-019

Sheet XX of XXX

CON CAMP ROAD  
CHIVUITA CANYON BRIDGE  
TO STATION 78+00.00  
**BIORETENTION  
BASIN WITH  
UNDERDRAIN DETAILS**

GRANDE COUNTY  
PUBLIC WORKS

DESIGNED BY:  
**R. VILLARMA**

PREPARED BY:  
**PREP**


CHECKED BY:  
**IC**

DRAWING CODE:  
**FILE NAME:**


PLT DATE:  
**04/12/12**

SCALE:  
**AS SHOWN**

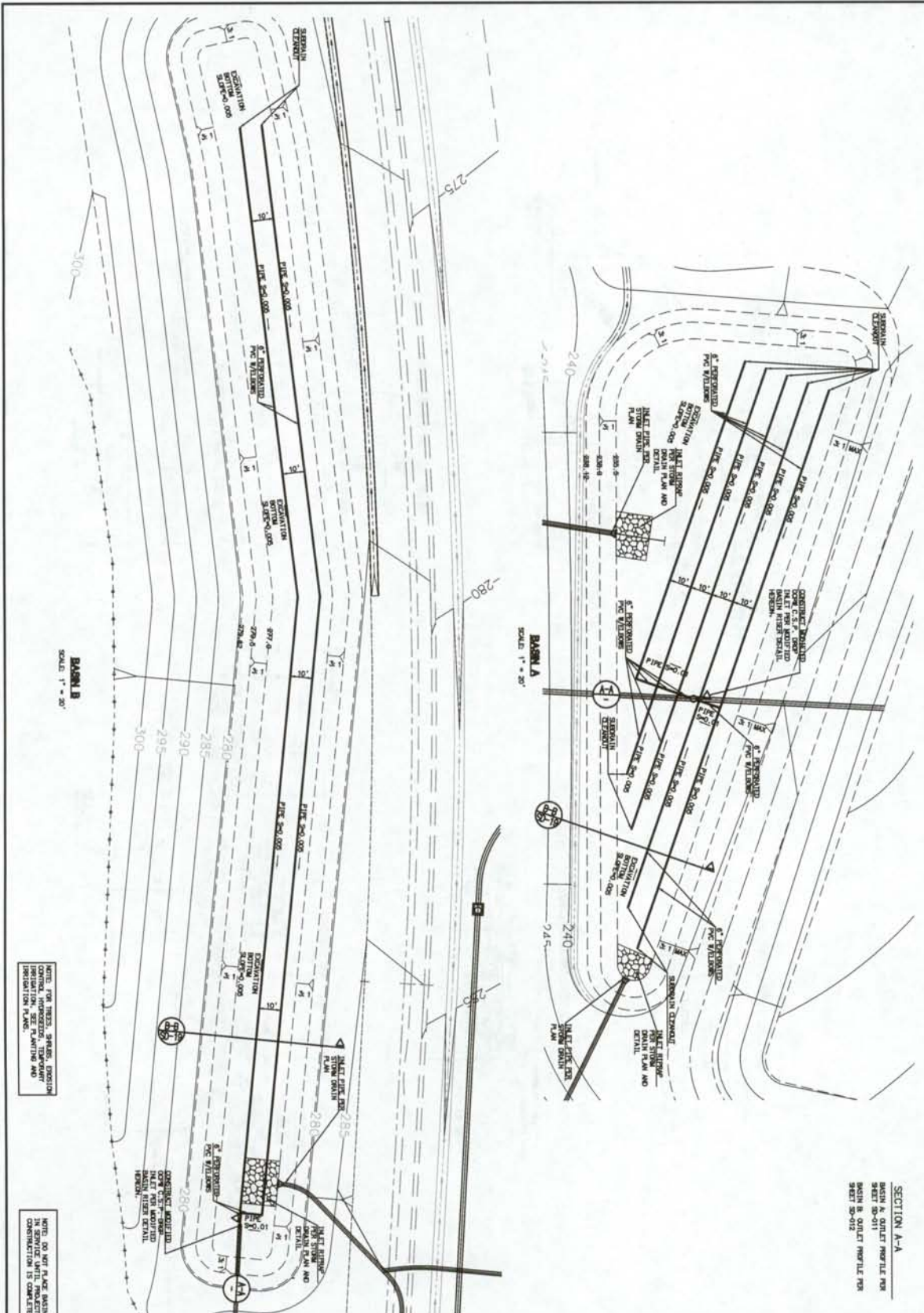
PREPARED UNDER THE RESPONSIBLE CHARGE OF:



DATE:







NOTE: PIPE TRENCH, SHADES, EXPOSURE  
COVERING, HORIZONTAL TYPING AND  
PROJECTION PLANS

NOTE: ALL PIPE LINES  
AND CONNECTIONS  
CONSTRUCTION IS COMPLETE.

SD-020  
Sheet XX of XXX

OW CAMP ROAD  
CHOCOLITA CANYON BRIDGE  
TO STATION 76+00.00  
BIORETENTION  
BASIN PLAN

DESIGNED BY:  
E. YILLOUMA  
CHECKED BY:  
JY  
DATE:  
04/12/12  
SCALE:  
1" = 20'

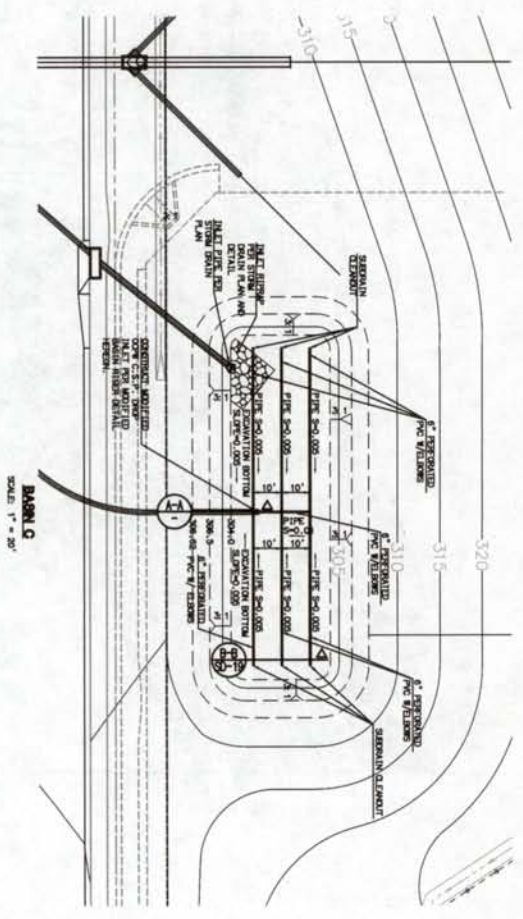
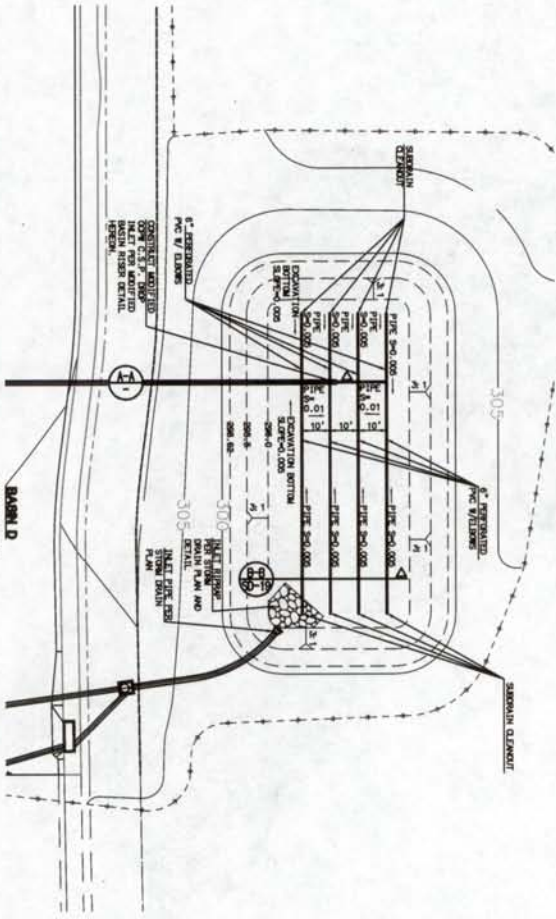
PREPARED UNDER THE RESPONSIBLE CHARGE OF:  
THOMAS CHEN, P.E.  
NO. 72005

MARK	DESCRIPTION	DATE	APPV.



SECTION A-A  
BASIN A OUTLET PROFILE PER  
SHEET SD-011  
BASIN B OUTLET PROFILE PER  
SHEET SD-012





NOTE: FOR THESE, SHOWN, LOCATION OF CONCRETE MONOTILE INLET FOR WASTEWATER IN SERVICE UNITS, PROJECT CONSTRUCTION IS COMPLETE.

NOTE: DO NOT PLACE MANHOLE IN SERVICE UNITS, PROJECT CONSTRUCTION IS COMPLETE.

SECTION A-A  
 BASIN C DRAINAGE FOR  
 SHEET SD-014  
 BASIN D DRAINAGE FOR  
 SHEET SD-012

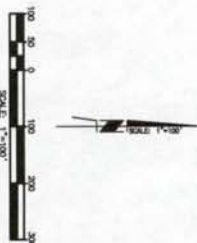
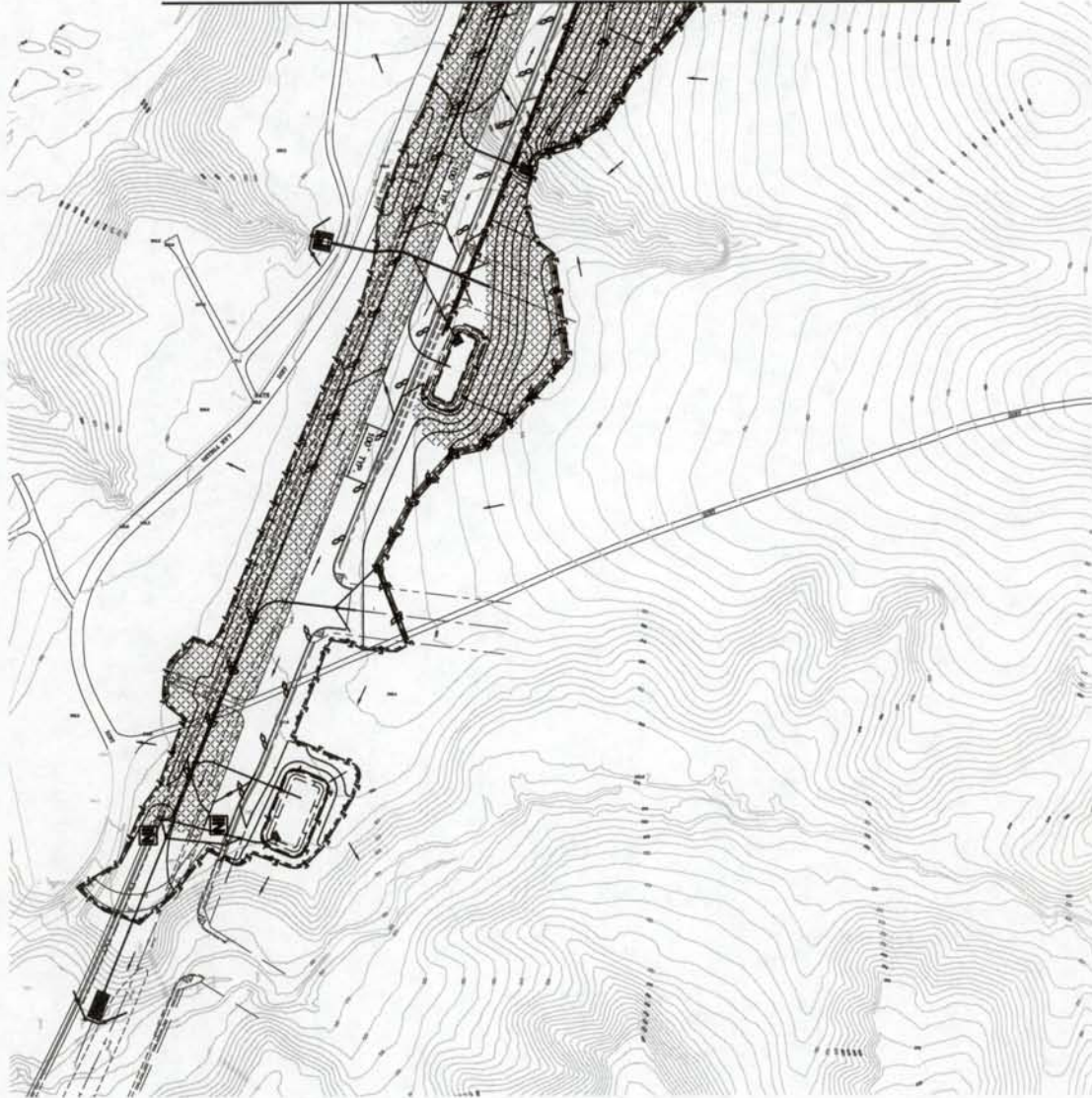
SD-021 Sheet XX of XXX	COR CAMP ROAD CHOCQUITA CANYON BRIDGE TO STATION 78+00.00 <b>BIORETENTION BASIN PLAN</b>	ORANGE COUNTY PUBLIC WORKS PREPARED BY:	DESIGNED BY: K. VILLAROMA DRAWING CODE:	PREPARED UNDER THE RESPONSIBLE CHARGE OF: 	DATE:	MARK:	DESCRIPTION:	DATE:	APPR:
			CHECKED BY: JIC FILE NAME: PLOT DATE: 04/12/12 SCALE:						







MATCHLINE SEE SHEET EC-001



**HYDROMULCH MIXTURE TABLE**

HYDROMULCH MIXTURES	HYDROMULCH MIXTURES SHALL CONSIST OF MATERIALS LISTED IN THIS TABLE UNLESS SPECIFIED BY ANOTHER METHOD
20	CEMENT OR OTHER
2	DIATOMACEOUS EARTH
2	DIATOMACEOUS EARTH
2	DIATOMACEOUS EARTH
1.5	DIATOMACEOUS EARTH
2	DIATOMACEOUS EARTH
6	DIATOMACEOUS EARTH
300	DIATOMACEOUS EARTH

- LEGEND**
- SILT FENCE (SE-1)
  - FIBER BELLS (SE-5)
  - CHECK DAM (SE-4)
  - SOIL BINDER (SE-3) (HYDROMULCH)
  - STABILIZED CONSTRUCTION (SE-10)
  - SYSTEM DRAIN (SE-10)
  - PROTECTION OF FLUM
  - CORRECTION OF FLUM

EC-002  
Sheet XX of XXX

COW CAMP ROAD  
CHISQUITA CANYON BRIDGE  
TO STATION 79+00.00  
EROSION CONTROL  
PLAN  
COW CAMP ROAD

ORANGE COUNTY  
PUBLIC WORKS

DESIGNED BY: **STANT**  
CHECKED BY: **A.SU**  
DRAWING CODE:  
FILE NAME:  
PLOT DATE: 04/13/12  
SCALE:

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

**ALAN H. SU, P.E.**  
PUBLIC WORKS

DATE:

MARK	DESCRIPTION	DATE	APPR.



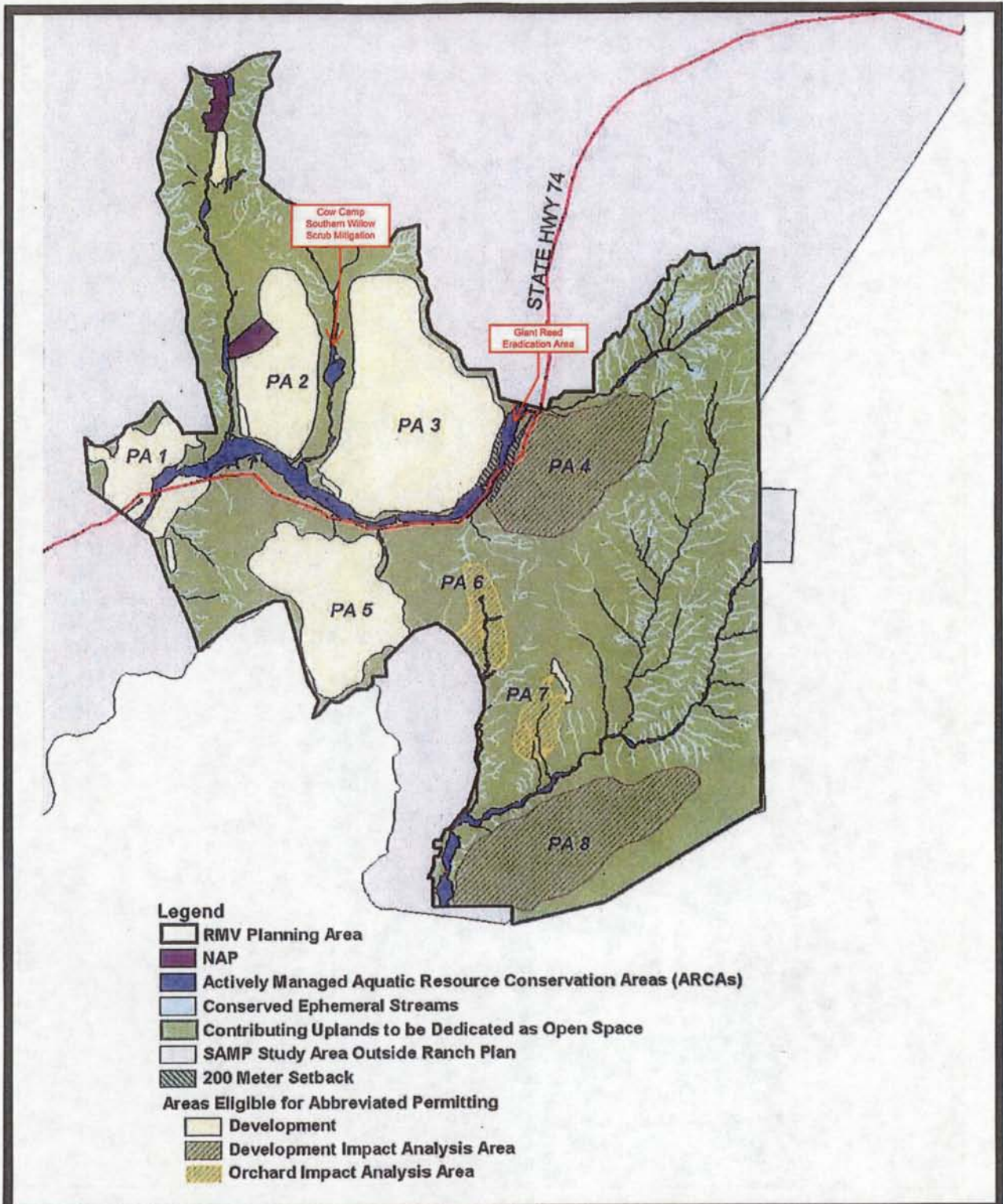


Rancho Mission Viejo  
Cow Camp Road, Trail, and Associated Utilities  
Certification No. 12C-067

May 13, 2013

**ATTACHMENT 5  
MITIGATION FIGURES**





**Aquatic Resources Conservation Areas**

Not to Scale

San Juan Creek and Western San Mateo Creek Watersheds SAMP EIS

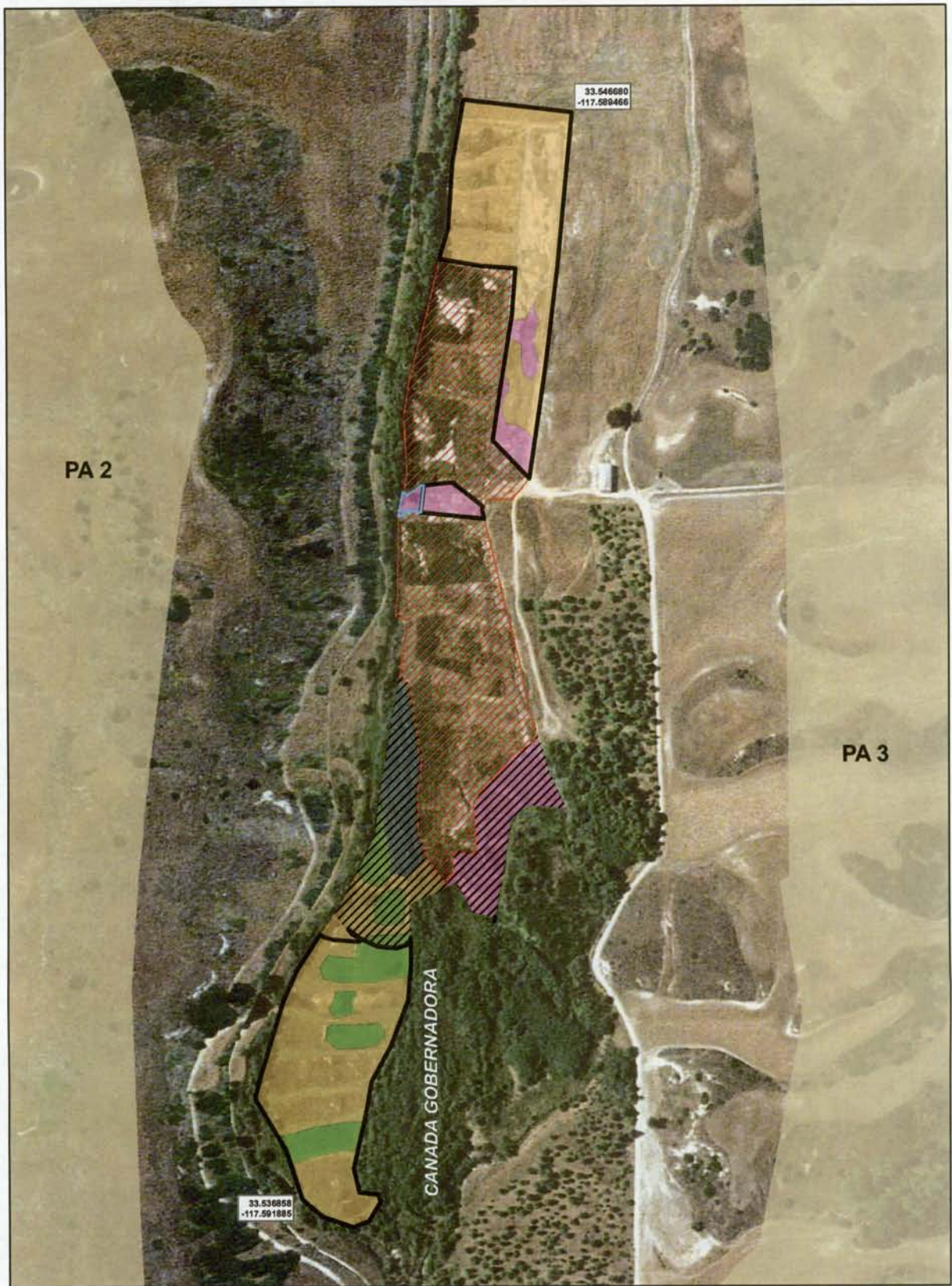
Figure: 8-10

Source: USACE, 2005



Date: Nov. 2005





**Legend**

- Development Boundaries
- GERA Vegetation Type**
- Arroyo Willow Forest (1.4 acres)
- Fresh Water Marsh (2.3 acres)
- Southern Willow Scrub (3.0 acres)
- Wet Meadow (11.4 acres)

**GERA Mitigation Allocation**

- 13.01 acres of Banked Mitigation
- 12.28 acres of Ladera Mitigation
- 4.75 acres of PA1 Mitigation
- Cow Camp Road - 0.11 ac. Southern Willow Scrub

Reference Elevation Datum: State Plane 6 NAD 83  
 Aerial Photo: Eagle Aerial  
 Map Prepared by: K. Kartunen, GLA  
 July 26, 2012



**COW CAMP ROAD PROJECT**  
 Gobernadora Ecological Restoration Area

GLENN LUKOS ASSOCIATES




Exhibit 4

X:\00 - 0362 ONLY\0239-18\Mitigation\GERA\239-15 CowCamp.mxd  
 July 23, 2012



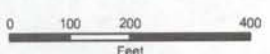


**Legend**

 Giant Reed Eradication Area



Reference Elevation Datum: State Plane 6 NAD 83  
 Aerial Photo: ESRI Basemaps  
 Arundo Prevalence Category Shapes: RBF  
 Map Prepared by: K. Kartunen, GLA  
 July 26, 2012



1 inch = 200 feet

**COW CAMP ROAD PROJECT**  
 Giant Reed Restoration Area

**GLENN LUKOS ASSOCIATES**



Exhibit 5