CALIFORNIA
Water Boards

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GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

California Regional Water Quality Control Board, San Diego Region

March 15, 2016

Certified Mail – Return Receipt Requested
Article Number: 7011 0470 0002 8961 9269

Mr. Arturo Jacobo
California Department of Transportation
District 11
4050 Taylor Street
M.S. 122
San Diego, CA 92110

In reply/refer to:
R9-2015-0090:787282:mporter

Subject: Clean Water Act Section 401 Water Quality Certification No. R9-2015-0090 for the Interstate 5 North Coast Corridor Project – Phase 1 Project

Mr. Jacobo:

Enclosed find Clean Water Act Section 401 Water Quality Certification No. R9-2015-0090 (Certification) issued by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) in response to the application submitted by the California Department of Transportation for the Interstate 5 North Coast Corridor Project – Phase 1 (Project). A description of the Project and Project location can be found in the Certification and site maps which are included as attachments to the Certification.

The California Department of Transportation is enrolled under State Water Resources Control Board Order No. 2003-017-DWQ as a condition of the Certification and is required to implement and comply with all terms and conditions of the Certification in order to ensure that water quality standards are met for the protection of wetlands and other aquatic resources. Failure to comply with this Certification may subject the California Department of Transportation to enforcement actions by the San Diego Water Board including administrative enforcement orders requiring the California Department of Transportation 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.

Please submit all reports and information required under this Certification in electronic format via e-mail to SanDiego@waterboards.ca.gov. Documents over 50 megabytes will not be accepted via e-mail and must be placed on a disc and delivered to the San Diego Water Board, 2375 Northside Drive, San Diego, CA 92108. Each electronic document must be submitted as a single file, in Portable Document Format (PDF) format, and converted to text searchable format using Optical Character Recognition (OCR). All electronic documents must include scanned copies of all signature pages; electronic signatures will not be accepted. Electronic documents submitted to the San Diego Water Board must include the following

identification numbers in the header or subject line: Certification No. R9-2015-0090:787282:mporter.

For questions or comments regarding the Certification, please contact Mike Porter by telephone at (619) 521-3967 or by email at mike.porter@waterboards.ca.gov.

Respectfully,

DAVID W. GIBSON
Executive Officer

Enclosure:

Clean Water Act Section 401 Water Quality Certification No. R9-2015-0090 for the Interstate 5 North Coast Corridor Project – Phase 1

DWG:jgs:db:esb:mgp

cc:

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Tech Staff Info & Use	
Certification No.	R9-2015-0090
Party ID	7222
WDID	9 000002852
Regulatory ID	401198
Place ID	787282
Person ID	526363

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

2375 Northside Drive, Suite.100, San Diego, CA 92108
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http://www.waterboards.ca.gov/sandiego/

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

PROJECT: **Interstate 5 North Coast Corridor Project – Phase I**
Certification Number R9-2015-0090
WDID: 9000002852

Reg. Meas. ID: 401198
Place ID: 787282
Party ID: 7222
Person ID: 526363

APPLICANT: **California Department of Transportation - District 11**
4050 Taylor Street
M.S. 122
San Diego, CA 92110

ACTION:

☐ Order for Low Impact Certification	☐ Order for Denial of Certification
☑ Order for Technically-conditioned Certification	☐ Enrollment in Isolated Waters Order No. 2004-004-DWQ
☑ Enrollment in SWRCB GWDR Order No. 2003-017-DWQ	

PROJECT DESCRIPTION

An application dated May 22, 2015 was submitted by California Department of Transportation - District 11 (hereinafter Applicant), for Water Quality Certification pursuant to section 401 of the Clean Water Act (United States Code (USC) Title 33, section 1341) for the proposed Interstate 5 North Coast Corridor Project - Phase I Project (Project). The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) deemed the application to be complete on August 18, 2015. The Applicant proposes to discharge dredged or fill material to waters of the United States and/or State associated with construction activity at the Project site. The Applicant has also applied for a Clean Water Act section 404 permit from the United States Army Corps of Engineers for the Project (USACE File No. SPL-2004-01089-SJH).

The Project is located within the Cities of Solana Beach, Encinitas, and Carlsbad, San Diego County, California within the Interstate 5 corridor. The Project center reading is located at latitude 33.0101 and longitude -117.2643. The Applicant has paid all required application fees for this Certification in the amount of $90,600.00. On an annual basis, the Applicant must also

pay all active discharge fees and post discharge monitoring fees, as appropriate[1]. On August 26, 2015, the San Diego Water Board provided public notice of the Project application pursuant to California Code of Regulations, title 23, section 3858 by posting information describing the Project on the San Diego Water Board's web site and providing a period of twenty-one days for public review and comment. No comments were received.

The Applicant proposes to improve existing and future traffic operations on Interstate 5 (I-5) freeway from La Jolla Village Drive in San Diego to Harbor Drive/ Vendegrift Boulevard in Oceanside. The project will be constructed in three phases between the years 2015 to 2035. This Certification (Certification Number R9-2015-0090) is for Phase 1 of the Project.

The Phase 1 Project will be located between La Jolla Village Drive and the merge of Interstates 5 (I-5) and 805 (I-805), and between the Lomas Santa Drive undercrossing and State Route 78 overcrossing (OC). Construction of Phase 1 will commence in 2015 and is estimated to conclude in 2020. Phase 1 construction activities will occur in four geographical locations/stages as set forth below.

The La Jolla Village Drive to I-5/I-805 merge location improvements will consist of:

- Two high occupancy vehicle (HOV)/managed lanes.
- Voight Drive direct access ramp (DAR) and HOV connectors.

Stage 1 will occur in the City of Encinitas between Lomas Santa Fe and Birmingham Drives and will consist of:

- Construction of storm water runoff treatment facilities to treat as much of the existing impervious areas and the net new equivalent of all planned impervious areas as possible.
- Widening I-5 (median and outside widening) to add one HOV in both northbound and southbound directions.
- Replace the existing bridge at San Elijo Lagoon with a longer and wider structure with an optimized[2] wider/deeper channel that re-establishes open, tidal waters of the U.S. and/or State.
- Construct a multi-use facility northeast of I-5 and Manchester Avenue that will include bike lockers, electric vehicle charging stations, bus access to HOV and future DAR, access to the North County multi-use bike trail.

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[1] The Applicant must pay an annual active discharge fee each fiscal year or portion of a fiscal year during which discharges occur until the San Diego Water Board or the State Water Resources Control Board (State Water Board) issues a Notice of Completion of Discharges Letter to the Applicant. The Applicant must also pay an annual post-discharge monitoring fee each fiscal year or portion of a fiscal year commencing with the first fiscal year following the fiscal year in which the San Diego Water Board or State Water Board issued a Notice of Completion of Discharges Letter to the discharger, but continued water quality monitoring or compensatory mitigation monitoring is required. The Applicant must also pay the annual post-discharge monitoring fee each fiscal year until the San Diego Water Board or the State Water Board issues a Notice of Project Complete Letter to the d Applicant. Additional information regarding fees can be found electronically at the following location: http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/dredgefillcalculator.xlsx

[2] The optimum length of the bridge lengthening was determined with numerical modelling to optimize the size of the re-established tidal prism in the lagoons east of I-5.

- Realign ramps at La Costa Avenue, Poinsettia Lane, Palomar Airport Road, Lomas Santa Fe Drive, Manchester Avenue, and Birmingham Drive to accommodate the freeway widening.
- Construct a bike trail between Lomas Santa Fe and Birmingham Drives.
- Construct suspended pedestrian/bike bridge under the San Elijo Bridge.
- Perform excavation and embankment within the San Elijo Lagoon wetlands for the I-5 widening.
- Construct soundwalls on the Applicant's right-of-way (R/W) and private property.

Stage 2 will occur in the cities of Encinitas and Carlsbad, between Birmingham Drive and La Costa Avenue and will construct one HOV lane in each direction, replace the MacKinnon Avenue OC, provide pedestrian access at Santa Fe Drive and Encinitas Boulevard, and soundwalls on private property.

Stage 3 will occur in the City of Carlsbad between La Costa Avenue and Palomar Airport Road and will consist of:

- Widening I-5 (median and outside widening) to add one HOV Lane in both northbound and southbound directions.
- Replacing the existing bridge at Batiquitos Lagoon bridge with a longer and wider structure crossing an optimized[3] wider/deeper channel that re-establishes open, tidal waters of the U.S. and State.
- Constructing a bike trail west of I-5 from La Costa Avenue to north of Batiquitos Lagoon.
- Constructing a pedestrian trail connection under Batiquitos Lagoon Bridge connecting to the existing trail north of the lagoon and east of I-5.
- Performing excavation and embankment widening within the Batiquitos Lagoon wetlands for the I-5 widening.

Stage 4 will occur in the Cities of Carlsbad and Oceanside between Palomar Airport Road and SR-78 and will consist of the construction of one HOV lane in each direction and soundwalls.

The Project will convert approximately 63.25 acres of pervious ground cover to impervious surfaces. Runoff leaving the developed Project area would be significantly greater in volume, velocity, peak flow rate, and duration than pre-development runoff from the same area without mitigation. Post-construction best management practices (BMPs) to manage and control the effects of these runoff increases will consist of infiltration devices, bio-infiltration swales, and natural vegetation polishing areas BMPs.

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. Receiving waters and groudwaters potentially affected by the Project are protected in accordance with water quality standards in the *Water Quality Control*

[3] The optimum length of the bridge lengthening was determined with numerical modelling to optimize the size of the re-established tidal prism in the lagoons east of I-5.

Plan for the San Diego Basin (9) (Basin Plan). The Basin Plan includes water quality standards which consist of existing and potential beneficial uses of waters of the state, water quality objectives to protect those uses, and the state and federal antidegradation policies. Compliance with the Certification conditions will help ensure that construction and post-construction discharges from the Project will not cause on-site or off-site downstream erosion, damage to downstream properties, or otherwise adversely affect water quality or beneficial uses of waters of the United States and/or State.

Project construction will permanently impact 7.15 acres (10,996 linear feet) of jurisdictional waters of the United States and/or State to open water, salt marsh, freshwater marsh, and concrete-lined and un-lined (man-made) drainage channels. Attachment 2 shows the receiving waters potentially impacted by the Phase 1 Project. 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 7.15 acres of jurisdictional waters will be achieved through the re-establishment, rehabilitation, and enhancement of 24.6 acres of waters of the United States and/or State. All waters of the United States and/or State receiving temporary discharges of fill material will be restored upon removal of the fill. Mitigation for discharges of fill material to waters of the United States and/or State will be completed by the Applicant at:

- Batiquitos and San Elijo Lagoons located in the Batiquitos and San Elijo hydrologic sub-areas (HSAs 904.51 and 904.61, respectively) at a minimum compensation ratio of 3.8:1 for ocean water impacts (area mitigated:area impacted).

- Hallmark East mitigation site located next to Agua Hedionda Lagoon in the Los Monos hydrologic sub-area (HSA 904.31) at a minimum compensation ratio of 18.5:1 for Riparian zone impacts (area mitigated:area impacted).

- Hallmark East mitigation site next to Agua Hedionda Lagoon located in the Los Monos hydrologic sub-area (HSA 904.31) at a minimum compensation ratio of 6.1:1 for Stream Channel impacts (area mitigated:area impacted).

- Hallmark West mitigation site in Agua Hedionda Lagoon, Batiquitos Lagoon, San Elijo Lagoon, and Los Penasquitos Lagoons located in the Los Monos, Batiquitos, San Elijo, and Miramar Reservoir hydrologic sub-areas (HSA 904.31, 904.51, 904.61, and 906.10, respectively) at a minimum compensation ratio of 3.3:1 for Wetland impacts (area mitigated:area impacted).

Additional ecologic lift will also occur due to the lengthening of the I-5 bridges over San Elijo and Batiquitos Lagoons. The lengthening will allow for larger tidal prisms to push east and deeper into the lagoons. Numeric hydrologic modelling of the lengthened bridge over Batiquitos Lagoon calculated the tidal ranges in the East Basin and Central Basin would increase 0.7 feet and 0.4 feet, respectively, resulting in the restoration of 31 additional acres of

Intertidal habitat. Of that amount, 10.33 acres will be used as compensatory mitigation for the Phase 1 Project. Numeric hydrologic modelling of the lengthened bridge over San Elijo Lagoon predicts that the resulting tidal range will extend ½ mile further east, resulting in the restoration of 8.12 additional acres of intertidal habitat. Of that amount, 2.74 acres will be used as compensatory mitigation for the Phase 1 Project.

Detailed written specifications and work descriptions for the proposed compensatory mitigation including, but not limited to, the geographic boundaries of the mitigation sites, timing, sequence, monitoring, maintenance, ecological success performance standards and provisions for long-term management and protection of the mitigation areas are described in the *North Coast Corridor Public Works Plan/Transportation and Resource Enhancement Program,* dated July 2013, and the *North Coast Corridor Resource Enhancement and Mitigation Program, Habitat Mitigation and Monitoring Plan for the San Dieguito Lagoon W19 Mitigation Site, dated December 2015* (Mitigation Plans). San Diego Water Board acceptance of the Mitigation Plans 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 sites for mitigation. The Mitigation Plans are incorporated in this Certification by reference as if set forth herein. The Mitigation Plans provide for implementation of compensatory mitigation which offsets adverse water quality impacts attributed to the Project in a manner that protects and restores the abundance, types and conditions of aquatic resources and supports their beneficial uses. Implementation of the Mitigation Plans will reduce significant environmental impacts to resources within the San Diego Water Board's purview to a less than significant level. Based on all of these considerations, the Mitigation Plans will adequately compensate for the loss of beneficial uses and habitat within waters of the United States and/or State attributable to the Project.

Additional Project details are provided in Attachments 2 through 6 of this Certification.

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Attachments:

1. **Definitions**
2. **Project Location Map**
3. **Project Site Plans**
4. **Mitigation Figures**
5. **CEQA Mitigation Monitoring and Reporting Program**
6. **Lagoon Management and Endowments**

I. STANDARD CONDITIONS

Pursuant to section 3860 of title 23 of the California Code of Regulations, 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 chapter 28, article 6 (commencing with title 23, section 3867), of the California Code of Regulations.

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 California Code of Regulations title 23, section 3855 subdivision (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 title 23, chapter 28 (commencing with section 3830) of California Code of Regulations and owed by the applicant.

II. GENERAL CONDITIONS

A. **Term of Certification**. Water Quality Certification No. R9-2015-0090 (Certification) shall expire upon a) the expiration or retraction of the Clean Water Act section 404 (33 USC Title 33, section1344) permit issued by the U.S. Army Corps of Engineers for this Project, or b) five (5) years from the date of issuance of this Certification, whichever occurs first.

B. **Duty to Comply.** The Applicant must comply with all conditions and requirements of this Certification. Any Certification noncompliance constitutes a violation of the Water Code and is grounds for enforcement action or Certification termination, revocation and reissuance, or modification.

C. **General Waste Discharge Requirements**. The requirements of this Certification are enforceable through 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* (Water Quality Order No. 2003-0017-DWQ). This provision shall apply irrespective of whether a) the federal permit for which the Certification was obtained is subsequently retracted or is expired, or b) the Certification is expired. Water Quality Order No. 2003-0017-DWQ is accessible at:

http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/go_wdr401regulated_projects.pdf.

D. **Project Conformance with Application.** All water quality protection measures and BMPs described in the application and supplemental information for water quality certification are incorporated by reference into this Certification as if fully stated herein. Notwithstanding any more specific conditions in this Certification, the Applicant shall construct, implement and comply with all water quality protection measures and BMPs described in the application and supplemental information. The conditions within this Certification shall supersede conflicting provisions within the application and supplemental information submitted as part of this Certification action.

E. **Project Conformance with Water Quality Control Plans or Policies**. Notwithstanding any more specific conditions in this Certification, the Project shall be constructed in a manner consistent with the Basin Plan and any other applicable water quality control plans or policies adopted or approved pursuant to the Porter Cologne Water Quality Act (Division 7, commencing with Water Code Section 13000) or section 303 of the Clean Water Act (33 USC section 1313). The Basin Plan is accessible at:

http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml

F. **Project Modification**. The Applicant must submit any changes to the Project, including Project operation, which would have a significant or material effect on the findings, conclusions, or conditions of this Certification, to the San Diego Water Board for prior review and written approval. If the San Diego Water Board is not notified of a significant change to the Project, it will be considered a violation of this Certification.

G. **Certification Distribution Posting**. During Project 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. A copy of this Certification shall also be provided to any contractor or subcontractor performing construction work, and the copy shall remain in their possession at the Project site.

H. **Inspection and Entry**. The Applicant must allow the San Diego Water Board or the State Water Resources Control Board, and/or their authorized representative(s) (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents as may be required under law, to:

1. Enter upon the Project or Compensatory Mitigation site(s) premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Certification;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Certification;

3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Certification; and

4. Sample or monitor, at reasonable times, for the purposes of assuring Certification compliance, or as otherwise authorized by the Clean Water Act or Water Code, any substances or parameters at any location.

I. **Enforcement Notification**. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation shall 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, 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.

J. **Certification Actions**. This Certification may be modified, revoked and reissued, or terminated for cause including but not limited to the following:

1. Violation of any term or condition of this Certification;

2. Monitoring results indicate that continued Project activities could violate water quality objectives or impair the beneficial uses of the affected water bodies or their tributaries;

3. Obtaining this Certification by misrepresentation or failure to disclose fully all relevant facts;

4. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and

5. Incorporation of any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act.

The filing of a request by the Applicant for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Certification.

K. **Duty to Provide Information**. The Applicant shall furnish to the San Diego Water Board, within a reasonable time, any information which the San Diego Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Certification or to determine compliance with this Certification.

L. **Property Rights**. This Certification does not convey any property rights of any sort, or any exclusive privilege.

M. **Petitions**. Any person aggrieved by this action of the San Diego Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with the California Code of Regulations, title 23, sections 3867 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after

the issuance date of this Certification. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

III. CONSTRUCTION BEST MANAGEMENT PRACTICES

A. **Approvals to Commence Construction**. The Applicant shall not commence Project construction until all necessary federal, State, and local approvals are obtained.

B. **Personnel Education.** 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 BMP implementation and maintenance measures.

C. **Spill Containment Materials.** 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.

D. **General Construction Storm Water Permit.** Prior to start of Project construction, the Applicant must, as applicable, obtain coverage under, 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*, (General Construction Storm Water Permit) and any reissuance. If Project construction activities do not require coverage under the General Construction Storm Water Permit, the Applicant must develop and implement a runoff management plan (or equivalent construction BMP plan) to prevent the discharge of sediment and other pollutants during construction activities.

E. **Waste Management.** The Applicant must properly manage, store, treat, and dispose of wastes in accordance with applicable federal, state, and local laws and regulations. Waste management shall be implemented to avoid or minimize exposure of wastes to precipitation or storm water runoff. The storage, handling, treatment, or disposal of waste shall not create conditions of pollution, contamination or nuisance as defined in Water Code section 13050. Upon Project completion, all Project generated debris, building materials, excess material, waste, and trash shall be removed from the Project site(s) for disposal at an authorized landfill or other disposal site in compliance with federal, state and local laws and regulations.

F. **Waste Management**. Except for a discharge permitted under this Certification, the dumping, deposition, or discharge of trash, rubbish, unset cement or asphalt, concrete, grout, damaged concrete or asphalt, concrete or asphalt spoils, wash water, organic or earthen material, steel, sawdust or other construction debris waste from Project activities directly into waters of the United States and or State, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited.

G. **Downstream Erosion.** Discharges of concentrated flow during construction or after Project completion must not cause downstream erosion or damage to properties or stream habitat.

H. **Construction Equipment.** All equipment must be washed prior to transport to the Project site and must be free of sediment, debris, and foreign matter. All equipment used in direct contact with surface water shall be cleaned prior to use. All equipment using gas, oil, hydraulic fluid, or other petroleum products shall be inspected for leaks prior to use and shall be monitored for leakage. Stationary equipment (e.g., motors, pumps, generator, etc.) shall be positioned over drip pans or other types of containment.

I. **Process Water.** 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 water runoff flows. Pollutants discharged to areas within a stream diversion must be removed at the end of each work day or sooner if rain is predicted.

J. **Surface Water Diversion.** All surface waters, including ponded waters, must be diverted away from areas of active 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 the receiving water quality objectives. 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.

K. **Re-vegetation and Stabilization.** All areas that have 14 or more days of inactivity must be stabilized within 14 days of the last activity. The Applicant shall implement and maintain BMPs to prevent erosion of the rough graded areas. After completion of grading, all areas must be re-vegetated with native species appropriate for the area. The re-vegetation palette must not contain any plants listed on the California Invasive Plant Council Invasive Plant Inventory, which can be accessed at http://www.cal-ipc.org/ip/inventory/.

L. **Hazardous Materials.** Except as authorized by this Certification, substances hazardous to aquatic life including, but not limited to, petroleum products, unused 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.

M. **Vegetation Removal.** Removal of vegetation must occur by hand, mechanically, or through application of United States Environmental Protection Agency (USEPA) approved herbicides deployed using applicable BMPs to minimize adverse effects to beneficial uses of waters of the United States and/or State. Discharges related to the application of aquatic pesticides within waters of the United States must be done in

compliance 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.

N. **Limits of Disturbance.** The Applicant shall clearly define the limits of Project disturbance to waters of the United States and/or State using highly visible markers such as flag markers, construction fencing, or silt barriers prior to commencement of Project construction activities within those areas.

O. **On-site Qualified Biologist.** The Applicant shall designate an on-site qualified biologist to monitor Project construction activities within or adjacent to waters of the United States and/or State to ensure compliance with the Certification requirements. The biologist shall be given the authority to stop all work on-site if a violation of this Certification occurs or has the potential to occur. Records and field notes of the biologist's activities shall be kept on-site and made available for review upon request by the San Diego Water Board.

P. **Beneficial Use Protection**. The Applicant must take all necessary measures to protect the beneficial uses of waters of the affected water bodies. This Certification requires compliance with all applicable requirements of the Basin Plan. If at any time, an unauthorized discharge to surface waters (including rivers or streams) occurs or monitoring indicates that the Project is violating, or threatens to violate, water quality objectives, the associated Project activities shall cease immediately and the San Diego Water Board shall be notified in accordance with Notification Requirement VII.A of this Certification. Associated Project activities may not resume without approval from the San Diego Water Board.

IV. POST-CONSTRUCTION BEST MANAGEMENT PRACTICES

A. **Post-Construction Discharges.** The Applicant shall not allow post-construction discharges from the Project site to cause or contribute to on-site or off-site erosion or damage to properties or stream habitats.

B. **Storm Drain Inlets.** All pedestrian accessible storm drain inlet structures within the Project boundaries must be stamped or stenciled (or equivalent) with appropriate language prohibiting non-storm water discharges.

C. **Post-Construction BMP Design.** The Post-Construction BMPs must be designed to comply with the requirements of the Statewide Storm Water Permit for Caltrans and any reissuance.[4] Post-construction BMPs must include those as described in the five Storm Water Data Reports listed below which are incorporated by reference as if set

[4] The current version of the statewide permit, Order No. 2012-0011-DWQ, NPDES No. CAS000003, *National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRs) For State of California Department of Transportation* can be accessed on-line at http://www.waterboards.ca.gov/water_issues/programs/stormwater/caltrans.shtml

forth herein, or any subsequent versions of the reports approved by the San Diego Water Board :

1. Voight Drive Improvements, Post Mile Limits R28.43 – R29.46 dated November 13, 2015;
2. Manchester Ave / San Elijo Lagoon Bridge Replacement, Post Mile Limits R37.4 – R39.8 dated October 23, 2015;
3. Encinitas HOV Extension, Post Mile Limits R39.8 – R44.1 dated November 16, 2015;
4. Batiquitos Lagoon Bridge Replacement, Post Mile Limits R44.1 – R47.3 dated November 17, 2015; and
5. Carlsbad HOV Extension, Post Mile Limits R47.5 – R51.2 dated November 17, 2015.

D. **Impervious Areas and Post-Construction BMP Treatment.**

1. Stage (or Segment) 1 of the project must not add more than 25 acres of impervious surfaces and must treat at least 50 acres of post-construction impervious area runoff.
2. Stage (or Segment) 2 of the project must not add more than 18 acres of impervious surfaces and must treat at least 25 acres of post-construction impervious area runoff.
3. Stage (or Segment) 3 of the project must not add more than 14 acres of impervious surfaces and must treat at least 25 acres of post-construction impervious area runoff.
4. Stage (or Segment) 4 of the project must not add more than 6.25 acres of impervious surfaces and must treat at least 7.91 acres of post-construction impervious area runoff.

E. **Post-Construction BMP Implementation.** All post-construction BMPs must be constructed, functional, and implemented prior to completion of Project construction, occupancy, and/or planned use, and maintained in perpetuity.

F. **Post-Construction BMP Maintenance.** The post construction BMPs must be maintained in accordance with the most recent *CALTRANS STORM WATER QUALITY HANDBOOKS: PROJECT PLANNING AND DESIGN GUIDE CTSW-RT-10-254 March 2016, and the MAINTENANCE STAFF GUIDE CTSW-RT-02-057 (Maintenance Staff Guide)* May 2003, Revised September 2012. Both of these Caltrans documents comply with the SWRCB NPDES Statewide Storm Water Permit (Caltrans Permit) (Order No.2012-0011-DWQ) (CAS000003), to regulate stormwater discharges from Caltrans facilities and can be referenced on-line at http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/certifications/caltrans011514/wqcert.pdf.

The Applicant shall:

1. Regularly assess the performance of the BMPs to ensure protection of the receiving waters and identify any necessary corrective measures;

2. Regularly perform inspections of BMPs for standing water, slope stability, sediment accumulation, trash and debris, and presence of burrows;

3. Regularly perform preventative maintenance of BMPs, including removal of accumulated trash and debris, as needed to ensure proper functioning of the BMPs;

5. Regularly identify and promptly repair damage to BMPs; and

6. Maintain a log documenting all BMP inspections and maintenance activities. The log shall be made available to the San Diego Water Board upon request.

V. PROJECT IMPACTS AND COMPENSATORY MITIGATION

A. **Project Impact Avoidance and Minimization**. The Project must avoid and minimize adverse impacts to waters of the United States and/or State to the maximum extent practicable.

B. **Project Impacts and Compensatory Mitigation.** Unavoidable Project impacts to San Elijo Lagoon, Batiquitos Lagoon, the concrete drainage channel from Voight Avenue, the unlined drainage channel parallel to Manchester Avenue, the concrete drainage channel north from Manchester Avenue, the concrete section of Moonlight Creek, and the concrete drainage channel of Encina Creek within the Carlsbad Hydrologic Unit (904.00) must not exceed the type and magnitude of impacts described in the table below. At a minimum, compensatory mitigation required to offset unavoidable temporary and permanent Project impacts to waters of the United States and/or State must be achieved as described in the table below:

	Impacts (acres)	Impacts (linear ft.)	Mitigation for Impacts (acres)	Mitigation Ratio (area mitigated :area impacted)	Mitigation for Impacts (linear ft.)	Mitigation Ratio (linear feet mitigated :linear feet impacted)
Permanent Impacts						
Open Water	0.43	562	1.64 Re-establishment[1]	3.8:1	608	1.08:1
Riparian Zone	0.04	399	0.74 Establishment[2]	18.5:1	253	0.63:1
Stream Channel	0.13	776	0.79 Re-establishment[3]	6.01:1	808	1.04:1
Wetland	6.55	9,259	21.44[4] Re-establishment, Rehabilitation, Enhancement	3.27:1	9,958	1.07:1
Temporary Impacts[5]						

Open Water	2.96	3,982	N/A	N/A	N/A	N/A
Riparian	0.05	140	N/A	N/A	N/A	N/A
Stream Channel	0.04	45	N/A	N/A	N/A	N/A
Wetland	4.78	730	N/A	N/A	N/A	N/A

1. Open water re-establishment in San Elijo Lagoon and Batiquitos Lagoon created by lengthening bridges.
2. Riparian re-establishment at Hallmark East.
3. Stream channel re-establishment at Hallmark East.
4. Wetland re-establishment, rehabilitation, and enhancement at Hallmark West and East mitigation sites, San Elijo Lagoon, Batiquitos Lagoon, and Los Penasquitos Lagoon.
5. Temporary impacts must be restored to pre-project contours and re-vegetated with native species.

C. **Compensatory Mitigation Plans Implementation.** The Applicant must fully and completely implement the Mitigation Plans; any deviations from, or revisions to, the Mitigation Plans must be pre-approved by the San Diego Water Board.

D. **Performance Standards.** Compensatory mitigation required under this Certification shall be considered achieved once it has met the ecological success performance standards contained in the Mitigation Plans to the satisfaction of the San Diego Water Board.

E. **Compensatory Mitigation Site Design.** The compensatory mitigation site(s) shall be designed to be self-sustaining once performance standards have been achieved. This includes minimization of active engineering features (e.g., pumps) and appropriate siting to ensure that natural hydrology and landscape context support long-term sustainability in conformance with the following conditions:

1. Most of the channels through the mitigation sites shall be characterized by equilibrium conditions, with no evidence of severe aggradation or degradation;

2. As viewed along cross-sections, the channel and buffer area(s) shall have a variety of slopes, or elevations, that are characterized by different moisture gradients. Each sub-slope shall contain physical patch types or features that contribute to irregularity in height, edges, or surface and to complex topography overall; and

3. The mitigation sites shall have a well-developed plant community characterized by a high degree of horizontal and vertical interspersion among plant zones and layers.

F. **Temporary Project Impact Areas.** 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 of pollutants to waters of the United States and/or State. Restoration must include grading of disturbed areas to pre-project contours and re-vegetation with native species. The Applicant must implement all necessary BMPs to control erosion and runoff from areas associated with the Project.

G. **Long Term Management and Maintenance.** The compensatory mitigation site(s), must be managed, protected, and maintained, in perpetuity, in conformance with the long term management plan and the final ecological success performance standards identified in the *North Coast Corridor Public Works Plan/Transportation and Resource Enhancement Program* (Mitigation Plan), dated July 2013, and the *North Coast Corridor*

Resource Enhancement and Mitigation Program, Habitat Mitigation and Monitoring Plan for the San Dieguito Lagoon W19 Mitigation Site, dated December 2015. The aquatic habitats, riparian areas, buffers and uplands that comprise the mitigation site(s) must be protected in perpetuity from land-use and maintenance activities that may threaten water quality or beneficial uses within the mitigation area(s) in a manner consistent with the following requirements:

1. Any maintenance activities on the mitigation site(s) that do not contribute to the success of the mitigation site(s) and enhancement of beneficial uses and ecological functions and services are prohibited;

2. Maintenance activities must be 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 compensatory mitigation project;

3. The Mitigation site(s) 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 site(s); and

4. If at any time a catastrophic natural event (e.g., fire, flood) causes damage(s) to the mitigation site(s) or other deficiencies in the compensatory mitigation project, the Applicant must take prompt and appropriate action to repair the damage(s) including replanting the affected area(s) and address any other deficiencies. The San Diego Water Board may require additional monitoring by the Applicant to assess how the compensatory mitigation site(s) or project is responding to a catastrophic natural event.

H. **Timing of Mitigation Site Construction.** The construction of proposed mitigation must be concurrent with project grading and completed no later than 9 months following the start of Project construction. Delays in implementing mitigation must be compensated for by an increased mitigation implementation of 10% of the cumulative compensatory mitigation for each month of delay.

I. **Mitigation Site(s) Preservation Mechanism. Within 90 days from the start of the issuance of this Certification**, the Applicant must provide the San Diego Water Board draft preservation mechanisms (e.g. deed restrictions, conservation easements, land use conservation agreements, etc.) that will protect all mitigation sites and their buffers in perpetuity. The applicant must provide the San Diego Water Board with final preservation mechanisms that will protect all mitigation sites for the associated stage of construction prior to any construction impacts. The conservation easement, deed restriction, or other legal limitation on the mitigation properties must be adequate to demonstrate that the sites will be maintained without future development or encroachment on the sites which could otherwise reduce the functions and values of the sites for the variety of beneficial uses of waters of the United States and/ or State that it supports. The legal limitation must prohibit, without exception, 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 sites. 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.

VI. MONITORING AND REPORTING REQUIREMENTS

A. **Representative Monitoring**. Samples and measurements taken for the purpose of monitoring under this Certification shall be representative of the monitored activity.

B. **Monitoring Reports**. Monitoring results shall be reported to the San Diego Water Board at the intervals specified in section VI of this Certification.

C. **Monitoring and Reporting Revisions**. The San Diego Water Board may make revisions to the monitoring program at any time during the term of this Certification and may reduce or increase the number of parameters to be monitored, locations monitored, the frequency of monitoring, or the number and size of samples collected.

D. **Records of Monitoring Information.** Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;

2. The individual(s) who performed the sampling or measurements;

3. The date(s) analyses were performed;

4. The individual(s) who performed the analyses;

5. The analytical techniques or methods used; and

6. The results of such analyses.

E. **California Rapid Assessment Method.** California Rapid Assessment Method (CRAM)[5] monitoring must be performed to assess the current and potential ecological conditions (ecological integrity) of the impact site and proposed compensatory mitigation site(s). These conditions reflect the overall level of ecological function of an aquatic resource. Prior to initiating Project construction, the Applicant shall develop a monitoring plan to implement California Rapid Assessment Method (CRAM) monitoring. The Applicant must conduct a quantitative function-based assessment of the health of streambed habitat to establish pre-project baseline conditions, set CRAM success criteria, and assess the mitigation site(s) progress towards meeting the success criteria.

[5] The most recent versions of the California Rapid Assessment Method (CRAM) for Wetlands and additional information regarding CRAM can be accessed at http://www.cramwetlands.org/.

CRAM monitoring must be conducted prior to the start of Project construction authorized under this Certification and annually following construction completion for a period of 5 years. The annual CRAM monitoring results shall be submitted with the Annual Project Progress Report. An evaluation, interpretation, and tabulation of all CRAM assessment data shall be submitted with the Final Project Completion Report.

F. **Geographic Information System Data.** The Applicant must submit Geographic Information System (GIS) shape files of the Project impact sites within 30 days of the start of project construction and GIS shape files of the Project mitigation sites within 30 days of Certification issuance. All impact and mitigation site shape files must be polygons. Two GPS readings (points) must be taken on each line of the polygon and the polygon must have a minimum of 10 points. GIS metadata must also be submitted.

G. **Annual Project Progress Reports.** The Applicant must submit annual Project progress reports describing status of BMP implementation, compensatory mitigation, 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 Annual Project Progress Reports must contain compensatory mitigation monitoring information sufficient to demonstrate how the compensatory mitigation project is progressing towards accomplishing its objectives and meeting its performance standards. Annual Project Progress Reports must be submitted even if Project construction has not begun. The monitoring period for each Annual Project Progress Report shall be January 1st through December 31st of each year. Annual Project Progress Reports must include, at a minimum, the following:

1. **Project Status and Compliance Reporting.** The Annual Project Progress Report must include the following Project status and compliance information:

   a. The names, qualifications, and affiliations of the persons contributing to the report;

   b. The status, progress, and anticipated schedule for completion of Project construction activities including the installation and operational status of best management practices project features for erosion and storm water quality treatment;

   c. A description of Project construction delays encountered or anticipated that may affect the schedule for construction completion; and

   d. A description of each incident of noncompliance during the annual monitoring period and its cause, the period of the noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

2. **Compensatory Mitigation Monitoring Reporting.** Mitigation monitoring information must be submitted as part of each Annual Project Progress Report for a

period of not less than five years, sufficient to demonstrate that the compensatory mitigation project has accomplished its objectives and met ecological success performance standards contained in the Mitigation Plans. Following Project implementation the San Diego Water Board may reduce or waive compensatory mitigation monitoring requirements upon a determination that performance standards have been achieved. Conversely the San Diego Water Board may extend the monitoring period beyond five years upon a determination that the performance standards have not been met or the compensatory mitigation project is not on track to meet them. The compensatory mitigation monitoring information must include the following:

a. Names, qualifications, and affiliations of the persons contributing to the report;

b. An evaluation, interpretation, and tabulation of the parameters being monitored, including the results of the Mitigation Plans monitoring program, and all quantitative and qualitative data collected in the field;

c. A description of the following mitigation site(s) characteristics:

   i. Detritus cover;
   ii. General topographic complexity;
   iii. General upstream and downstream habitat and hydrologic connectivity; and
   iv. Source of hydrology

d. Monitoring data interpretations and conclusions as to how the compensatory mitigation project(s) is progressing towards meeting performance standards and whether the performance standards have been met;

e. A description of the progress toward implementing a plan to manage the compensatory mitigation project after performance standards have been achieved to ensure the long term sustainability of the resource in perpetuity, including a discussion of long term financing mechanisms, the party responsible for long term management, and a timetable for future steps;

f. Qualitative and quantitative comparisons of current mitigation conditions with pre-construction conditions and previous mitigation monitoring results;

g. Water body photo documentation, including all areas of permanent and temporary impact, prior to and after mitigation site 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. In addition, photo documentation must include Geographic Positioning System (GPS) coordinates for each of the photo points referenced;

h. The results of the California Rapid Assessment Method (CRAM) monitoring required under section VI.E of this Certification;

i. As-built drawings of the compensatory mitigation project site(s), no bigger than 11"X17"; and

j. A survey report documenting boundaries of the compensatory mitigation site(s).

H. **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. BMP installation and operational status for the Project;

4. As-built drawings of the Project, no bigger than 11"X17";

5. Photo documentation of implemented post-construction BMPs and all areas of permanent and temporary impacts, 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. In addition, photo documentation must include Global Positioning System (GPS) coordinates for each of the photo points referenced; and

6. An evaluation, interpretation, and tabulation of all California Rapid Assessment Method (CRAM) monitoring data collected throughout the term of Project construction in accordance with section VI.E and VII.E. of this Certification.

I. **Reporting Authority.** The submittal of information required under this Certification, or in response to a suspected violation of any condition of 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 13385.

J. **Electronic Document Submittal.** The Applicant must submit all reports and information required under this Certification in electronic format via e-mail to SanDiego@waterboards.ca.gov. Documents over 50 megabytes will not be accepted via e-mail and must be placed on a disc and delivered to:

California Regional Water Quality Control Board
San Diego Region
Attn: 401 Certification No. R9-2015-0090:787282:mporter
2375 Northside Drive, Suite 100
San Diego, California 92108

Each electronic document must be submitted as a single file, in Portable Document Format (PDF) format, and converted to text searchable format using Optical Character Recognition (OCR). All electronic documents must include scanned copies of all signature pages; electronic signatures will not be accepted. Electronic documents submitted to the San Diego Water Board must include the following identification numbers in the header or subject line: Certification No. R9-2015-0090:787282:mporter

K. **Document Signatory Requirements**. All applications, reports, or information submitted to the San Diego Water Board must be signed 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.

   c. 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.

L. **Document Certification Requirements**. All applications, reports, or information submitted to the San Diego Water Board must be 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."

VII. NOTIFICATION REQUIREMENTS

A. **Twenty Four Hour Non-Compliance Reporting.** 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. **Hazardous Substance Discharge**. Except for a discharge which is in compliance with this Certification, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, shall as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the County of San Diego, in accordance with California Health and Safety Code section 5411.5 and the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Government Code Title 2, Division 1, Chapter 7, Article 3.7 (commencing with section 8574.17), and immediately notify the State Water Board or the San Diego Water Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of section 13271 of the Water Code unless the Applicant is in violation of a Basin Plan prohibition.

C. **Oil or Petroleum Product Discharge.** Except for a discharge which is in compliance with this Certification, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Government Code Title 2, Division 1, Chapter 7, Article 3.7 (commencing with section 8574.1). This requirement does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Clean Water Act section 311, or the discharge is in violation of a Basin Plan prohibition.

D. **Anticipated Noncompliance**. The Applicant shall give advance notice to the San Diego Water Board of any planned changes in the Project or the Compensatory Mitigation project which may result in noncompliance with Certification conditions or requirements.

E. **Commencement of Construction Notification**. The Applicant must notify the San Diego Water Board in writing **at least 5 days prior to** the start of initial Project construction ground disturbance

F. **Transfers.** 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.

VIII. CALIFORNIA ENVIRONMENTAL QUALITY ACT COMPLIANCE

A. The California Department of Transportation – District 11 is the Lead Agency under the California Environmental Quality Act (CEQA) (Public Resources Code section 21000, et seq.) section 21067, and CEQA Guidelines (California Code of Regulations, title 14, section 15000 et seq.) section 15367, and has filed a Notice of Determination dated November 5, 2013 for the Interstate 5 North Coast Corridor Project (NCC), Final Environmental Impact Report/Environmental Impact Statement and Section 4(f) Evaluation (Final EIR/EIS) dated October 2013 (State Clearing House Number 2004101076). The Lead Agency has determined the Project will have a significant effect on the environment and mitigation measures were made a condition of the Project. A Statement of Overriding Considerations was also completed in October 2015 to comply with Section 15093 of CEQA and Section 1509.6 of Caltrans and California Transportation Commission Environmental Regulations for the following impacts that have been identified as significant and not fully able to mitigate in the I-5 NCC Project for: Community Cohesion under the 10+4 Barrier Alternative; visual/aesthetics for all alternatives; and Isolated noise impacts for all alternatives.

B. The San Diego Water Board is a Responsible Agency under CEQA (Public Resources Code section 21069; CEQA Guidelines section 15381). The San Diego Water Board has considered the Lead Agency's Final EIR/EIS and finds that the Project as proposed will have a significant effect on resources within the San Diego Water Board's purview.

C. The San Diego Water Board has required mitigation measures as a condition of this Certification to avoid or reduce the environmental effects of the Project to resources within the Board's purview to a less than significant level.

D. The Lead Agency has adopted a mitigation monitoring and reporting program pursuant to Public Resources Code section 21081.6 and CEQA Guidelines section 15097 to ensure that mitigation measures and revisions to the Project identified in the Final EIR/EIS are implemented. The Mitigation Monitoring and Reporting Program (MMRP) is included and incorporated by reference in Attachment 5 to this Certification. The Applicant shall implement the Lead Agency's MMRP described in the Final EIR/EIS, as it pertains to resources within the San Diego Water Board's purview. The San Diego Water Board has imposed additional MMRP requirements as specified in sections V and VI of this Certification.

E. As a Responsible Agency under CEQA, the San Diego Water Board will file a Notice of Determination in accordance with CEQA Guidelines section 15096 subdivision (i).

IX. SAN DIEGO WATER BOARD CONTACT PERSON

Mike Porter, Engineering Geologist
Telephone: 619-521-3967
Email: mike.porter@waterboards.ca.gov

X. WATER QUALITY CERTIFICATION

I hereby certify that the proposed discharge from the **Interstate 5 North Coast Corridor Project - Phase I** (Certification No. R9-2015-0090) 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 in this Certification, and (b) compliance with all applicable requirements of the Basin Plan.

I, David W. Gibson, Executive Officer, do hereby certify the forgoing is a full, true, and correct copy of Certification No. R9-2015-0090 issued on March 15, 2016.

David W. Gibson

DAVID W. GIBSON
Executive Officer
San Diego Water Board

15 March 2016
Date

ATTACHMENT 1

DEFINITIONS

Activity - when used in reference to a permit means any action, undertaking, or project including, but not limited to, construction, operation, maintenance, repair, modification, and restoration which may result in any discharge to waters of the state.

Buffer - means an upland, wetland, and/or riparian area that protects and/or enhances aquatic resource functions associated with wetlands, rivers, streams, lakes, marine, and estuarine systems from disturbances associated with adjacent land uses.

California Rapid Assessment Method (CRAM) - is a wetland assessment method intended to provide a rapid, scientifically-defensible and repeatable assessment methodology to monitor status and trends in the conditions of wetlands for applications throughout the state. It can also be used to assess the performance of compensatory mitigation projects and restoration projects. CRAM provides an assessment of overall ecological condition in terms of four attributes: landscape context and buffer, hydrology, physical structure and biotic structure. CRAM also includes an assessment of key stressors that may be affecting wetland condition and a "field to PC" data management tool (eCRAM) to ensure consistency and quality of data produced with the method.

Compensatory Mitigation Project - means compensatory mitigation implemented by the Applicant as a requirement of this Certification (i.e., applicant -responsible mitigation), or by a mitigation bank or an in-lieu fee program.

Discharge of dredged material – means any addition of dredged material into, including redeposit of dredged material other than incidental fallback within, the waters of the United States and/or State.

Discharge of fill material – means the addition of fill material into waters of the United States and/or State.

Dredged material – means material that is excavated or dredged from waters of the United States and/or State.

Ecological Success Performance Standards – means observable or measurable physical (including hydrological), chemical, and/or biological attributes that are used to determine if a compensatory mitigation project meets its objectives.

Enhancement – means the manipulation of the physical, chemical, or biological characteristics of an aquatic resource to improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment – means the manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist. Creation results in a gain in aquatic resource area.

Fill material – means any material used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of a water body.

Isolated wetland – means a wetland with no surface water connection to other aquatic resources.

Mitigation Bank – means a site, or suite of sites, where resources (e.g., wetlands, streams, riparian areas) are restored, established, enhanced, and/or preserved for the purpose of providing mitigation for impacts authorized by this Certification.

Preservation - means the removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/ historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/ historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Start of Project Construction - For the purpose of this Certification, "start of Project construction" means to engage in a program of on-site construction, including site clearing, grading, dredging, landfilling, changing equipment, substituting equipment, or even moving the location of equipment specifically designed for a stationary source in preparation for the fabrication, erection or installation of the building components of the stationary source within waters of the United States and/or State.

Uplands - means non-wetland areas that lack any field-based indicators of wetlands or other aquatic conditions. Uplands are generally well-drained and occur above (i.e., up-slope) from nearby aquatic areas. Wetlands can, however, be entirely surrounded by uplands. For example, some natural seeps and constructed stock ponds lack aboveground hydrological connection to other aquatic areas. In the watershed context, uplands comprise the landscape matrix in which aquatic areas form. They are the primary sources of sediment, surface runoff, and associated chemicals that are deposited in aquatic areas or transported through them.

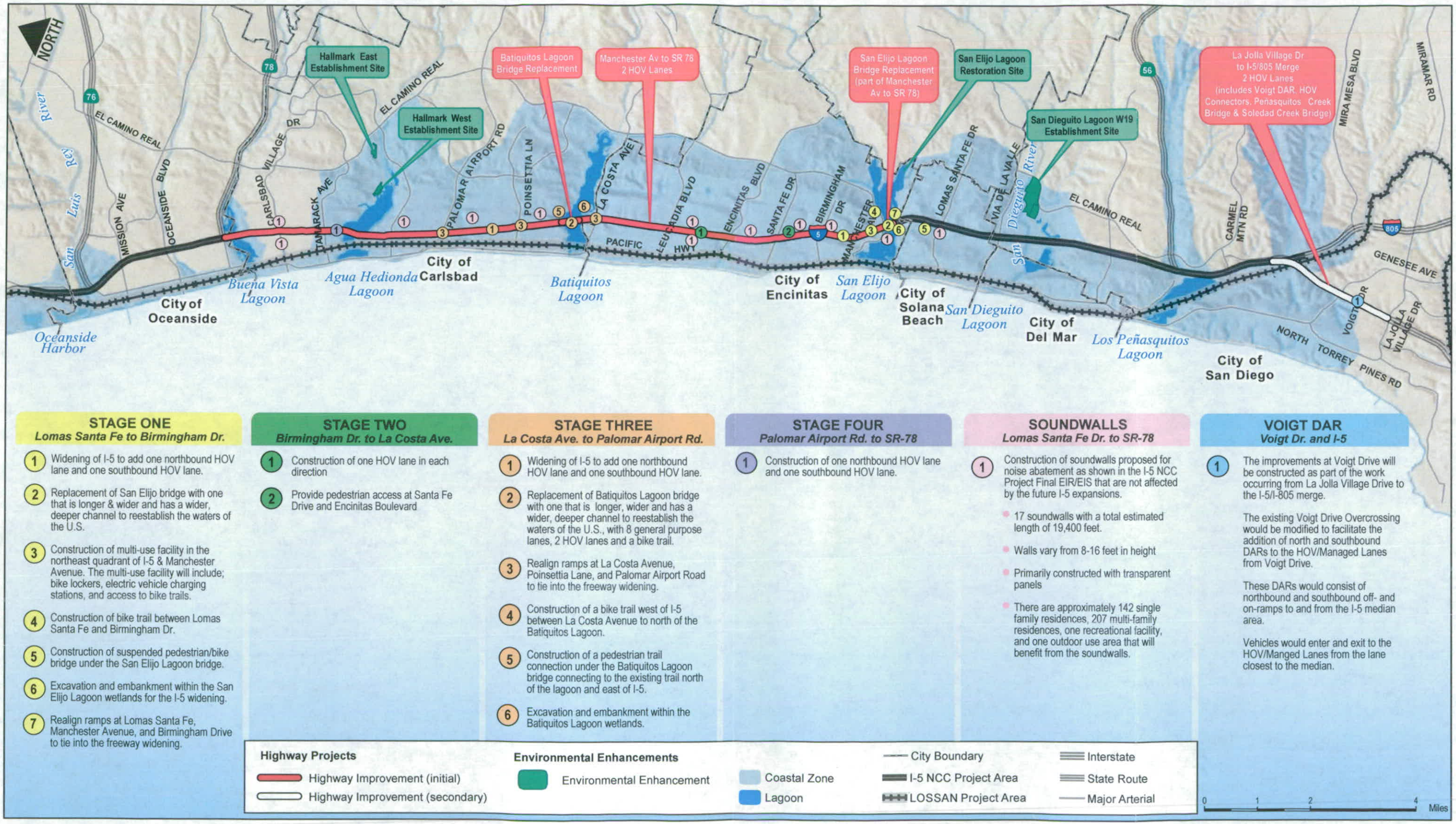
Water quality objectives and other appropriate requirements of state law – means the water quality objectives and beneficial uses as specified in the appropriate water quality control plan(s); the applicable provisions of sections 301, 302, 303, 306, and 307 of the Clean Water Act; and any other appropriate requirement of state law.

Waters of the State - means any surface water or groundwater, including saline waters, within the boundaries of the State. [Water Code section13050, subd. (e)].

Caltrans District 11
Interstate 5 North Coast Corridor Project – Phase 1
Certification No. R9-2015-0090

ATTACHMENT 2
PROJECT LOCATION MAP

(No Figure Number) – 2010-2020 Phase One Project Improvements and Mitigation Map



STAGE ONE
Lomas Santa Fe to Birmingham Dr.

1. Widening of I-5 to add one northbound HOV lane and one southbound HOV lane.
2. Replacement of San Elijo bridge with one that is longer & wider and has a wider, deeper channel to reestablish the waters of the U.S.
3. Construction of multi-use facility in the northeast quadrant of I-5 & Manchester Avenue. The multi-use facility will include; bike lockers, electric vehicle charging stations, and access to bike trails.
4. Construction of bike trail between Lomas Santa Fe and Birmingham Dr.
5. Construction of suspended pedestrian/bike bridge under the San Elijo Lagoon bridge.
6. Excavation and embankment within the San Elijo Lagoon wetlands for the I-5 widening.
7. Realign ramps at Lomas Santa Fe, Manchester Avenue, and Birmingham Drive to tie into the freeway widening.

STAGE TWO
Birmingham Dr. to La Costa Ave.

1. Construction of one HOV lane in each direction
2. Provide pedestrian access at Santa Fe Drive and Encinitas Boulevard

STAGE THREE
La Costa Ave. to Palomar Airport Rd.

1. Widening of I-5 to add one northbound HOV lane and one southbound HOV lane.
2. Replacement of Batiquitos Lagoon bridge with one that is longer, wider and has a wider, deeper channel to reestablish the waters of the U.S., with 8 general purpose lanes, 2 HOV lanes and a bike trail.
3. Realign ramps at La Costa Avenue, Poinsettia Lane, and Palomar Airport Road to tie into the freeway widening.
4. Construction of a bike trail west of I-5 between La Costa Avenue to north of the Batiquitos Lagoon.
5. Construction of a pedestrian trail connection under the Batiquitos Lagoon bridge connecting to the existing trail north of the lagoon and east of I-5.
6. Excavation and embankment within the Batiquitos Lagoon wetlands.

STAGE FOUR
Palomar Airport Rd. to SR-78

1. Construction of one northbound HOV lane and one southbound HOV lane.

SOUNDWALLS
Lomas Santa Fe Dr. to SR-78

1. Construction of soundwalls proposed for noise abatement as shown in the I-5 NCC Project Final EIR/EIS that are not affected by the future I-5 expansions.
   - 17 soundwalls with a total estimated length of 19,400 feet.
   - Walls vary from 8-16 feet in height
   - Primarily constructed with transparent panels
   - There are approximately 142 single family residences, 207 multi-family residences, one recreational facility, and one outdoor use area that will benefit from the soundwalls.

VOIGT DAR
Voigt Dr. and I-5

1. The improvements at Voigt Drive will be constructed as part of the work occurring from La Jolla Village Drive to the I-5/I-805 merge.

   The existing Voigt Drive Overcrossing would be modified to facilitate the addition of north and southbound DARs to the HOV/Managed Lanes from Voigt Drive.

   These DARs would consist of northbound and southbound off- and on-ramps to and from the I-5 median area.

   Vehicles would enter and exit to the HOV/Manged Lanes from the lane closest to the median.

Highway Projects
- Highway Improvement (initial)
- Highway Improvement (secondary)

Environmental Enhancements
- Environmental Enhancement

- Coastal Zone
- Lagoon
- City Boundary
- I-5 NCC Project Area
- LOSSAN Project Area
- Interstate
- State Route
- Major Arterial

0 1 2 4 Miles

DATA SOURCES: Caltrans, California Coastal Commission, Local Jurisdictions, SanGIS, SANDAG, USGSRevised February 2, 2016

2010-2020 Phase One
Project improvements and Mitigation Map

ATTACHMENT 3
PROJECT SITE PLANS

Figure 1 – Voight/San Clemente Creek Jurisdictional Wetlands and Other Waters of the U.S.

Figure 5 – San Elijo Lagoon Jurisdictional Wetlands and Other Waters of the U.S.

Figure 8 – Batiquitos Lagoon Jurisdictional Wetlands and Non-wetland Waters of the U.S.

Figure 9 – Encina Creek Jurisdictional Wetlands and Non-wetland Waters of the U.S.

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 1

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 2

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 3

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 4

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 5

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 6

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 7

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 8

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 9

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 10

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 11

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 12

Batiquitos Project Proposed Contributing Drainage Area – Exhibit - 13

Batiquitos Project Proposed Contributing Drainage Area – Exhibit – 14

I-5 Carlsbad HOV Proposed BMP Stormwater Treatment Exhibit Sheet 1 of 7

I-5 Carlsbad HOV Proposed BMP Stormwater Treatment Exhibit Sheet 2 of 7

I-5 Carlsbad HOV Proposed BMP Stormwater Treatment Exhibit Sheet 3 of 7

I-5 Carlsbad HOV Proposed BMP Stormwater Treatment Exhibit Sheet 4 of 7

I-5 Carlsbad HOV Proposed BMP Stormwater Treatment Exhibit Sheet 5 of 7

I-5 Carlsbad HOV Proposed BMP Stormwater Treatment Exhibit Sheet 6 of 7

I-5 Carlsbad HOV Proposed BMP Stormwater Treatment Exhibit Sheet 7 of 7

San Elijo/Manchester Project Proposed Stormwater Treatment Exhibit - 1

San Elijo/Manchester Project Proposed Stormwater Treatment Exhibit - 2

San Elijo/Manchester Project Proposed Stormwater Treatment Exhibit – 3

Segment 2 – Birmingham to La Costa Proposed BMP Stormwater Treatment Exhibit (*The next 8 serial images is one exhibit. The first image is titled and has a legend; the next 7 images do not.)*

Figure 1. Voigt/San Clemente Creek Jurisdictional Wetlands and Other Waters of the U.S.

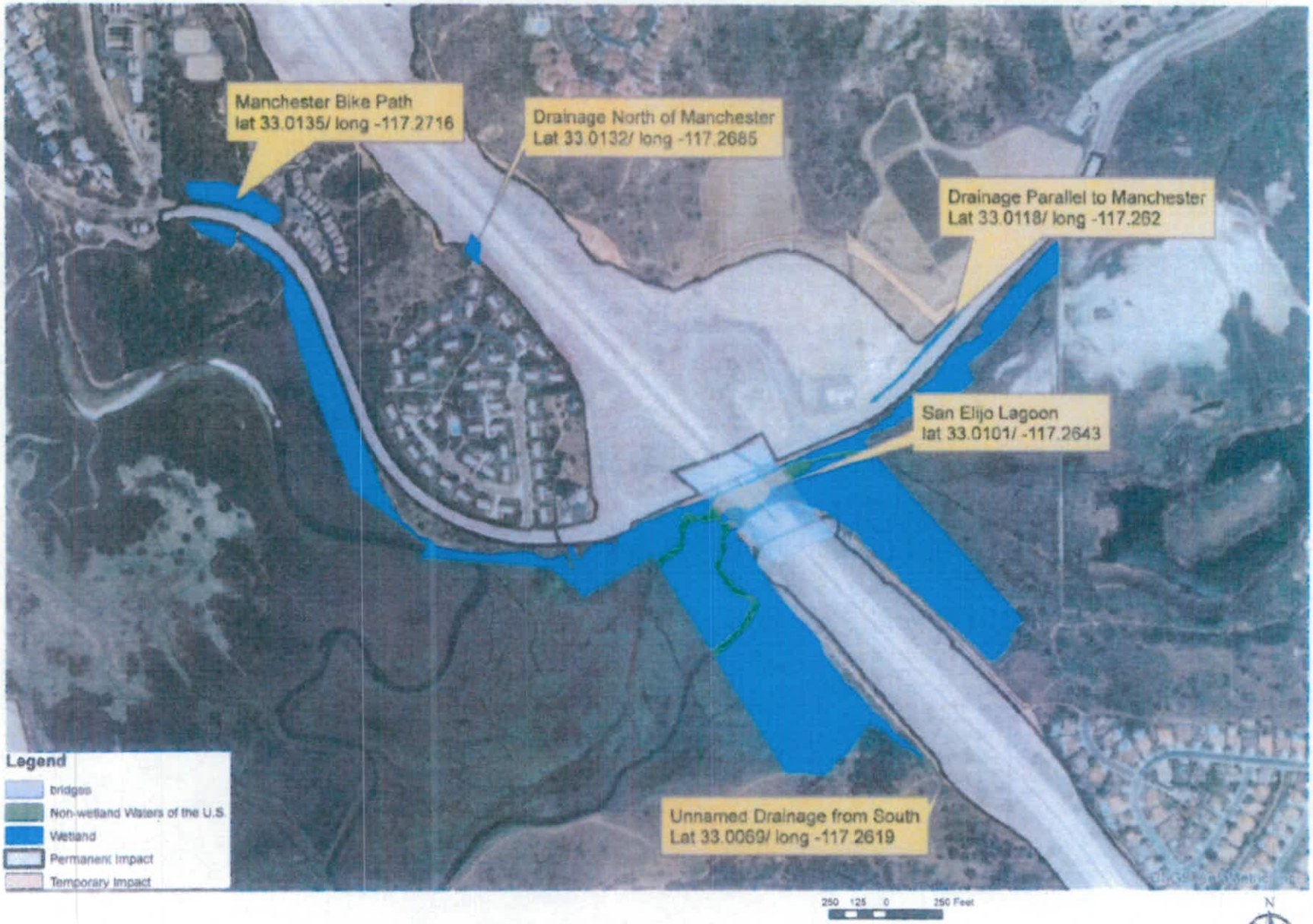


Figure 5. San Elijo Lagoon Jurisdictional Wetlands and Other Waters of the U.S.

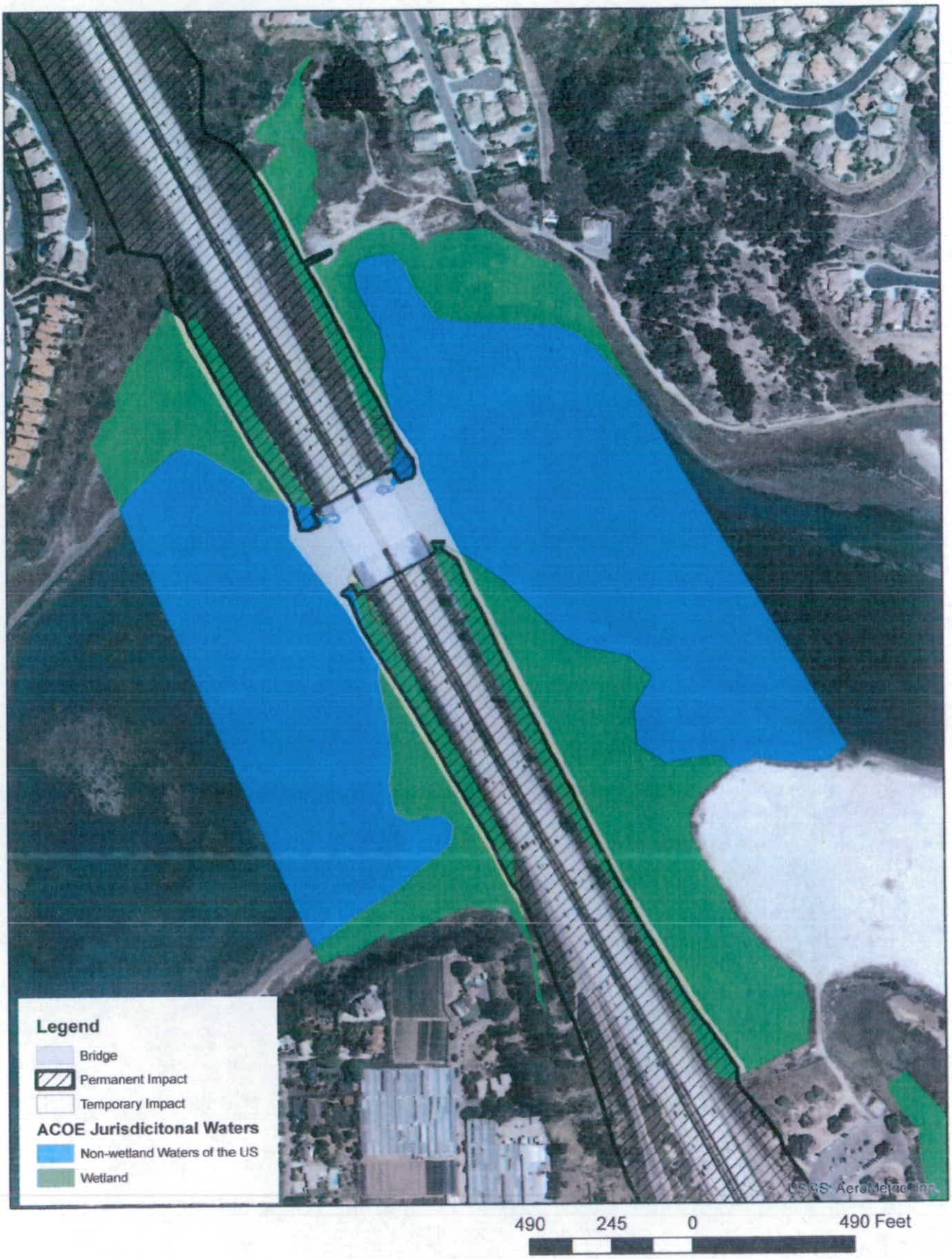


Figure 8. Batiquitos Lagoon Jurisdicitonal Wetlands and Non-wetland Waters of the U.S.

Figure 9. Encina Creek Jurisdictional Wetlands and Non-wetland Waters of the U.S.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R44.1/R47.3		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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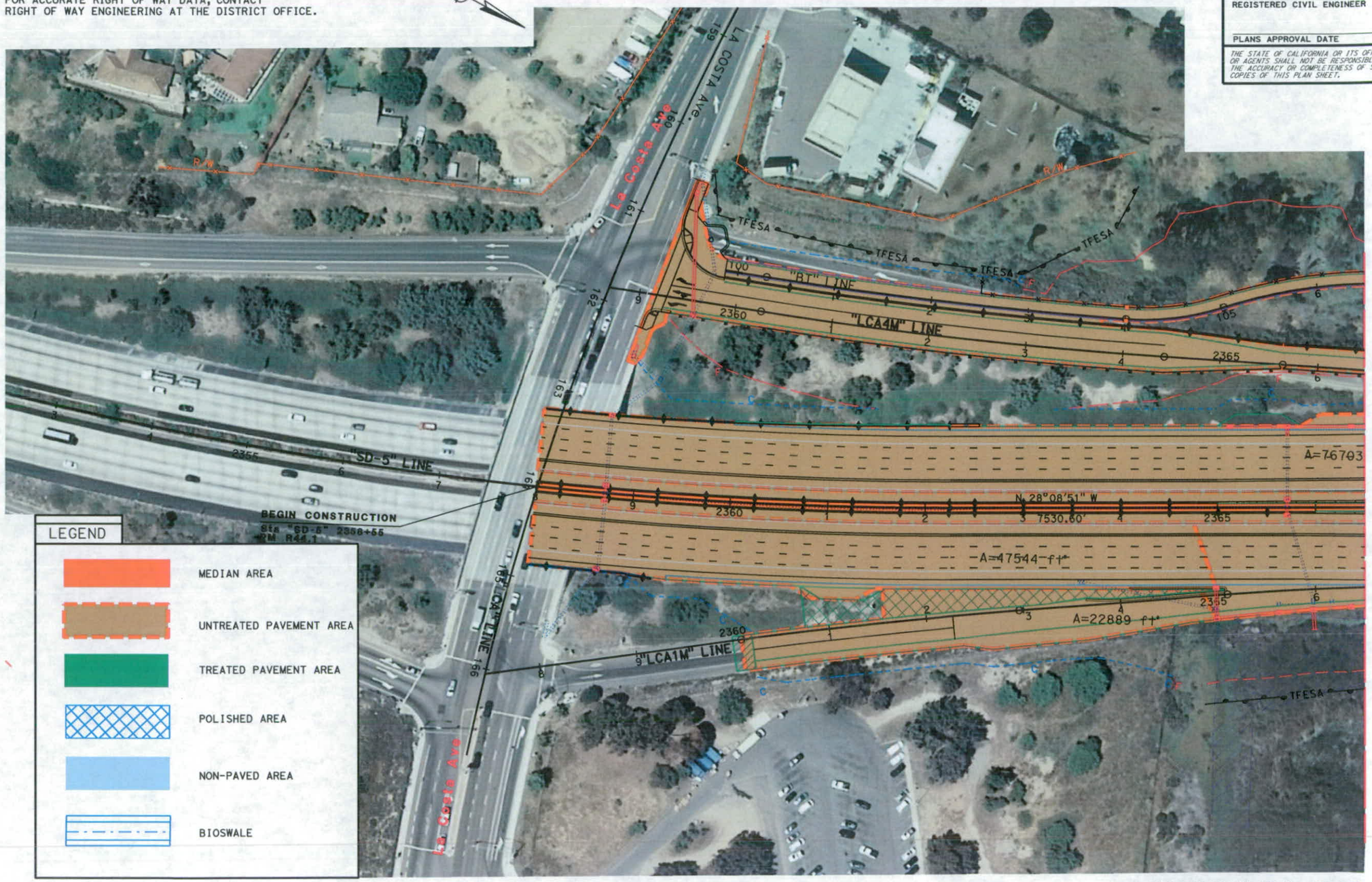

LEGEND

- MEDIAN AREA
- UNTREATED PAVEMENT AREA
- TREATED PAVEMENT AREA
- POLISHED AREA
- NON-PAVED AREA
- BIOSWALE

ROADWAY DRAINS TO BATAQUITOS LAGOON WATERSHED

NO SCALE

BATIQUITOS PROJECT
PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-1

REVISED BY	DATE REVISED
NAME ONE	
NAME TWO	
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	DAVID STEBBINS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

LAST REVISION 10-30-15
DATE PLOTTED => 13-NOV-2015
TIME PLOTTED => 07:18

BORDER LAST REVISED 7/2/2010

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2772

PROJECT NUMBER & PHASE 1114000059

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11	SD	5	R44.1/R47.3		

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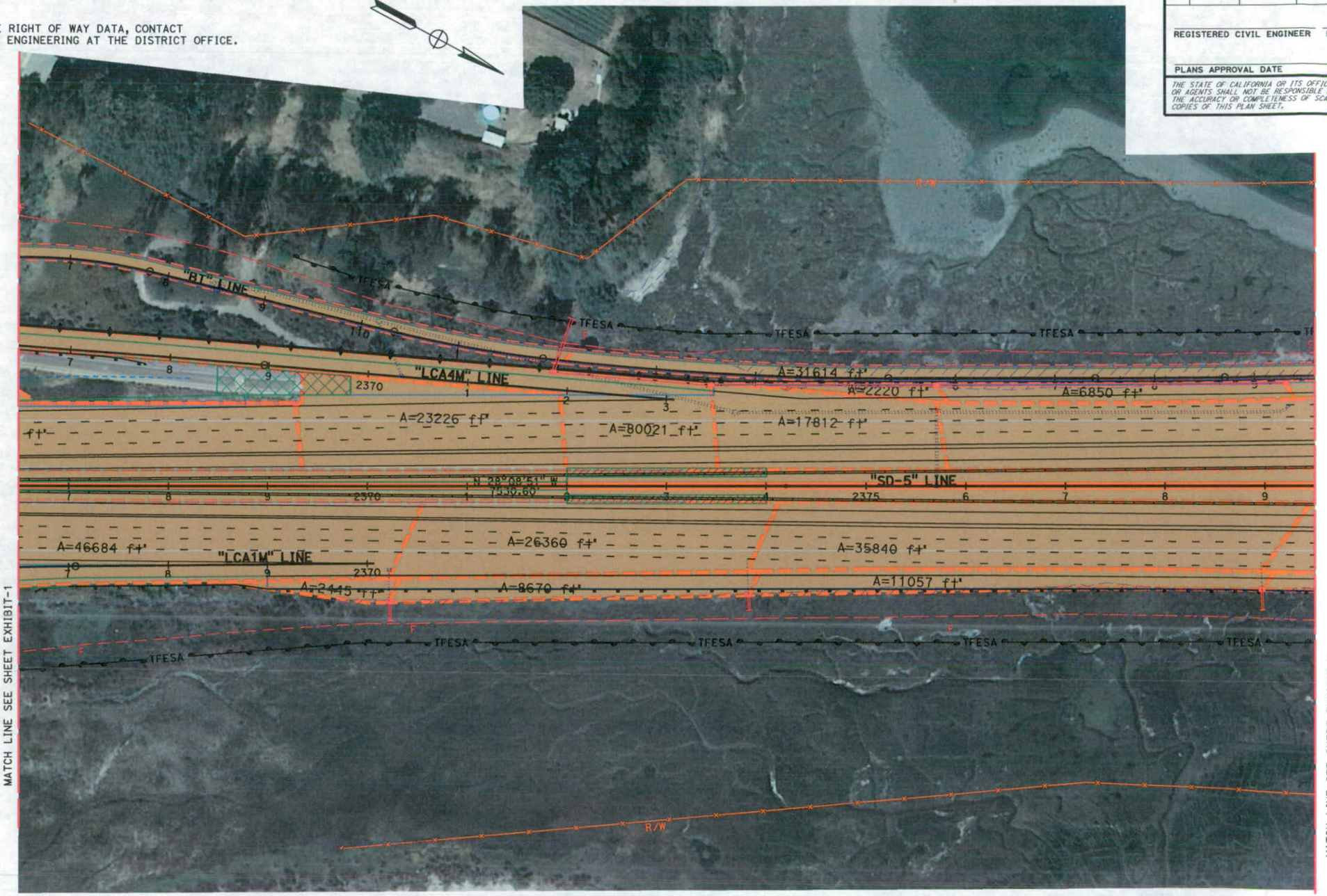

ROADWAY DRAINS TO BATAQUITOS LAGOON WATERSHED

NO SCALE

BATIQUITOS PROJECT
PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-2

LAST REVISION 10-30-15 DATE PLOTTED => 13-NOV-2015 TIME PLOTTED => 07:32

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PROJECT NUMBER & PHASE 1114000059

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11	SD	5	R44.1/R47.3		

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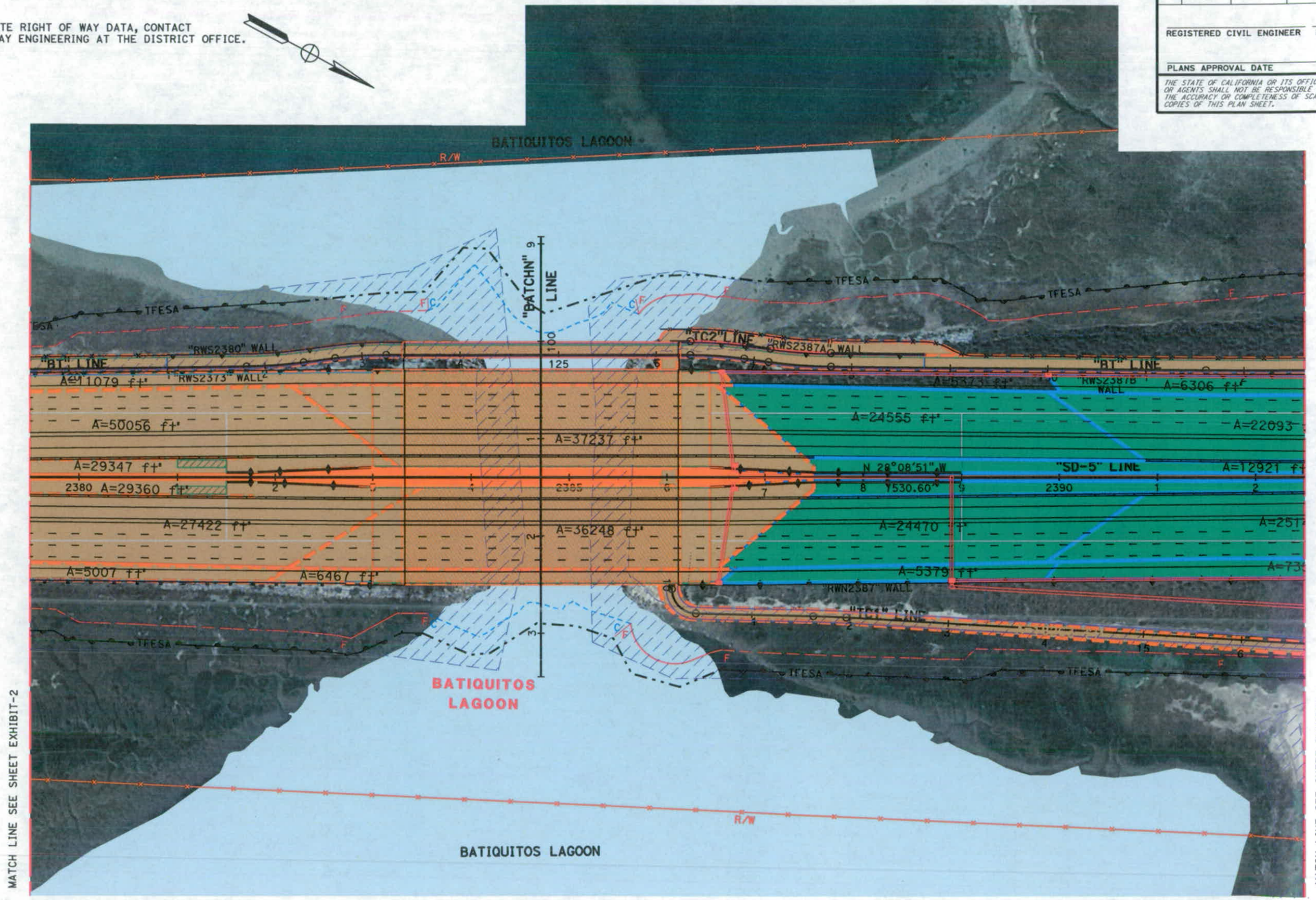

ROADWAY DRAINS TO BATAQUITOS LAGOON WATERSHED

NO SCALE

BATIQUITOS PROJECT
PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-3

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DATE REVISED	NAME TWO	CHECKED BY	

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FUNCTIONAL SUPERVISOR: DAVID STEBBINS

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TIME PLOTTED => 08:14
LAST REVISION 10-30-15

BORDER LAST REVISED 7/2/2010

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UNIT 2772

PROJECT NUMBER & PHASE 1114000059

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R44.1/R47.3		

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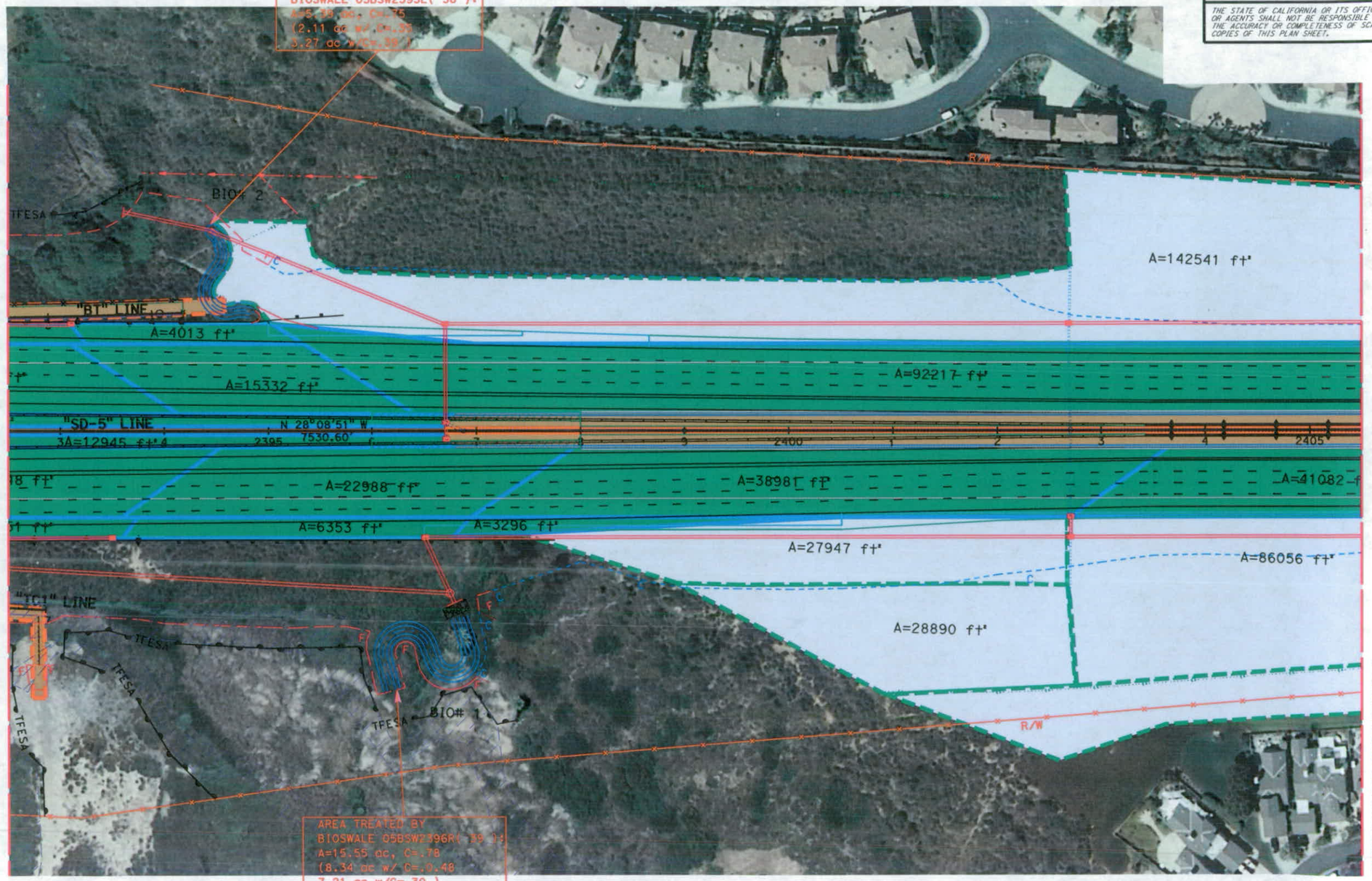

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MATCH LINE SEE SHEET EXHIBIT-5

ROADWAY DRAINS TO BATAQUITOS LAGOON WATERSHED

NO SCALE

BATIQUITOS PROJECT
PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-4

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NAME ONE	
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10-30-15

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UNIT 2772

PROJECT NUMBER & PHASE 1114000059

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R44.1/R47.3		

REGISTERED CIVIL ENGINEER DATE

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ROADWAY DRAINS TO BATAQUITOS LAGOON WATERSHED

NO SCALE

BATIQUITOS PROJECT PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-5

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PROJECT DEVELOPMENT	NAME TWO	DATE REVISED	
FUNCTIONAL SUPERVISOR: DAVID STEBBINS	CALCULATED-DESIGNED BY		
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11	SD	5	R44.1/R47.3		

REGISTERED CIVIL ENGINEER DATE

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ROADWAY DRAINS TO BATAQUITOS LAGOON WATERSHED

NO SCALE

BATIQUITOS PROJECT PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-6

LAST REVISION DATE PLOTTED => 13-NOV-2015
10-30-15 TIME PLOTTED => 08:53

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REVISED BY	DATE REVISED

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DGN FILE => 1114000059EX006.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2772

PROJECT NUMBER & PHASE 1114000059

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R44.1/R47.3		

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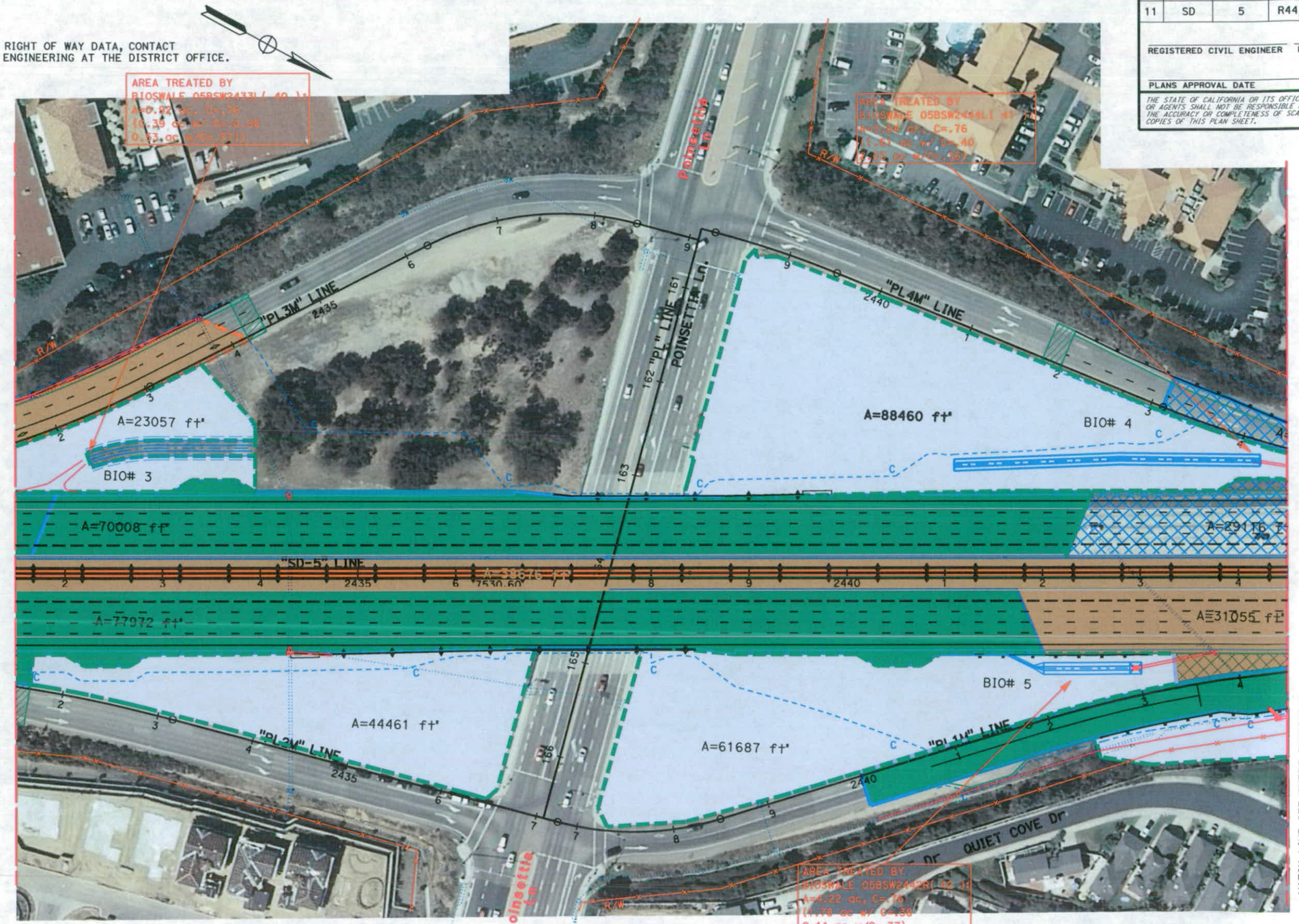

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MATCH LINE SEE SHEET EXHIBIT-8

ROADWAY DRAINS TO ENCINAS CREEK WATERSHED

NO SCALE

BATIQUITOS PROJECT PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-7

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2772

PROJECT NUMBER & PHASE 1114000059

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11	SD	5	R44.1/R47.3		

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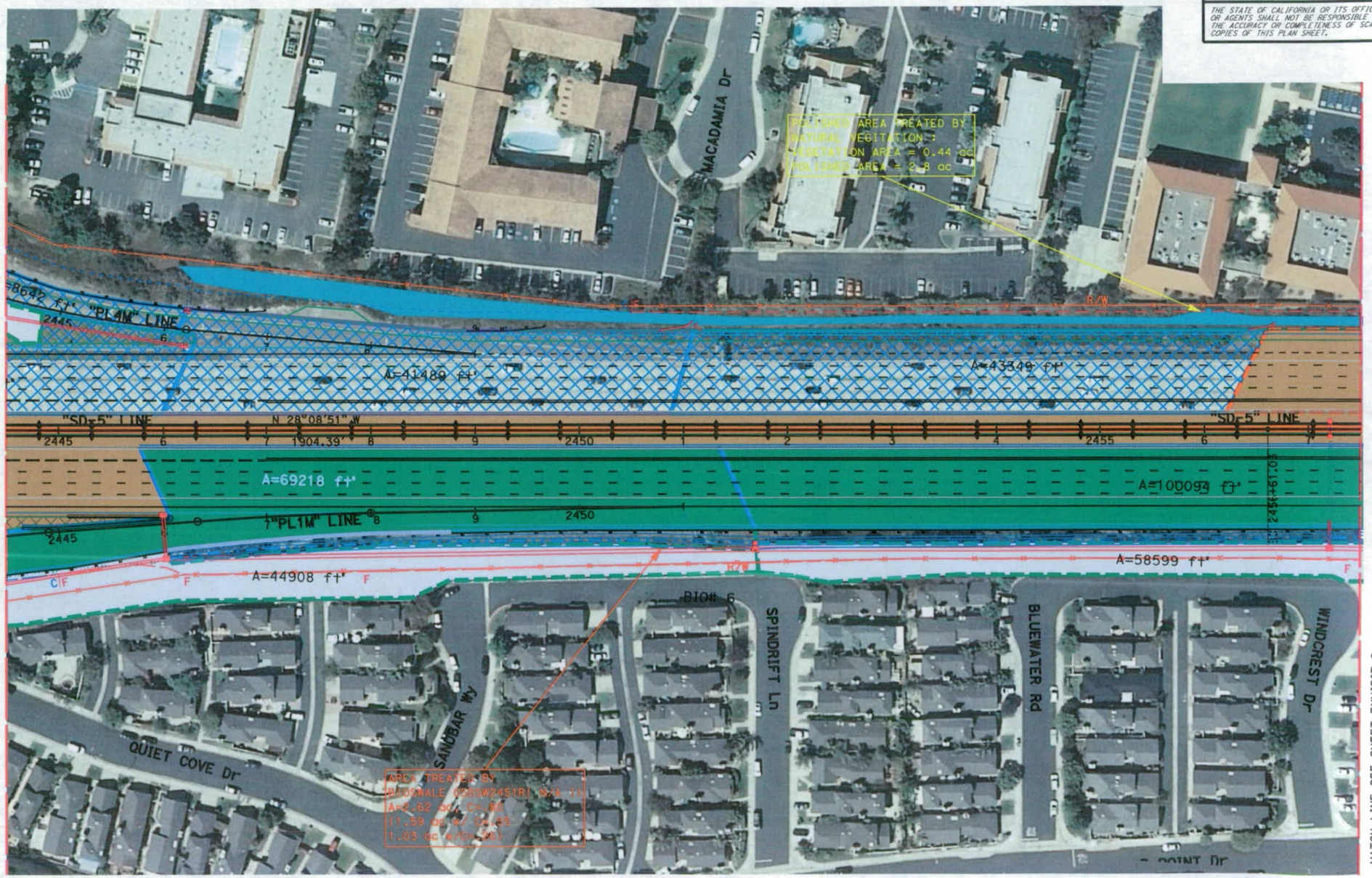

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MATCH LINE SEE SHEET EXHIBIT-9

ROADWAY DRAINS TO ENCINAS CREEK WATERSHED

NO SCALE

BATIQUITOS PROJECT PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-8

CALCULATED-DESIGNED BY	NAME ONE	REVISED BY	
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DATE PLOTTED => 13-NOV-2015
TIME PLOTTED => 09:28

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2772

PROJECT NUMBER & PHASE 1114000059

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R44.1/R47.3		

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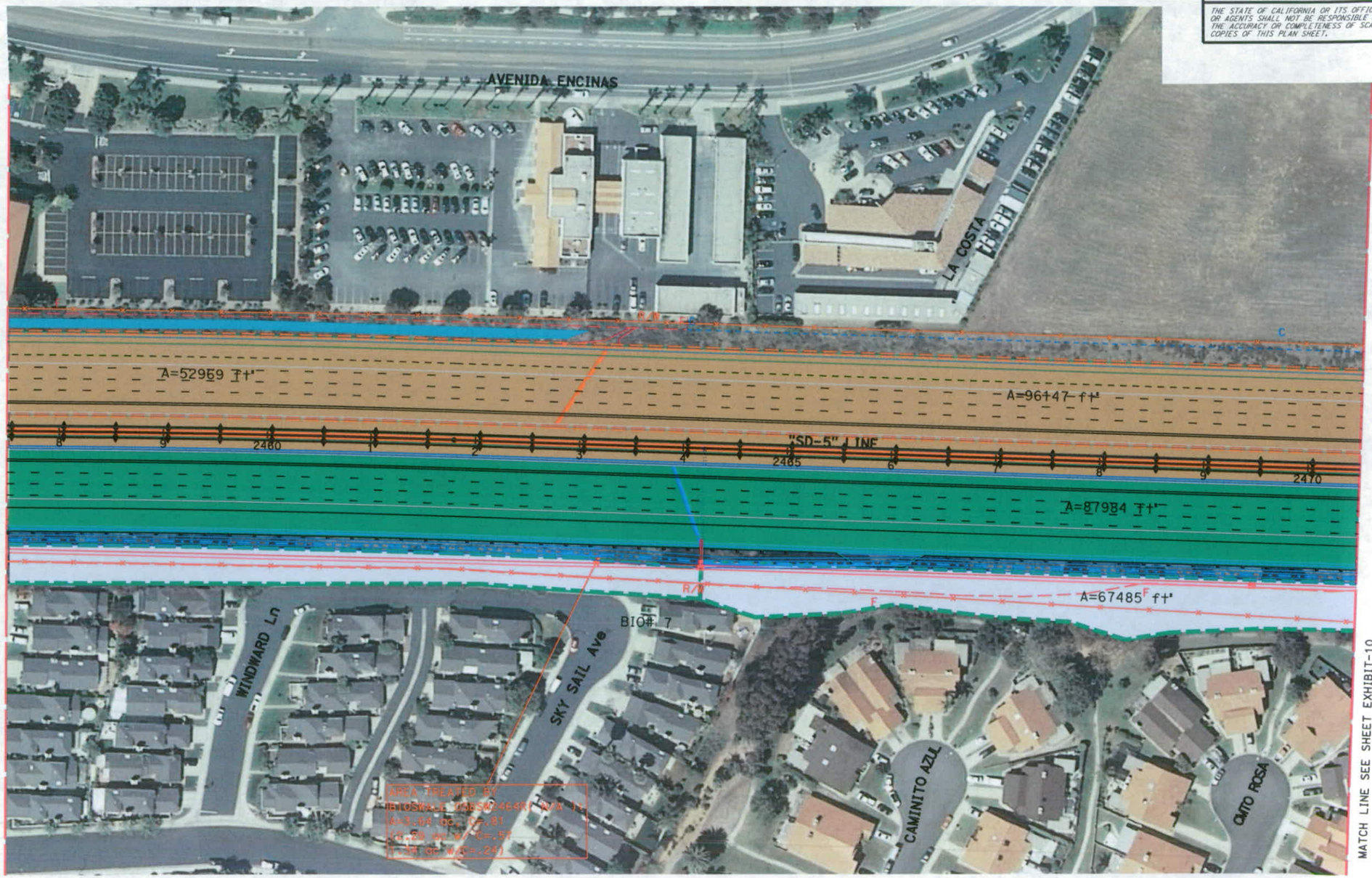

ROADWAY DRAINS TO ENCINAS CREEK WATERSHED

NO SCALE

BATIQUITOS PROJECT PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-9

	NAME ONE	REVISED BY
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: DAVID STEBBINS

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USERNAME => s136427
DGN FILE => 1114000059EX009.dgn

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UNIT 2772

PROJECT NUMBER & PHASE 1114000059

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11	SD	5	R44.1/R47.3		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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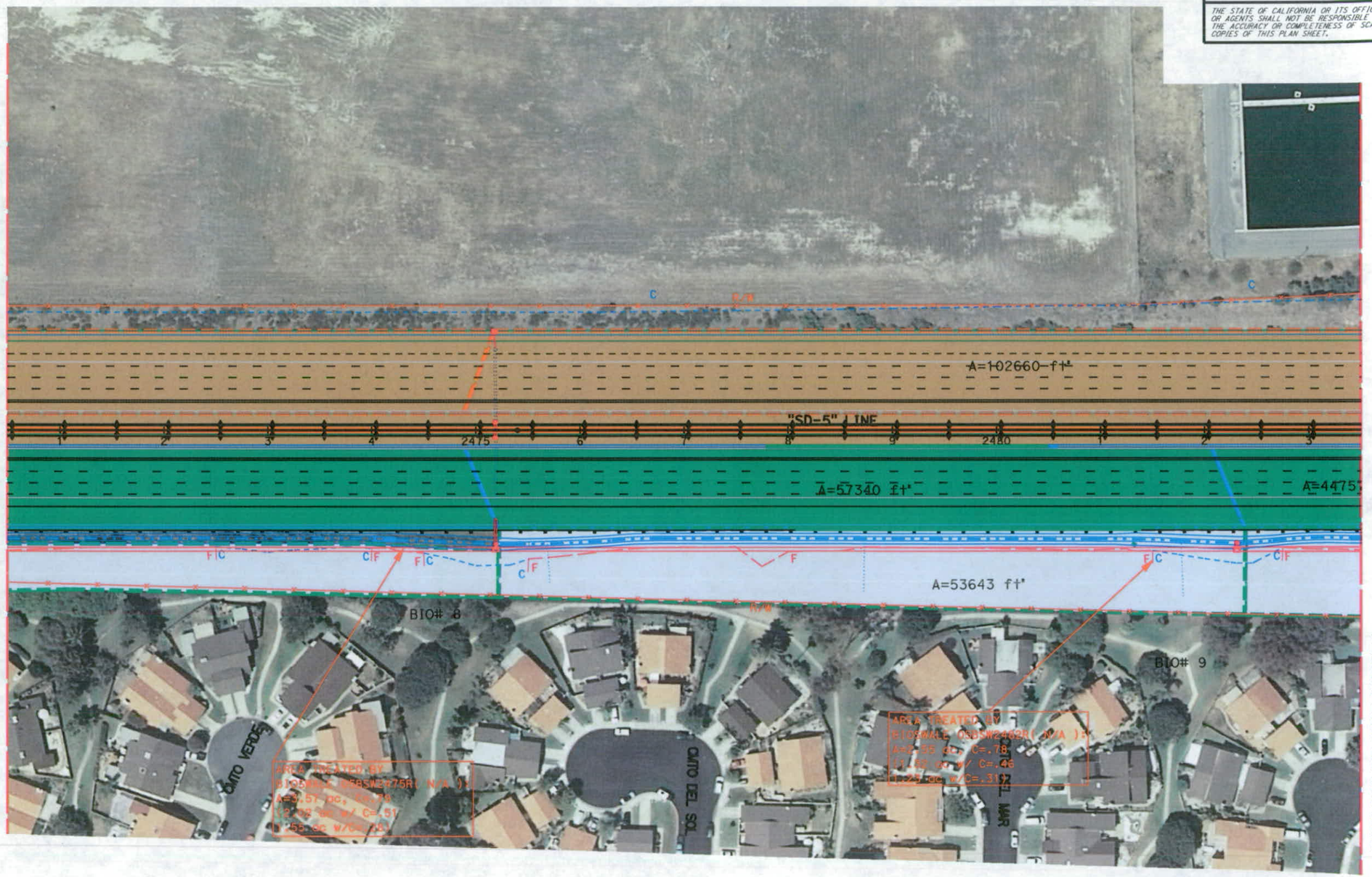

ROADWAY DRAINS TO ENCINAS CREEK WATERSHED

NO SCALE

BATIQUITOS PROJECT PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-10

CALCULATED-DESIGNED BY	NAME ONE	REVISED BY
CHECKED BY	NAME TWO	DATE REVISED

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT
FUNCTIONAL SUPERVISOR: DAVID STEBBINS

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TIME PLOTTED => 10:05

BORDER LAST REVISED 7/2/2010

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2772

PROJECT NUMBER & PHASE 1114000059

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R44.1/R47.3		

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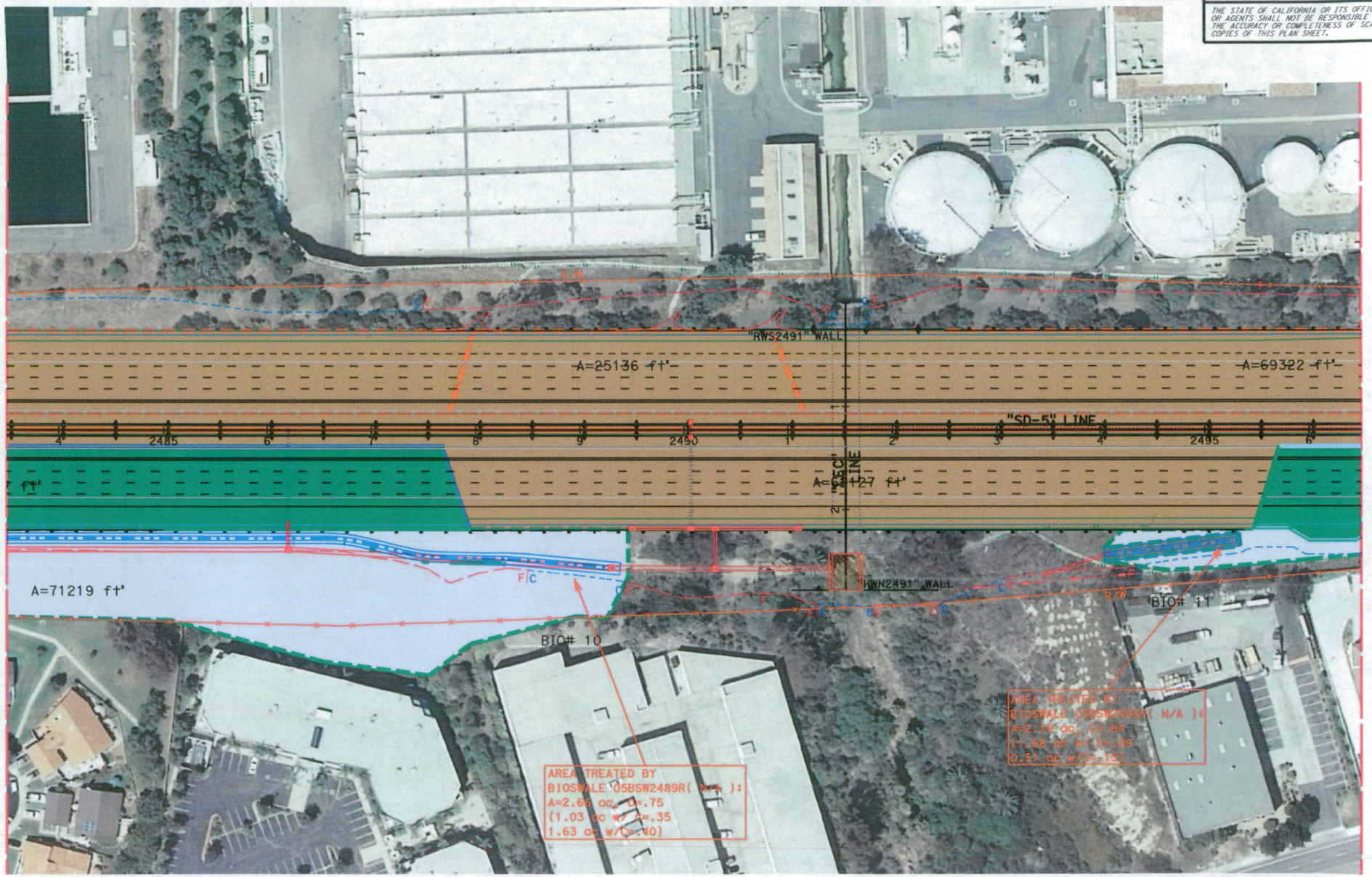

ROADWAY DRAINS TO ENCINAS CREEK WATERSHED

NO SCALE

BATIQUITOS PROJECT
PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-11

CALCULATED-DESIGNED BY	NAME ONE	REVISED BY
CHECKED BY	NAME TWO	DATE REVISED

FUNCTIONAL SUPERVISOR: DAVID STEBBINS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

LAST REVISION: DATE PLOTTED => 13-NOV-2015, TIME PLOTTED => 10:18

BORDER LAST REVISED 7/2/2010

USERNAME => s136427
DGN FILE => 1114000059EX011.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2772

PROJECT NUMBER & PHASE 1114000059

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R44.1/R47.3		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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MATCH LINE SEE SHEET EXHIBIT-11

MATCH LINE SEE SHEET EXHIBIT-13

ROADWAY DRAINS TO ENCINAS CREEK WATERSHED

NO SCALE

BATIQUITOS PROJECT
PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-12

LAST REVISION DATE PLOTTED => 13-NOV-2015
TIME PLOTTED => 10:23
10-30-15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: DAVID STEBBINS

CALCULATED-DESIGNED BY: NAME ONE

CHECKED BY: NAME TWO

REVISED BY | DATE REVISED

BORDER LAST REVISED 7/2/2010

USERNAME => s136427
DGN FILE => 1114000059EX012.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2772

PROJECT NUMBER & PHASE 1114000059

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R44.1/R47.3		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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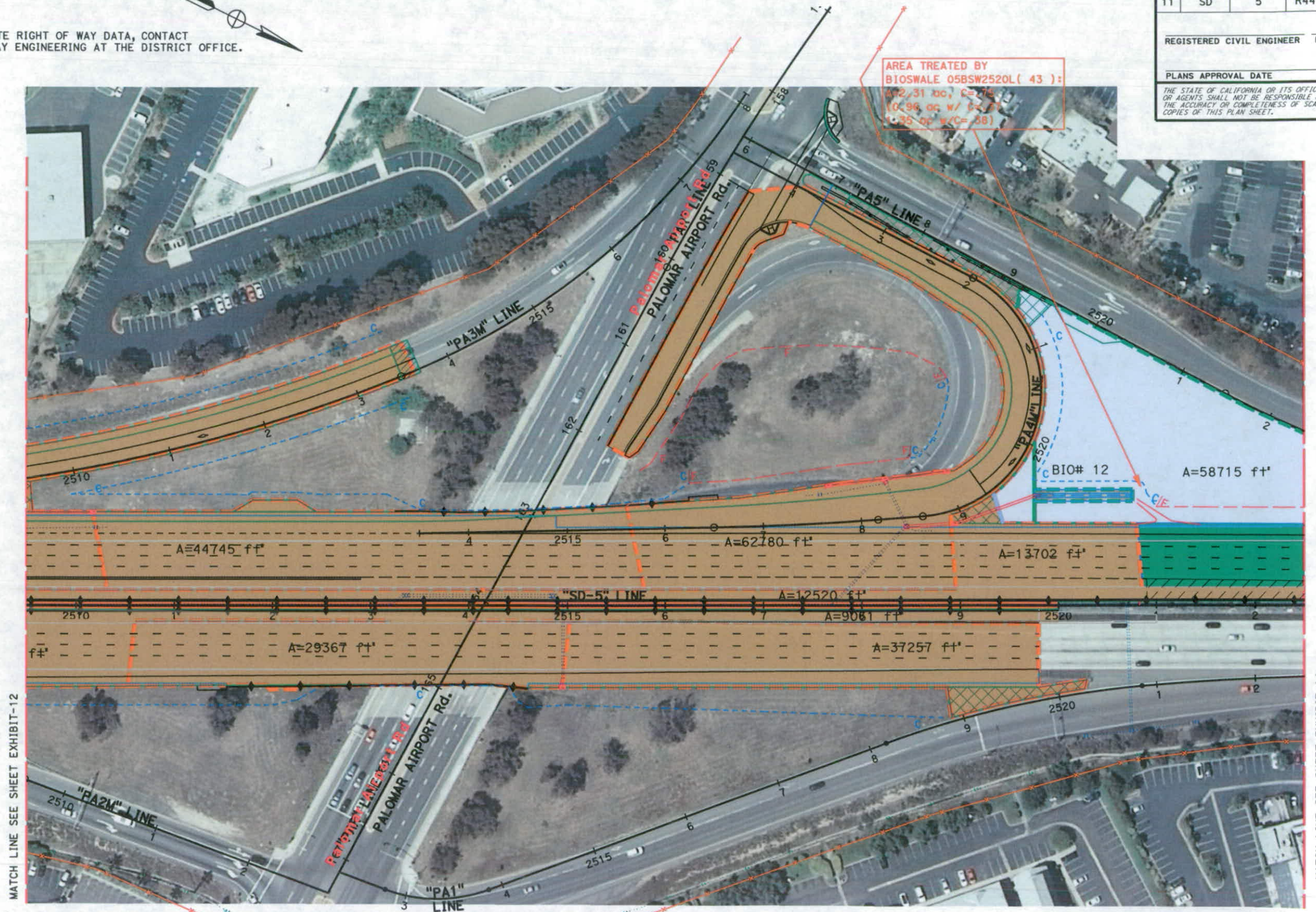

ROADWAY DRAINS TO ENCINAS CREEK WATERSHED

NO SCALE

BATIQUITOS PROJECT PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: DAVID STEBBINS

CALCULATED-DESIGNED BY: NAME ONE
CHECKED BY: NAME TWO

REVISED BY | DATE REVISED

LAST REVISION: DATE PLOTTED => 13-NOV-2015, TIME PLOTTED => 10:46
10-30-15

BORDER LAST REVISED 7/2/2010

USERNAME => s136427
DGN FILE => 1114000059EX013_alt.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2772

PROJECT NUMBER & PHASE 1114000059

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R44.1/R47.3		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

MATCH LINE SEE SHEET EXHIBIT-14

CONTRIBUTING BMP AREAS

EXISTING			POST CONSTRUCTION					NET NEW EQUIVALENT²(NNE)		
EXIST PVMT (AC)	EXIST PVMT TREATED AREAS (AC)	%EXIST PVMT TREATED	POST CONSTRUCTION PVMT (AC)	POST CONSTRUCTION PVMT TREATED AREA (AC)	POLISHING AREA (AC)	%POST CONSTRUCTION PVMT TREATED (NO POLISHING AREA) (AC)	%POST CONSTRUCTION PVMT TREATED (WITH POLISHING AREA) (AC)	ADDED PVMT AREA (AC)	TOTAL % NNE TREATED BY BMPs	% TOTAL NNE TREATED BY BMPs &POLISHING
62	3	5%	76	25	3	33%	37%	14	174%	194%

NOTES: 1. CONTRIBUTING DRAINAGE AREAS RECEIVING A BENEFIT TO WATER QUALITY VIA CONVEYANCE THROUGH VEGETATION (POLISHING)
2. PERCENT TREATMENT RELATIVE TO NET NEW EQUIVALENT IMPERVIOUS AREA ADDED

ROADWAY DRAINS TO ENCINAS CREEK WATERSHED

NO SCALE

BATIQUITOS PROJECT
PROPOSED CONTRIBUTING DRAINAGE AREA_EXHIBIT-14

LAST REVISION 10-30-15

DATE PLOTTED => 13-NOV-2015
TIME PLOTTED => 10:53

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: DAVID STEBBINS

CALCULATED-DESIGNED BY | CHECKED BY | NAME ONE | NAME TWO | REVISED BY | DATE REVISED

BORDER LAST REVISED 7/2/2010

USERNAME => s136427
DGN FILE => 1114000059EX014_alt.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2772

PROJECT NUMBER & PHASE 1114000059

ROADWAY DRAINS TO ENCINITAS CREEK

PALOMAR AIRPORT ROAD

BEGIN CONSTRUCTION
Sta "SD_5" 2517+00 PM R47.06

LEGEND

- PROPOSED BIO-ILNFILTRATION SWALE
- WET LAND AREA
- UNTREATED PAVEMENT AREA
- TREATED PAVEMENT AREA
- PROPOSED DRAINAGE SYSTEM
- EXISTING DRAINAGE SYSTEM

11-SD-5
PM R37.0/R51.3
11- 2T212

I-5 CARLSBAD HOV PROPOSED BMP STORMWATER TREATMENT EXHIBIT

SHEET 1 OF 7

ROADWAY DRAINS TO ENCINITAS CREEK

ROADWAY DRAINS TO AGUA HEDIONDA LAGOON

AREA TREATED BY BIO-INFILTRATION SWALE: A=5.19ac, C=.9

CANNON ROAD

LEGEND

- PROPOSED BIO-ILNFILTRATION SWALE
- WET LAND AREA
- UNTREATED PAVEMENT AREA
- TREATED PAVEMENT AREA
- PROPOSED DRAINAGE SYSTEM
- EXISTING DRAINAGE SYSTEM

11-SD-5
PM R37.0/R51.3
11- 2T212

I-5 CARLSBAD HOV
PROPOSED BMP STORMWATER TREATMENT EXHIBIT
SHEET 2 OF 7

ROADWAY DRAINS TO AGUA HEDIONDA LAGOON

AGUA HEDIONDA LAGOON

AGUA HEDIONDA LAGOON

LEGEND

- PROPOSED BIO-ILNFILTRATION SWALE
- WET LAND AREA
- UNTREATED PAVEMENT AREA
- TREATED PAVEMENT AREA
- PROPOSED DRAINAGE SYSTEM
- EXISTING DRAINAGE SYSTEM

11-SD-5
PM R37.0/R51.3
11- 2T212

I-5 CARLSBAD HOV
PROPOSED BMP STORMWATER TREATMENT EXHIBIT
SHEET 3 OF 7

ROADWAY DRAINS TO AGUA HEDIONDA LAGOON

LEGEND

- PROPOSED BIO-ILNFILTRATION SWALE
- WET LAND AREA
- UNTREATED PAVEMENT AREA
- TREATED PAVEMENT AREA
- PROPOSED DRAINAGE SYSTEM
- EXISTING DRAINAGE SYSTEM

11-SD-5
PM R37.0/R51.3
11- 2T212

I-5 CARLSBAD HOV
PROPOSED BMP STORMWATER TREATMENT EXHIBIT
SHEET 4 OF 7

ROADWAY DRAINS TO AGUA HEDIONDA LAGOON

ROADWAY DRAINS TO BUENA VISTA LAGOON

CHESTNUT Ave.

CARLSBAD VILLAGE DRIVE

LEGEND

- PROPOSED BIO-ILNFILTRATION SWALE
- WET LAND AREA
- UNTREATED PAVEMENT AREA
- TREATED PAVEMENT AREA
- PROPOSED DRAINAGE SYSTEM
- EXISTING DRAINAGE SYSTEM

11-SD-5
PM R37.0/R51.3
11- 2T212

I-5 CARLSBAD HOV PROPOSED BMP STORMWATER TREATMENT EXHIBIT SHEET 5 OF 7

ROADWAY DRAINS TO BUENA VISTA LAGOON

LEGEND

- PROPOSED BIO-ILNFILTRATION SWALE
- WET LAND AREA
- UNTREATED PAVEMENT AREA
- TREATED PAVEMENT AREA
- PROPOSED DRAINAGE SYSTEM
- EXISTING DRAINAGE SYSTEM

11-SD-5
PM R37.0/R51.3
11- 2T212

I-5 CARLSBAD HOV
PROPOSED BMP STORMWATER TREATMENT
EXHIBIT
SHEET 6 OF 7

ROADWAY DRAINS TO BUENA VISTA LAGOON

LEGEND

- PROPOSED BIO-ILNFILTRATION SWALE
- WET LAND AREA
- UNTREATED PAVEMENT AREA
- TREATED PAVEMENT AREA
- PROPOSED DRAINAGE SYSTEM
- EXISTING DRAINAGE SYSTEM

11-SD-5
PM R37.0/R51.3
11- 2T212

I-5 CARLSBAD HOV
PROPOSED BMP STORMWATER TREATMENT EXHIBIT

SHEET 7 OF 7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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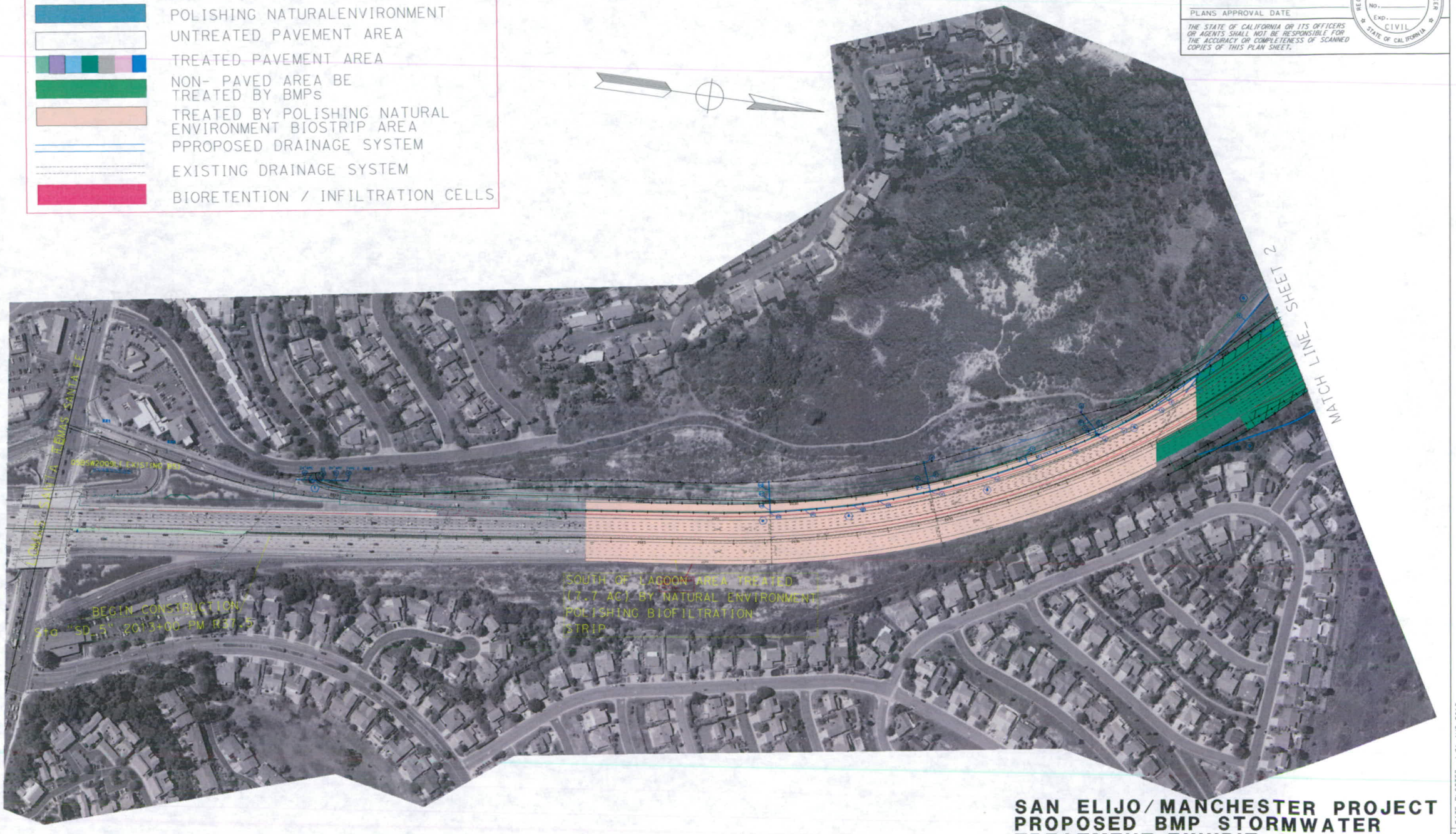
LEGEND

- PROPOSED BIO-INFILTRATION SWALE
- WET LAND AREA
- POLISHING NATURALENVIRONMENT
- UNTREATED PAVEMENT AREA
- TREATED PAVEMENT AREA
- NON- PAVED AREA BE TREATED BY BMPs
- TREATED BY POLISHING NATURAL ENVIRONMENT BIOSTRIP AREA
- PPROPOSED DRAINAGE SYSTEM
- EXISTING DRAINAGE SYSTEM
- BIORETENTION / INFILTRATION CELLS



SAN ELIJO/MANCHESTER PROJECT PROPOSED BMP STORMWATER TREATMENT-EXHIBIT 1

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: MAJID KHARRATI

CALCULATED-DESIGNED BY

CHECKED BY

NAME ONE

NAME TWO

REVISED BY

DATE REVISED

LAST REVISION 00-00-00

DATE PLOTTED => 31-AUG-2015
TIME PLOTTED => 16:02

BORDER LAST REVISED 7/2/2010

USERNAME => s111432
DGN FILE => Proposed BMP Exhibit- sheet1_8-27-15

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 1100020362

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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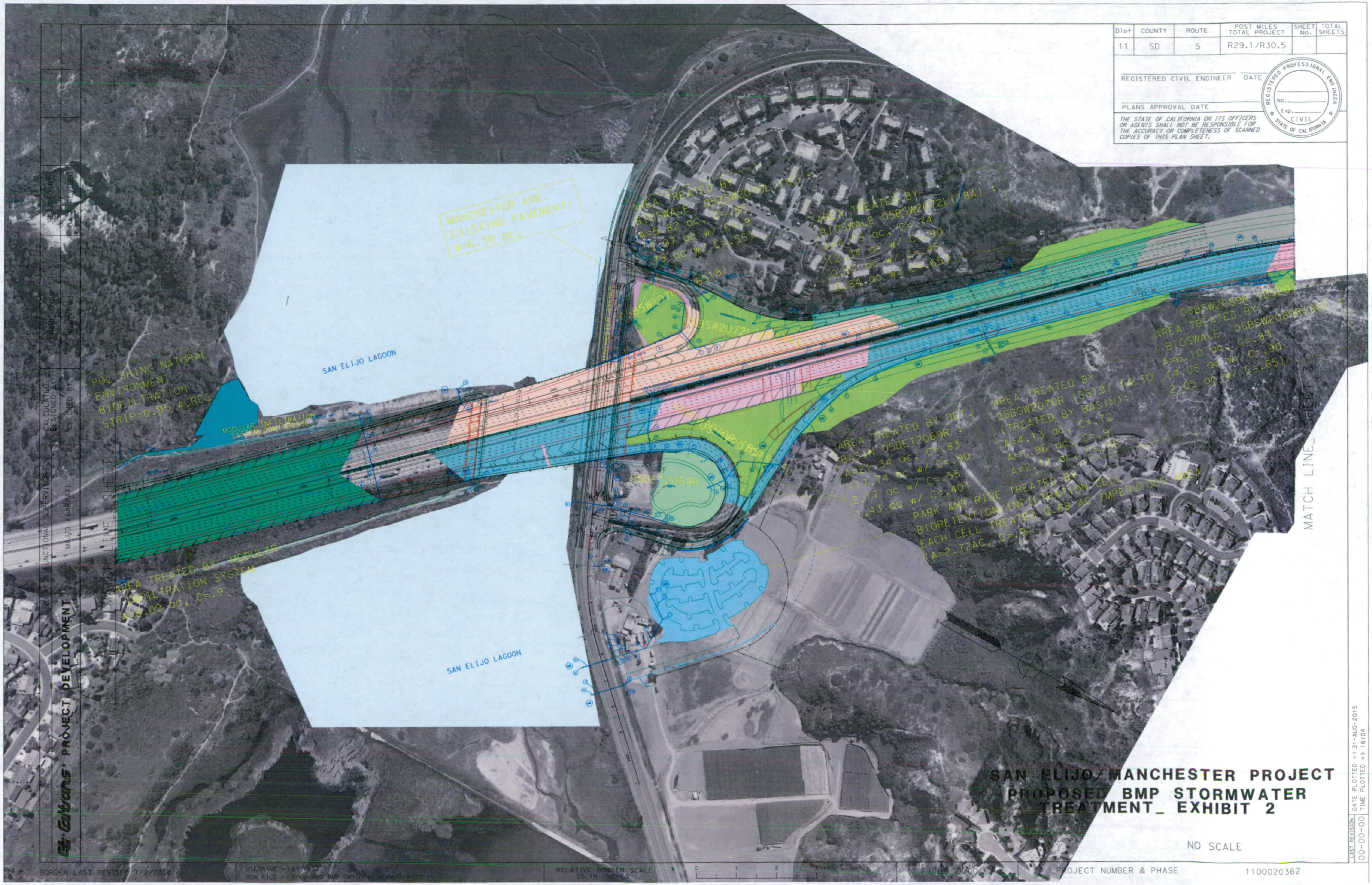
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA



MANCHESTER AVE. EXISTING PAVEMENT A=6.38 ac.
SAN ELIJO LAGOON
POLISHING NATURAL ENVIRONMENT BIOFILTRATION STRIP=0.95 ACRES
MODULAR INFILTRATION SYSTEM
AREA TREATED BY MODULAR INFILTRATION SYSTEM A=1.09 ac. C=.9
05DET2069R
05BSW2072L
AREA TREATED BY BASIN 05DET2069R : A=21.34 ac. C=.83 (17.74 ac w/ C=.90 2.17 ac w/ C=.55 1.43 ac w/ C=.40)
AREA TREATED BY 05BSW2070R (BS31) (TREATED BY BASIN): A=4.13 ac. C=.72 A=1.96 ac. C=.9 A=2.17 ac. C=.55
PARK AND RIDE TREATED BY BIORETENTION/INFILTRATION CELL EACH CELL TREATED 0.68 AC IMPERVIOUS AREA (A=2.72AC, C=.9)
AREA TREATED BY BIOSWALE 05BSW2072L (18A) : A=4.15 ac. C=.74 (2.34 ac w/ C=.90 0.97 ac w/ C=.45 0.84 ac w/ C=.65)
AREA TREATED BY 05BSW2089R (BS20) BIOSWALE 05BSW2089R(20) : A=6.10 ac. C=.83 (4.05 ac w/ C=.90 2.05 ac w/ C=.65)
SAN ELIJO LAGOON
MATCH LINE

SAN ELIJO/MANCHESTER PROJECT
PROPOSED BMP STORMWATER TREATMENT_ EXHIBIT 2

NO SCALE

Caltrans PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR MAJID KHARRATI | CALCULATED DESIGNED BY | CHECKED BY

LAST REVISION 00-00-00 | DATE PLOTTED => 31-AUG-2015 | TIME PLOTTED => 16:04

BORDER LAST REVISED 7/2/2010 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | PROJECT NUMBER & PHASE 1100020362

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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REVISED BY	NAME ONE
DATE REVISED	NAME TWO

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR: MAJID KHARRATI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans PROJECT DEVELOPMENT

CONTRIBUTING BMP AREAS

EXISTING			POST CONSTRUCTION					NET NEW EQUIVALENT[2] (NNE)		
EXIST PVMT (AC)	EXIST PVMT TREATED AREAS (AC)	%EXIST PVMT TREATED	POST CONSTRUCTION PVMT (AC)	POST CONSTRUCTION PVMT TREATED AREA * (AC)	POLISHING[1] AREA (AC)	%POST CONSTRUCTION PVMT TREATED (NO POLISHING AREA) (AC)	%POST CONSTRUCTION PVMT TREATED (WITH POLISHING AREA) (AC)	ADDED PVMT AREA (AC)	TOTAL % NNE TREATED BY BMPs	% TOTAL NNE TREATED BY BMPs &POLISHING
51	5	9%	76	50	7.7	66%	76%	25	201%	232%

NOTES: 1. CONTRIBUTING DRAINAGE AREAS RECEIVING A BENEFIT TO WATER QUALITY VIA CONVEYANCE THROUGH VEGETATION (POLISHING)
2. PERCENT TREATMENT RELATIVE TO NET NEW EQUIVALENT IMPERVIOUS AREA ADDED

SAN ELIJO/MANCHESTER PROJECT PROPOSED BMP STORMWATER TREATMENT-EXHIBIT 3

NO SCALE

LAST REVISION 00-00-00 | DATE PLOTTED = 31-AUG-2015 | TIME PLOTTED = 16:12

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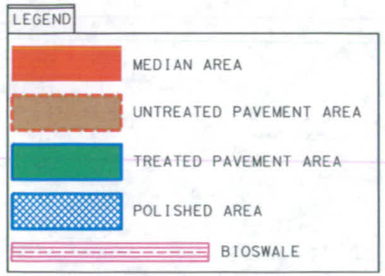


11-SD-5
PM R39.7/R44.1
1100000758

SEGMENT 2 - BIRMINGHAM TO LA COSTA PROPOSED BMP STORMWATER TREATMENT EXHIBIT

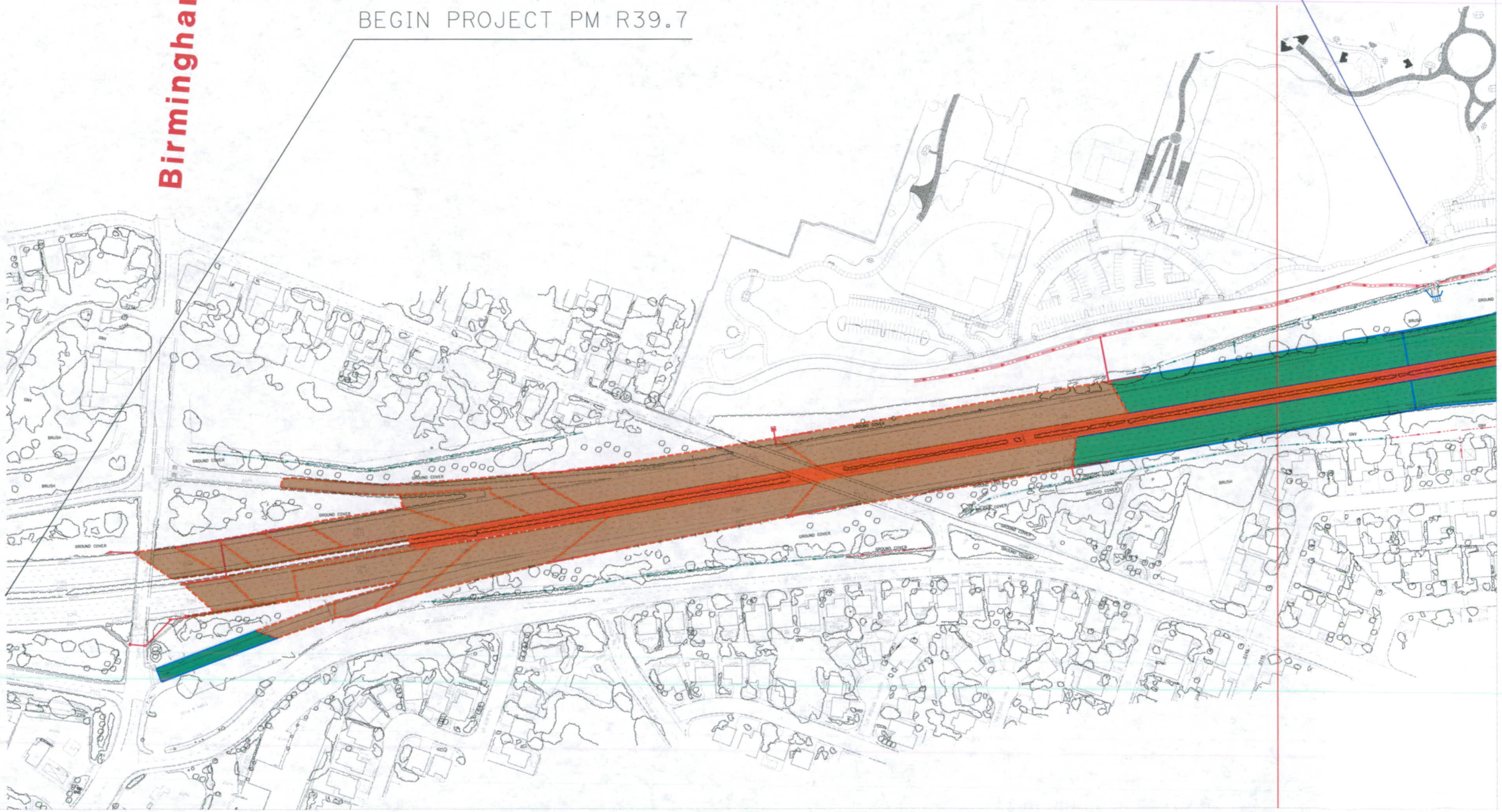
CONTRIBUTING BMP AREAS										
EXISTING			POST CONSTRUCTION					NET NEW EQUIVALENT[2] (NNE)		
EXIST PVMT (AC)	EXIST PVMT TREATED AREAS (AC)	% EXIST PVMT TREATED	POST CONSTRUCTION PVMT (AC)	POST CONSTRUCTION PVMT TREATED AREAS (AC)	POLISHING[1] AREA (AC)	% POST CONSTRUCTION PVMT TREATED (NO POLISHING AREA)	% POST CONSTRUCTION PVMT TREATED (WITH POLISHING AREA)	ADDED PVMT AREA (AC)	TOTAL % NNE TREATED BY BMPs	TOTAL % NNE TREATED BY BMPs & POLISHING
82	5	6%	100	25	37	25%	62%	18	139%	344%

1. CONTRIBUTING DRAINAGE AREAS RECEIVING A BENEFIT TO WATER QUALITY VIA CONVEYANCE THROUGH VEGETATION (POLISHING)
2. PERCENT TREATMENT RELATIVE TO NET NEW EQUIVALENT IMPERVIOUS AREA ADDED

Birmingham Dr

BEGIN PROJECT PM R39.7

BIORETENTION STRUCTURE AT
ENCINITAS COMMUNITY PARK :
A=7.09 ac, C=.81
(4.68 ac w/ C=.90
2.41 ac w/C=.65)



AREA TREATED BY
BIOSWALE 05BSW2174L(23):
A=2.09 ac, C=.78
(1.06 ac w/ C=.90
1.03 ac w/C=.65)

Santa Fe Dr

AREA TREATED BY
BIOSWALE 05BSW2193L(25):
A=0.67 ac, C=.90

AREA TREATED BY
BIOSWALE 05BSW2175R(24):
A=3.10 ac, C=.81
(2.02 ac w/ C=.90
1.08 ac w/C=.65)

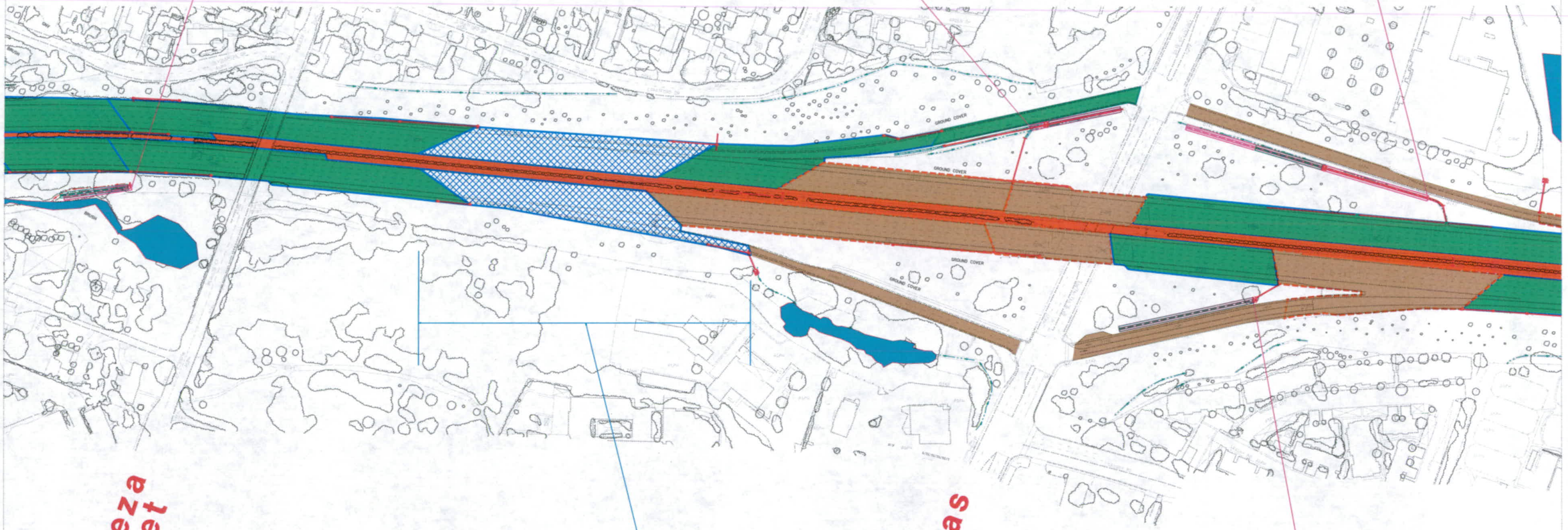
Santa Fe Dr

POLISHED AREA TREATED BY
NATURAL BIOFILTRATION :
ESA STRIP AREA = 1.04 ac
POLISHED AREA = 4.83 ac

AREA TREATED BY
BIOSWALE 05BSW2202R(26):
A=3.54 ac, C=.83
(2.55 ac w/ C=.90
0.99 ac w/C=.65)

AREA TREATED BY
BIOSWALE 05BSW2222L(30):
A=2.55 ac, C=.73
(0.80 ac w/ C=.90
1.75 ac w/C=.65)

AREA TREATED BY
BIOSWALE 05BSW2230L(31):
A=4.47 ac, C=.81
(2.82 ac w/ C=.90
1.65 ac w/C=.65



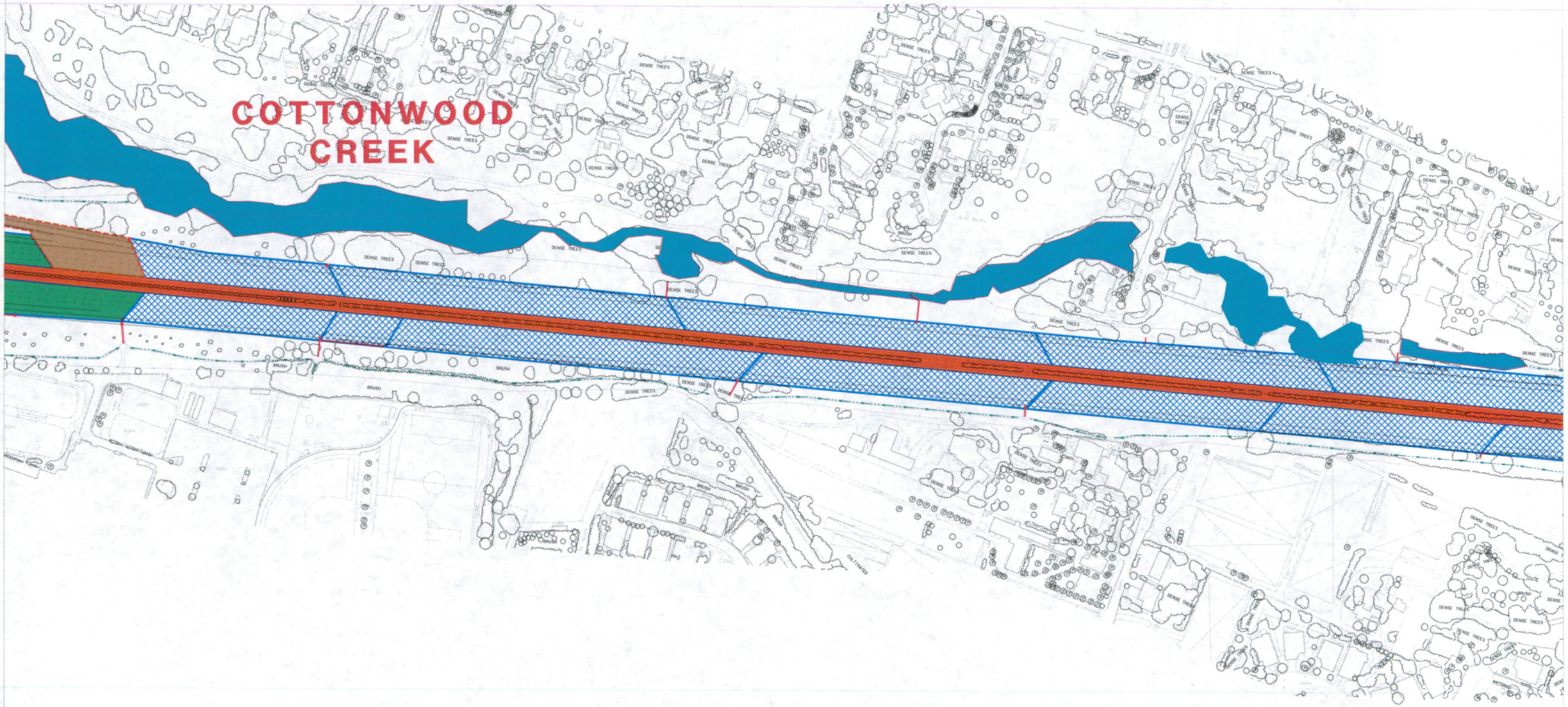
Requeza Street

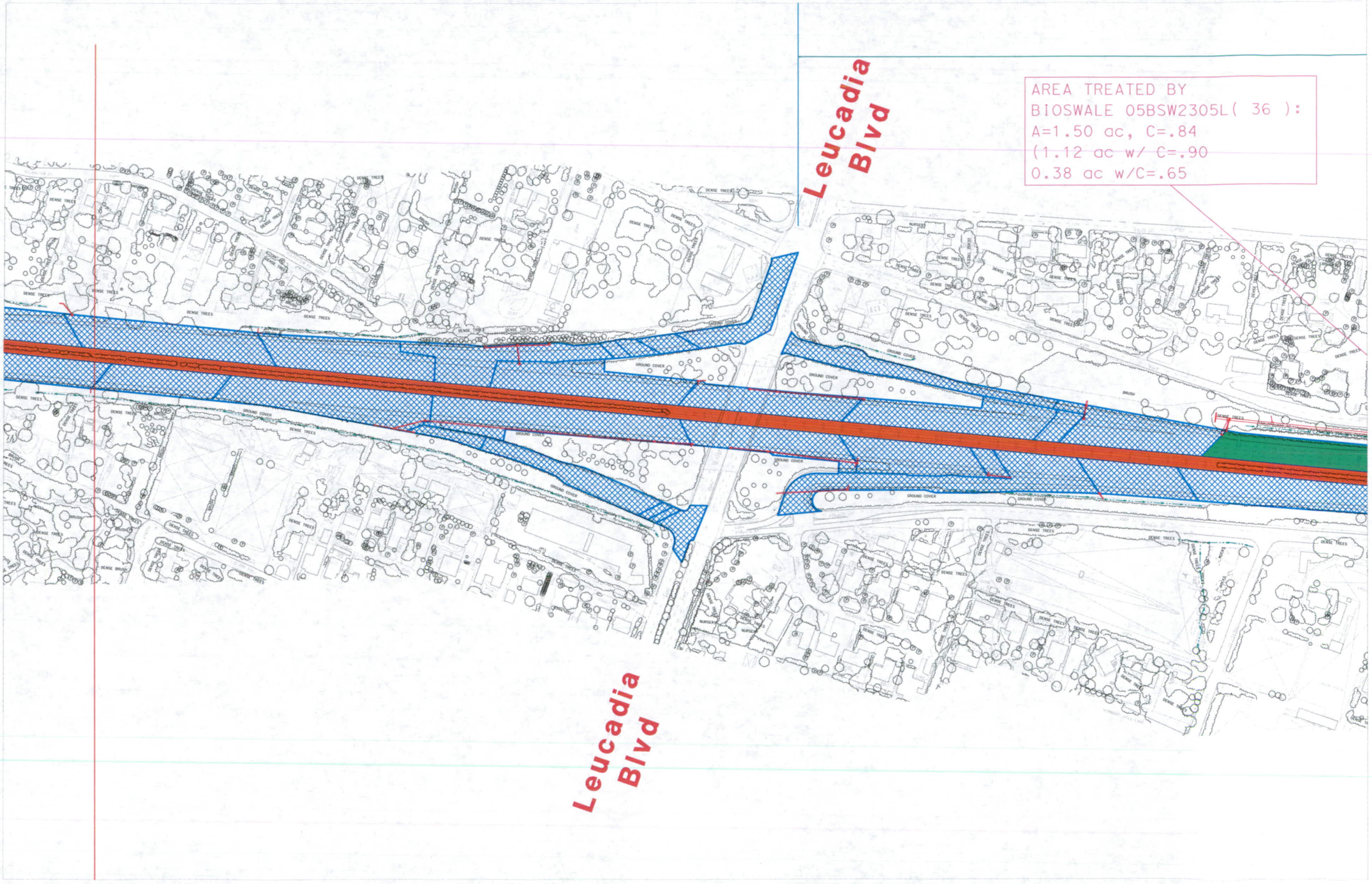
Encinitas Blvd

POLISHED AREA TREATED BY
NATURAL BIOFILTRATION :
ESA STRIP AREA = 0.32 ac
POLISHED AREA = 1.89 ac

AREA TREATED BY
BIOSWALE 05BSW2227R(29):
A=2.62 ac, C=.85
(2.09 ac w/ C=.90
0.53 ac w/C=.65

POLISHED AREA TREATED BY
NATURAL BIOFILTRATION :
ESA STRIP AREA = 4.93 ac
POLISHED AREA = 19.07 ac




Leucadia Blvd
AREA TREATED BY
BIOSWALE 05BSW2305L(36):
A=1.50 ac, C=.84
(1.12 ac w/ C=.90
0.38 ac w/C=.65
Leucadia Blvd

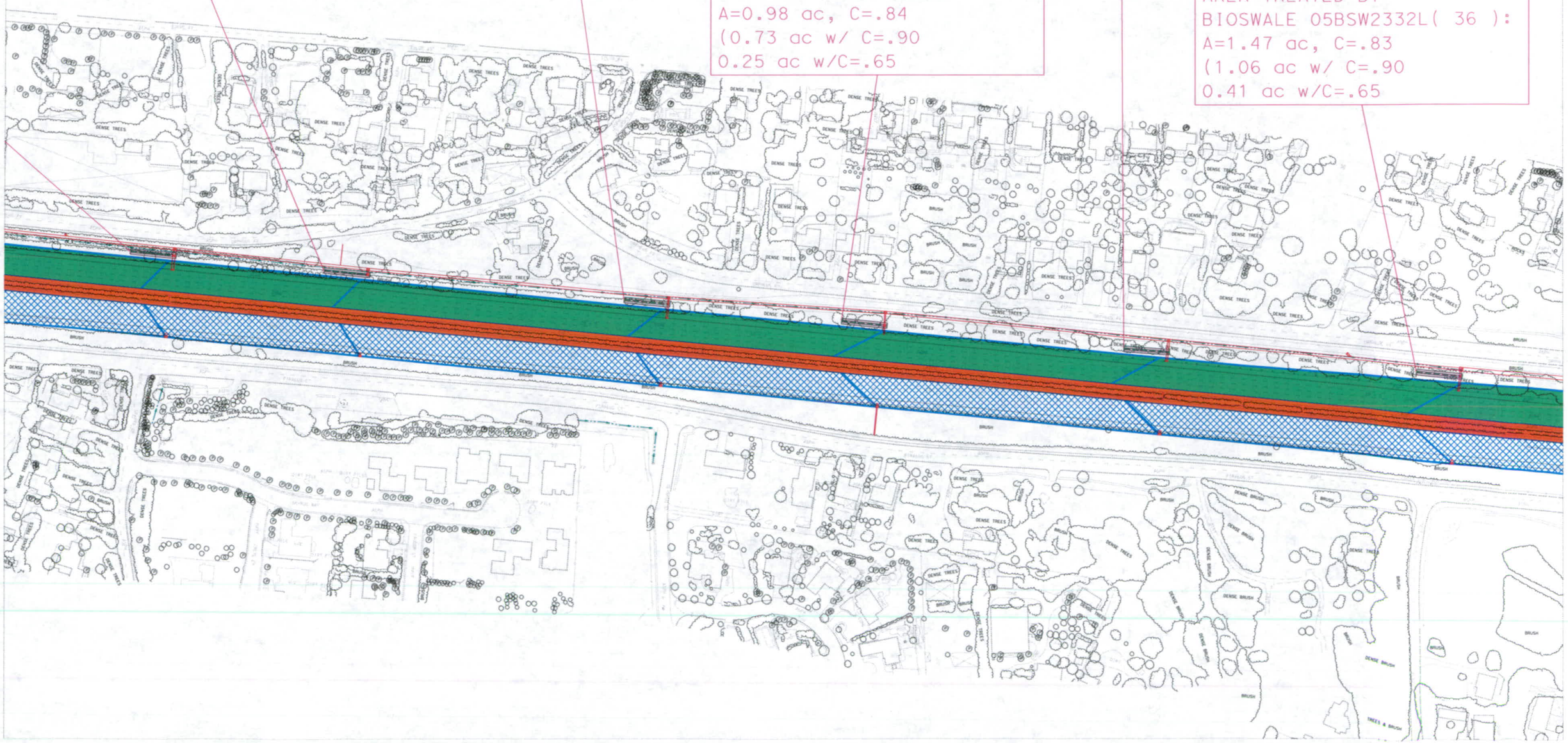
AREA TREATED BY
BIOSWALE 05BSW2309L(36):
A=0.88 ac, C=.84
(0.66 ac w/ C=.90
0.22 ac w/C=.65

AREA TREATED BY
BIOSWALE 05BSW2315L(36):
A=1.37 ac, C=.84
(1.02 ac w/ C=.90
0.35 ac w/C=.65

AREA TREATED BY
BIOSWALE 05BSW2320L(36):
A=0.98 ac, C=.84
(0.73 ac w/ C=.90
0.25 ac w/C=.65

AREA TREATED BY
BIOSWALE 05BSW2326L(36):
A=1.28 ac, C=.84
(0.95 ac w/ C=.90
0.33 ac w/C=.65

AREA TREATED BY
BIOSWALE 05BSW2332L(36):
A=1.47 ac, C=.83
(1.06 ac w/ C=.90
0.41 ac w/C=.65



POLISHED AREA TREATED BY
NATURAL VEGITATION :
VEGETATION AREA = 1.04 ac
POLISHED AREA = 11.50 ac

AREA TREATED BY
BIOSWALE 05BSW2336L(36):
A=0.79 ac, C=.84
(0.62 ac w/ C=.90
0.17 ac w/C=.65

END PROJECT PM R44.1

La Costa Ave

Exist BIORETENTION
STRUCTURE AT LA COSTA :
A=1.94 ac, C=.90

ATTACHMENT 4
MITIGATION FIGURES

Figure 1 – Hallmark Parcel Locations

Figure 9 – Hallmark (West) Mitigation

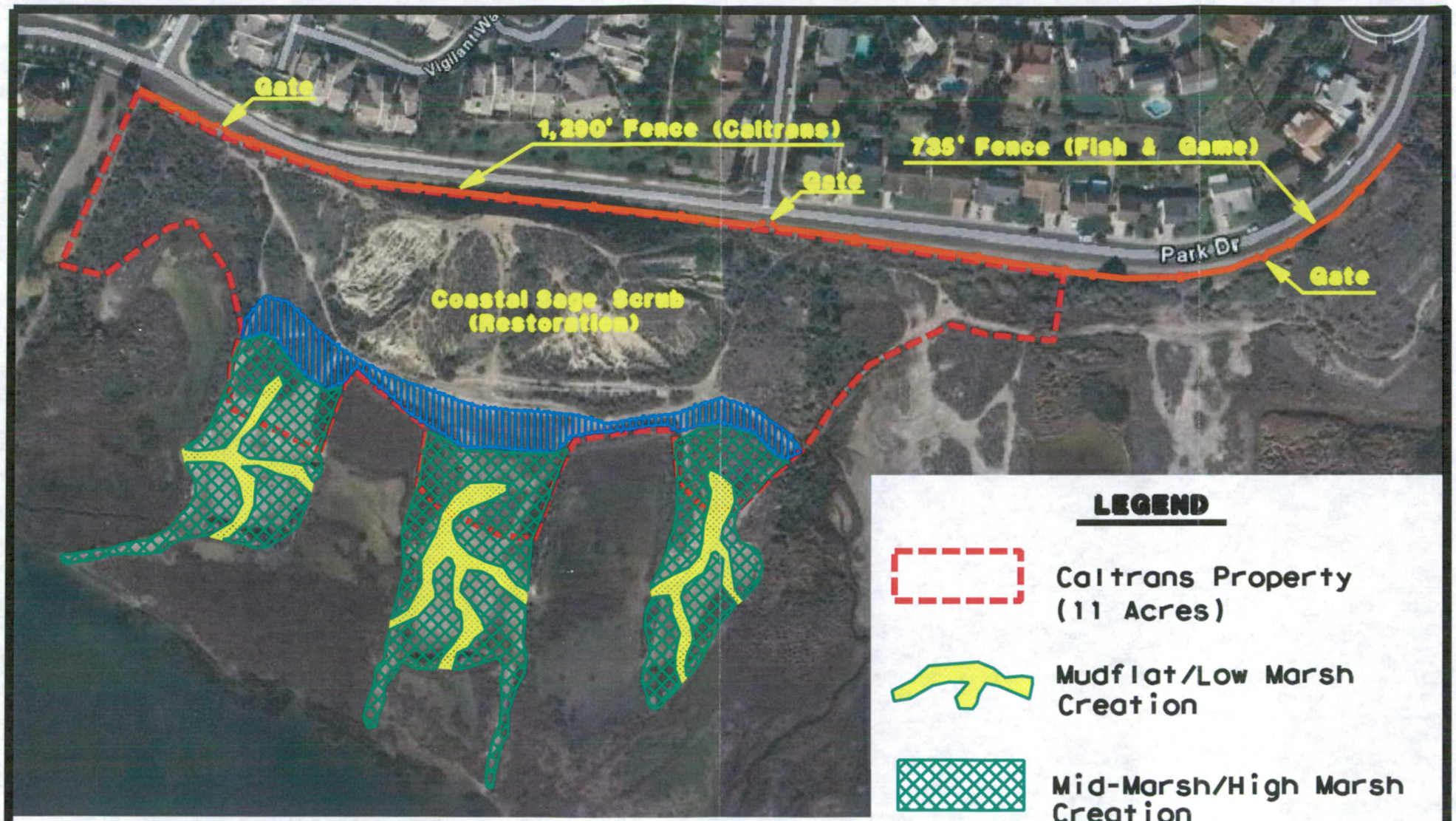
Figure 3 – Hallmark East Mitigation Re-establishment, Restoration, and Enhancement

Figure 6 – SONGs Mitigation Site and San Dieguito W19 Mitigation Site

Figure 1 – Project Location San Dieguito W19 Mitigation Site

Figure 21 – Grading Exhibit – ALT A San Dieguito Lagoon W-19 Restoration Project

Figure 1. Hallmark Parcel Locations



LEGEND

- Caltrans Property (11 Acres)
- Mudflat/Low Marsh Creation
- Mid-Marsh/High Marsh Creation
- Upland

NOTES

1.3 acres creation (Caltrans property)

2.9 acres creation (Fish & Game property)

9.7 acres restoration (Caltrans property)

All fence and gates installed by Caltrans.

Caltrans

NO SCALE

FIGURE 9

PRELIMINARY CONCEPT PLAN

HALLMARK MITIGATION

02/26/09

Exhibit2.dgn 9/24/2009 12:40:01 PM

Figure 3. Hallmark East Re-establishment, Restoratoin, and Enhancement

Figure 6. SONGs Mitigation Site and San Dieguito W19 Mitigation Site

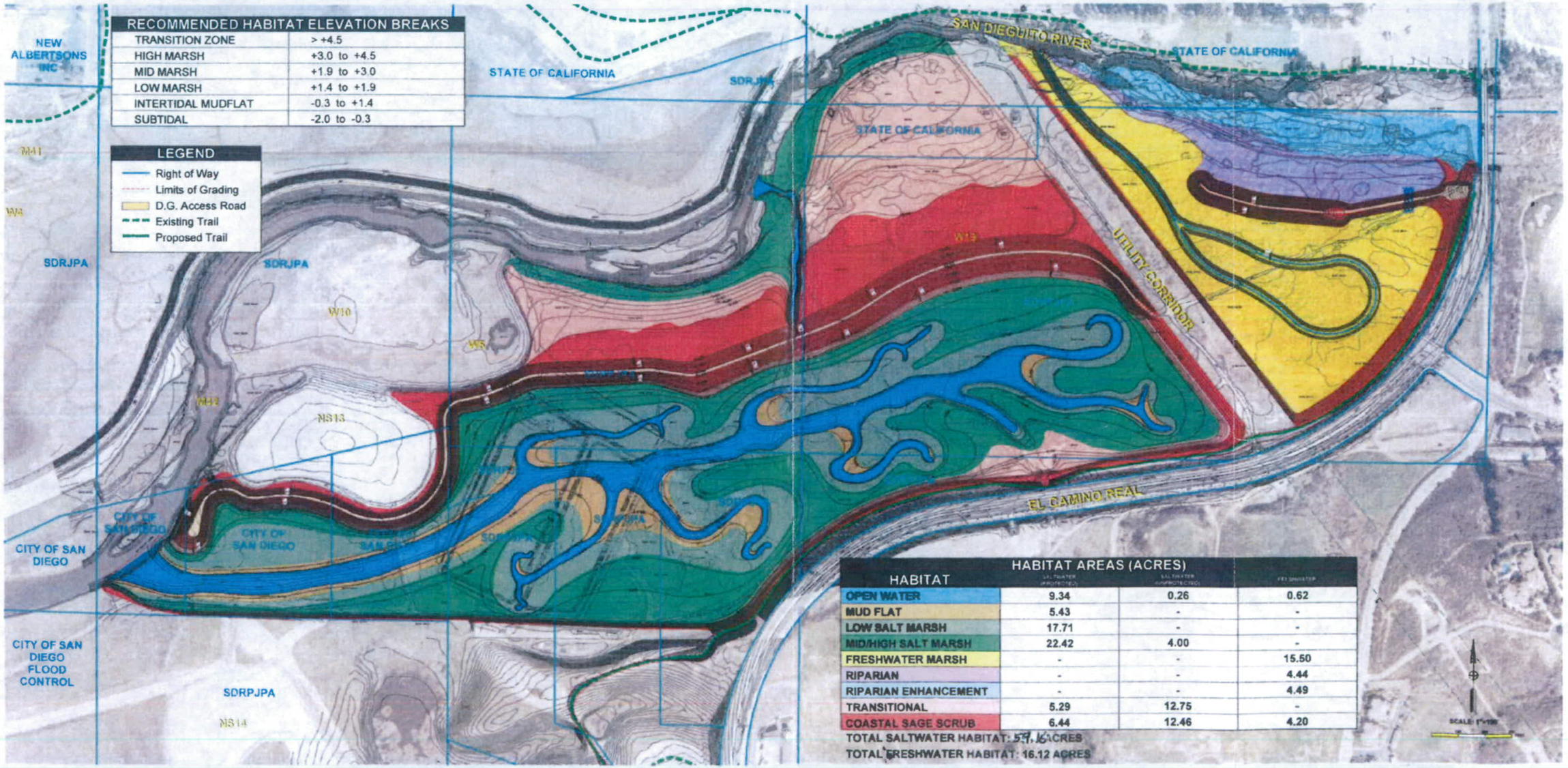
San Dieguito River Park

FIGURE 2: GRADING EXHIBIT - ALT A

RECOMMENDED HABITAT ELEVATION BREAKS	
TRANSITION ZONE	> +4.5
HIGH MARSH	+3.0 to +4.5
MID MARSH	+1.9 to +3.0
LOW MARSH	+1.4 to +1.9
INTERTIDAL MUDFLAT	-0.3 to +1.4
SUBTIDAL	-2.0 to -0.3

LEGEND

- Right of Way
- Limits of Grading
- D.G. Access Road
- Existing Trail
- Proposed Trail



HABITAT	HABITAT AREAS (ACRES)		
OPEN WATER	9.34	0.26	0.62
MUD FLAT	5.43	-	-
LOW SALT MARSH	17.71	-	-
MID/HIGH SALT MARSH	22.42	4.00	-
FRESHWATER MARSH	-	-	15.50
RIPARIAN	-	-	4.44
RIPARIAN ENHANCEMENT	-	-	4.49
TRANSITIONAL	5.29	12.75	-
COASTAL SAGE SCRUB	6.44	12.46	4.20

TOTAL SALTWATER HABITAT: 54.16 ACRES
TOTAL FRESHWATER HABITAT: 16.12 ACRES

DUDEK
AECOM

San Dieguito Lagoon W-19 Restoration Project

Caltrans District 11
Interstate 5 North Coast Corridor Project – Phase 1
Certification No. R9-2015-0090

ATTACHMENT 5
CEQA MITIGATION MONITORING AND REPORTING PROGRAM

Revised: 01/22/2016

I-5 NCC Project: Phase 1 - San Elijo
Environmental Commitments Record (ECR)
Water and Biological Resources

Rte: 11-SD-5
KP R45.75/R89.15
(PM R37.4/R39.8)
PID 1100020362 .(EA 2T172)

Environmental Generalist: Emery McCaffery
Phone: (619) 688-6860

Task and Brief Description	Reference	Responsible Branch / Staff	Timing / Phase	NSSP, SSP, Std Spec, Permit	Action Taken to Comply/Remarks	Task Completed		Env. Compliance	
						Initial	Date	Initial	Date
Permits and Approvals									
U.S. Fish and Wildlife Service									
Endangered Species Act Section 7 Consultation –Threatened and Endangered Species		Resident Engineer / Construction / Environmental / Qualified Biologist	Pre-construction						
U.S. Army Corps of Engineers									
Clean Water Act Section 404 Individual Permit		Resident Engineer / Construction / Environmental / Qualified Biologist	Pre-construction						
Marine Protection Research and Sanctuaries Act Section 103 Permit		Resident Engineer / Construction / Environmental / Qualified Biologist	Pre-construction						
Rivers and Harbors Act Section 10 Permit		Resident Engineer / Construction / Environmental / Qualified Biologist	Pre-construction						
Rivers and Harbors Act Section 408 Permit		Resident Engineer / Construction / Environmental / Qualified Biologist	Pre-construction						
California Department of Fish and Wildlife									
Section 1602 Streambed Alteration Agreement		Resident Engineer / Construction / Environmental / Qualified Biologist	Pre-construction						
Regional Water Quality Control Board									
Clean Water Act Section 401 Certification		Resident Engineer / Construction / Environmental / Qualified Biologist	Pre-construction (NPDES)						

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California Coastal Commission									
Coastal Zone Management Act Federal Consistency Determination		Environmental	Pre-construction (PWP / TREP)						
Coastal Development Permits (includes commitments through the PWP/TREP for the CDPs and/or Notice of Impending Developments (NOIDs)).		Resident Engineer / Construction / Environmental	Pre-construction						
Hydrology and Water Quality									
The structures over Los Peñasquitos Creek will be designed to entirely span the floodplain.	Section 3.9.4	Design Engineer	Design						
The replacement of the Sorrento Valley Road Culvert will remove an existing constriction point in Carmel Valley Creek.	Section 3.9.4	Design Engineer	Design						
The replacement of the Batiquitos Lagoon Bridge would reduce an existing constriction point in the lagoon.	Section 3.9.4	Design Engineer	Design						
Standard engineering practices will be used; where feasible, to facilitate drainage.	Section 3.9.4	Design Engineer	Design						
The area affected by construction will be limited through utilization of barriers or fences to protect sensitive areas.	Section 3.9.4	Design Engineer / Resident Engineer	Design / Construction						
ESAs will be designed to demarcate and protect floodplain habitats.	Section 3.9.4	Design Engineer / Resident Engineer	Design / Construction						
Best Management Practices (BMPs) will be implemented to control erosion and runoff and address potential Water Quality impacts during the planning and design, construction, and operational stages.	Sections 3.9.4 and 3.10.4	Design Engineer / Resident Engineer	Design / Construction						
Caltrans will implement a program, defined by the Statewide Storm Water Management Plan (SWMP), to reduce the discharge of pollutants to the storm water drainage systems that serve the highway and highway-related properties, facilities, and activities.	Section 3.10.4	Design Engineer / Resident Engineer	Design / Construction						
Complete a Storm Water Data Report (SWDR), which summarizes the storm water decisions made by the Project Development Team, at the beginning of the project and update the SWDR as the project progresses through design. In the final SWDR, include exhibits showing tributary drainage areas, percentages of "treatment," water quality impairments and types of design pollution prevention, construction and maintenance BMPs that will be incorporated into the project.	Section 3.10.4	Design Engineer	Design						
Short-term impacts to water quality during the construction phase will be prevented/minimized through the use of Construction Site BMPs, as required under the Construction General Permit. A combination of erosion and sediment control BMPs will be used to address both storm water and non-storm water discharges during construction. Construction Site BMPs that will be implemented as appropriate for the project cover the following categories: · Temporary Soil Stabilization · Temporary Sediment Control · Wind Erosion Control · Tracking Control · Non-Storm Water Management · Waste Management and Materials Pollution Control	Section 3.10.4, Caltrans Construction Site BMPs Manual	Design Engineer / Resident Engineer	Design / Construction						

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More information on the various types of BMPs covered under each one of these categories is found in Caltrans Construction Site BMPs Manual.									
Long term impacts during Caltrans operation and maintenance of its facilities will be prevented/minimized through the use of Design Pollution Prevention (DPP) BMPs, Treatment BMPs, and Maintenance BMPs.	Section 3.10.4	Design Engineer / Resident Engineer	Design / Construction						
Maintenance BMPs will be ongoing for the life of the facility, and are required to be conducted in accordance with the Caltrans Storm Water Quality Handbook, Maintenance Staff Guide (Guide).	Section 3.10.4	Design Engineer / Resident Engineer / Operations	Design / Construction / Post-construction						
The peak flow rate, runoff velocities, and erosive characteristics of the soils in the area would be assessed with regard to downstream watercourses to determine potential impacts and appropriate mitigation, if required.	Section 3.10.4	Design Engineer	Design						
The project will preserve the existing vegetation outside the work areas, stabilize slopes with vegetative cover, and keep the total paved area to a practical minimum.	Section 3.10.4	Design Engineer / Resident Engineer	Design / Construction						
DPP BMPs will be implemented to prevent downstream erosion, stabilize disturbed soil areas, and maximize vegetated surfaces consistent with Caltrans policies. The selection of the specific DPP BMPs is an iterative process that begins at the planning stages and is refined during the design phase. DPP BMPs that will be implemented as appropriate for the project include: · Consideration of Downstream Effects Related to Potentially Increased Flow · Preservation of Existing Vegetation · Concentrated Flow Conveyance Systems o Ditches, Berms, Dikes, and Swales o Overside Drains o Flared Culvert End Sections o Outlet Protection/Velocity Dissipation Devices · Slope/Surface Protection Systems o Vegetated Surfaces o Hard Surfaces	Section 3.10.4	Design Engineer/ Resident Engineer	Design / Construction						
Review and propose low impact development (LID) features throughout the project footprint. Final selection will be made during final design once drainage, grading and other design features are determined and used as a basis for feasibility and siting locations. Features that function as LID measures include, but are not limited to: · Surface vegetation, such as biofiltration swales and strips · Soil amendments, such as compost and surface roughening · Subsurface storage, such as dry-wells, infiltration trenches, or swales underlain with permeable soil layers · Small detention areas, such as cisterns, traps, and check dams · Pervious materials, such as paving stone and porous concrete, when used in lieu of impervious materials at locations outside the highway prism	Section 3.10.4	Design Engineer	Design						

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· Disconnected drainage that relies upon overland flow rather than pipe networks to convey runoff to discharge locations · Contour Grading, grading that follows natural flow paths and terrain with an emphasis upon slope rounding and gradual elevation changes.									
In conformance with the recently adopted statewide permit (Order 2012-0011-DWQ- effective date of July 1, 2013), conduct a risk-based approach to ensure the project will not cause a decrease in lateral (bank) and vertical (channel bed) stability in receiving stream channels. Assess pre-project channel stability and implement mitigation measures that are appropriate to protect structures and minimize stream channel bank and bed erosion. Include discussion of hydromodification as well as LID and other BMPs in the SWDR.	Section 3.10.4	Design Engineer	Design						
Treatment BMPs are required under the SWMP to prevent or minimize the long-term potential impacts from Caltrans facilities or activities. The following approved treatment BMPs are considered to be technically and fiscally feasible for all of the build alternatives: · Biofiltration Systems · Infiltration Devices · Detention Devices · Dry Weather Flow Diversions · Gross Solid Removal Devices · Multi-Chambered Treatment Train · Wet Basin · Traction Sand Traps · Media Filters	Section 3.10.4								
Preliminary locations of some of the treatment BMPs are shown on the Project Features Maps (*Figures 2-3.3, Sheets 1* through *68*). If the proposed project proceeds to the design phase, the locations of these treatment BMPs would be further evaluated to determine feasibility in relation to right-of-way limitations, environmental constraints, or hydraulic capacity. In areas where treatment BMPs cannot be incorporated due to above mentioned reasons, vegetation would be maximized and every effort would be made to ensure the successful establishment of landscaping and erosion control throughout the project limits. The project would also consider any future treatment BMPs that might be approved by Caltrans from the ongoing research and monitoring program.	Section 3.10.4	Design Engineer / Landscape Architect	Design						
The District Erosion Control Specialist, in coordination with the project Biologist and Landscape Architect, will determine the appropriate planting/seeding mix to ensure that proposed vegetation is consistent with existing vegetation within the corridor, as well as any specific requirements by local entities.	Section 3.10.4	Design Engineer / Landscape Architect / Biologist	Design / Construction						

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Minimization measures will be implemented during construction at crossings over six designated "navigable" waterways. Minimization measures at waterways can typically include, but are not limited to: flagging the perimeter of the proposed impact area to restrict access; training all contractors and construction personnel on sensitive resources, such as navigable vessel use; scheduling construction outside of breeding season(s) or conducting pre-construction surveys for presence/absence of sensitive species; restricting equipment, material storage, and staging to disturbed areas; designing the project to avoid/reduce storm water impacts where feasible, or otherwise control sediment with silt fencing, gravel bags, hay bales, and fiber rolls; controlling fugitive dust; restricting changing oil and/or refueling to designated areas; constructing velocity dissipation structures at drainage outlets; directing all lighting to the construction area during night time construction; and temporarily diverting water around the work area by use of sandbags, gravel dams, or cofferdams.	Section 3.10.4	Design Engineer / Biologist / Resident Engineer	Design / Construction						
This project will be designed and constructed in compliance with State Water Resources Control Board adopted Order No. 2012-0011-DWQ NPDES No. CAS000003 National Pollutant Discharge Elimination System (NPDES) permit. The permit became effective on July 1, 2013.	Order No. 2012-0011-DWQ NPDES No. CAS000003	Design Engineer / Contractor / District Construction Storm Water Coordinator (DCSWC) / Resident Engineer	Design / Construction						
This project will be constructed in compliance the State Water Resources Control Board issued the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ (NPDES No. CAS000002 commonly called the Construction General Permit (CGP)), on September 2, 2009. The permit became effective on July 1, 2010	Order No. 2012-0011-DWQ NPDES No. CAS000003	Contractor / District Construction Storm Water Coordinator (DCSWC) / Resident Engineer	Construction						
Final stabilization will be achieved according to NPDES permit and verified by the District Construction Storm Water Coordinator. The Notice of Termination (NOT) will be prepared and submitted through SMARTS to the State Water Board.	Order No. 2012-0011-DWQ NPDES No. CAS000003	Contractor / District Construction Storm Water Coordinator (DCSWC) / Resident Engineer	Construction						
Natural Communities									
BO1. To minimize impacts to all habitats, 2:1 slopes will be used along the freeway and retaining walls will be used on cut slopes.	Section 3.17.3 and Appendix O	Design Engineer	Design						
BO2. No riprap will be used in channel bottoms for bridge construction to minimize impacts to aquatic habitats.	Section 3.17.3 and Appendix O	Design Engineer	Design						
BO3. Retaining walls 6 feet or lower in height will be used as feasible on fill slopes within lagoons to minimize impacts to aquatic habitats from the bike/pedestrian path. Retaining walls will also be used, as feasible, on cut slopes through coastal mesas to minimize project impacts to sensitive upland habitats.	Section 3.17.3 and Appendix O	Design Engineer	Design						

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BO4. The I-5 lagoon bridges will be lengthened to accommodate a channel bottom width of at least 261, 134 [from the bridge otimization reports, but shown in the FED as 183.5 ft], and 105 feet at San Elijo, Batiquitos, and Buena Vista Lagoons, respectively, consistent with the recommendations in the lagoon bridge optimization studies (Moffatt & Nichol 2012a and b, Everest International Consultants, Inc. 2012).	Appendix O	Design Engineer	Design						
BO5. Project work within open water habitat in the San Luis Rey River in occupied goby critical habitat will be minimized to approximately 500 square feet of permanent impacts from bridge pilings, 0.3 acre of bridge shading, and 0.2 acre of temporary impacts. Cofferdams at bridge footings will be used such that project construction will not require diversion or relocation of the active channel. The project will not conduct actions that will result in the breach of seasonal San Luis Rey River estuary berms. Construction berms will not be used within the San Luis Rey River and all lagoons to minimize impacts on the active channel and avoid sedimentation impacts.	Section 3.17.3 and Appendix O	Design Engineer / Resident Engineer	Design / Construction						
BO6. Project landscaping will follow the provisions set forth in Executive Order 13112, which mandates preventing the introduction of and controlling the spread of invasive plant species on highway Right-of-ways. No invasive species listed in the National Invasive Species Management Plan, the State of California Noxious Weed List, or the California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory list will be included in the landscaping plans for the proposed project. Landscaping will not use plants that require intensive irrigation, fertilizers, or pesticides adjacent to preserve areas, and water runoff from landscaped areas will be directed away from adjacent native habitats and contained and/or treated within the development footprint.	Section 3.22.4 and Appendix O	Design Engineer / Landscape Architect / Biologist	Design						
BO7. Permanent project lighting will be of the lowest illumination necessary for safety and will be directed toward the roadway, Park and Ride's, and other project facilities, and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. Lighting adjacent to lagoons will be fitted with bird control spikes to ensure that raptors will not be able to use lighting as a perch to prey on listed bird species. With the exception of pathway lighting for the North Coast Bikeway, there will be no night lighting of trails within lagoons, wildlife corridors, and sensitive habitat areas. Pathway lighting for the North Coast Bikeway will be of the lowest illumination necessary for safety and will be designed to avoid light spill into adjacent sensitive habitats and wildlife movement areas. Caltrans will coordinate with the CFWO regarding the design of pathway lighting for the North Coast Bikeway to ensure that the lighting will not negatively affect wildlife movement in the project area. Caltrans will review the permanent lighting plans and then submit them to the CFWO for review and approval.	Section 3.17.3 and Appendix O	Design Engineer / Biologist	Design						

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BO8. All pedestrian trails and bike paths will be fenced in a manner that will encourage users to remain on the trails and paths. In areas where wildlife movement is expected, such as along river and lagoon bridge benches, fencing will be designed in a manner that will encourage users to remain on the trails and paths but which will not preclude wildlife from moving through habitat areas and accessing pedestrian benches during flood events (e.g., [three rail] spilt rail fencing). Signage will be posted and maintained at conspicuous locations to inform users about adjacent sensitive habitats and species as well as access restrictions. Plans for fencing and signage for each phase of project construction will be submitted to the CFWO for approval at least 5 days prior to initiating project impacts in each phase. Fencing and signage will be installed prior to completion of each phase of project construction.	Section 3.17.3 and Appendix O	Design Engineer / Biologist	Design						
BO9. The following wildlife connectivity features will be constructed to ensure that ecosystem functions are maintained for the benefit of listed species:									
a. At Carmel Creek, a 10-foot-wide bench will be constructed at the south bridge abutment, and the existing 8-foot-wide bench at the north bridge abutment will be maintained. The south bench will be modified to allow for usage by pedestrians and bikes and is expected to provide for wildlife usage at night and during flood events. The project will elevate the Sorrento Valley Road Bike Path Connector to the west of the bridge and remove sediment under and southwest of the bike path to remove an existing constraint to flood flows and to improve wildlife connectivity from east to west.									
b. At the proposed bridge over Los Peñasquitos and Soledad Creeks, the existing bridge provides for a substantial dry movement area with a 2:1 slope to the north, which will be maintained. A new 16-foot-wide bench may be added at the south bridge abutment for both pedestrians and wildlife depending upon clearance.									
c. At San Dieguito Lagoon, the existing bridge provides for a substantial dry movement area to the south, and an existing 12-foot-wide pedestrian pathway will be maintained to the north that is expected to provide for wildlife movement at night and during flood events. Existing pier walls constrain visibility and openness under the bridge. If possible, Caltrans will cut openings in existing and proposed pier walls to improve visibility and openness. The south bank of the channel will not be armored.									
d. At San Elijo Lagoon, a 12-foot-wide wildlife bench will be constructed to the south, and existing pedestrian pathways to the north and south will be maintained and are expected to provide for wildlife movement at night and during flood events.									

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e. At Batiquitos Lagoon, a16-foot-wide wildlife bench will be constructed on the south bridge abutment and a 16-foot wide pedestrian path will be maintained on the north bridge abutment that is expected to provide for wildlife movement at night and during flood events.	Section 3.17.3 and Appendix O	Design Engineer / Biologist / Biological Monitor	Design / Construction / Post-construction						
f. At Agua Hedionda Lagoon, 16-foot-wide benches for pedestrian and wildlife use will be constructed at both the north and south bridge abutments.									
g. At Buena Vista Lagoon, 16-foot-wide benches for wildlife movement will be constructed at both the north and south bridge abutments.									
h. At the San Luis Rey River, a pedestrian trail will be constructed mid-slope on the north bridge abutment that is expected to provide for wildlife movement at night and during flood events.									
i. Bridges where wildlife movement is expected will use columns rather than pier walls to improve visibility and openness and encourage usage by wildlife, including Carmel Creek, Los Peñasquitos and Soledad Creeks, and all lagoons (with the exception of San Dieguito Lagoon and the San Luis Rey River where pier walls may be required for stability).									
j. To the maximum extent feasible, rock slope protection will be avoided at wildlife benches. If rock slope protection is required, modifications (e.g., small pebble, dirt, soil covered rip rap, or grouted movement pathways) will be made such that animals of all sizes can use the wildlife benches.									
k. Monitoring will be conducted on the effectiveness of the wildlife connectivity features such that the effectiveness of wildlife connectivity features can be improved and to inform decision-making for future projects. This monitoring will include research on the degree to which various undercrossings are used by target species. Remote cameras will be used to document use of wildlife undercrossings. Monitoring will be conducted over a minimum of 5 years following construction of each wildlife connectivity feature to allow wildlife to become accustomed to the wildlife connectivity features. Annual monitoring reports, including photographs, modifications made to wildlife connectivity features to improve their functionality, and recommendations, will be provided to the CFWO each year for the duration of the 5-year monitoring period following each phase of project construction.									
l. Wildlife benches will be maintained in perpetuity to ensure that wildlife connectivity in the project area is not lost over time. The wildlife connectivity plan will include a detailed explanation of how wildlife benches will be maintained and how the maintenance will be funded.									

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BO10. Caltrans will submit final project design plans to the CFWO for review and approval, based on the draft plans dated August 22, 2012, with the following revisions: 1) measures, such as the use of fabric weed barriers and mulch, will be incorporated into the design plans to limit the establishment and spread of invasive species along the oleander median; 2) gateway undercrossings and overcrossings adjacent to lagoons will not include decorative night lighting or vertical features that may be used as a perch by raptors to prey upon listed species; 3) the design and elevation of suspended pedestrian bridges will not impede access by maintenance dredges at lagoons; 4) invasive species will be removed from planting palettes; 5) plans will clearly show that areas of temporary impact to native habitats will be replanted with native species; and 6) plans will specify that the height of vegetation planted near coastal lagoons will be limited (e.g., coastal sage and chaparral species up to approximately 8 feet in height) to prevent perching and predation by raptors on listed species.	Section 3.17.3, Section 3.22.4 and Appendix O	Design Engineer / Landscape Architect / Biologist	Design						
BO11. Because the project is expected to start in 2014 and be phased over approximately 21 years, Caltrans will conduct updated surveys for the gnatcatcher, rail, and manzanita within 1 year prior to the commencement of vegetation clearing and construction activities for each project phase to ensure that survey information remains up to date. FHWA and Caltrans acknowledge that Section 7 consultation will be reinitiated if survey results indicate that additional impacts to these species may occur beyond those addressed in this biological opinion.	Section 3.21.4 and Appendix O	Biologist	Design / Pre-construction						
BO12. *Caulerpa taxifolia* surveys will be completed before and after construction at each of the lagoons to ensure there is no infestation within project limits. If *Caulerpa taxifolia* is found, measures will be implemented to eradicate it from the area.	Section 3.22.4 and Appendix O	Biologist	Pre-construction / Post-construction						
BO13. Prior to construction equipment entering open water habitat in the San Luis Rey River, all gobies within the project impact footprint will be captured and relocated to a proximal and safe location, and gobies will be excluded from re-entering the project impact footprint. Caltrans will submit a goby capture, relocation and exclusion plan to the CFWO for review and approval. The plan will include relocation of native species and removal of non-native species captured with gobies during the relocation effort. Capture methods will follow commonly accepted techniques for fish capture such as seining. The plan will be prepared and implementation will be overseen by a CFWO-approved biologist knowledgeable of goby biology and ecology.	Section 3.21.4 and Appendix O	Biologist	Pre-construction / Construction						

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BO14. Prior to construction in areas with manzanita, all manzanita in the project impact footprint (including the approximately 6 individuals currently known and any other individuals found in updated surveys) will be salvaged and translocated to the Dean property, which is near the currently known salvage locations. Caltrans will submit a manzanita translocation plan to the CFWO for review and approval. The plan will be prepared and implementation will be overseen by a CFWO-approved biologist knowledgeable of manzanita biology and ecology and translocating sensitive plant species. There has been limited success with translocation of this species; therefore, seed will be collected prior to impacts and used to propagate additional plants at a facility that has experience working with manzanita and specializes in the propagation of native plants. The manzanita plants grown from seed will also be planted at the Dean property. A field review will be conducted with the CFWO to review and approve the locations where the manzanita plants will be planted on the Dean property. The translocated manzanita population will be monitored for a minimum of 5 years to document success or failure of the translocation efforts.	Section 3.21.4 and Appendix O	Biologist	Pre-construction / Construction / Post-construction						
BO15. The clearing and grubbing of native wetland and riparian habitats will occur between September 16 and March 14 and the clearing and grubbing of native upland habitats for the project will occur between September 1 and February 14, to avoid the rail and gnatcatcher breeding seasons, respectively [or sooner than September 16 or September 1, if a biologist knowledgeable of gnatcatcher and rail biology and ecology approved by the CFWO demonstrates to the satisfaction of the CFWO that all rail or gnatcatcher nesting is complete]. Caltrans will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 5 working days prior to initiating project impacts.	Section 3.21.4 and Appendix O	Biologist / Resident Engineer / Biological Monitor	Pre-construction / Construction						
BO16. Pile driving for bridge construction near the lagoons and San Luis Rey River will be completed between September 16 and February 14 to minimize construction noise impacts to rail and gnatcatcher breeding. Pile driving may commence earlier in the fall if a biologist knowledgeable of gnatcatcher and rail biology and ecology approved by the CFWO demonstrates to the satisfaction of the CFWO that all rail and gnatcatcher breeding is complete within the area where construction noise will exceed ambient levels as a result of pile driving. Caltrans will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 5 working days prior to initiating project impacts.	Section 3.21.4 and Appendix O	Biologist / Resident Engineer / Biological Monitor	Pre-construction / Construction						
BO17. Noise barriers will be installed at the edge of temporary impact areas near sensitive resources, where feasible, depending on inundation and effective heights required for walls. Noise walls will not be effective where fill slopes are significantly higher than impact areas.	Section 3.21.4 and Appendix O	Design Engineer / Biologist / Resident Engineer	Design / Construction						

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BO18. All construction equipment used for the project will be equipped with properly operating and maintained mufflers.	Section 3.21.4 and Appendix O	Resident Engineer	Construction						
BO19. During in-water bridge construction activities at all lagoons and the San Luis Rey River, bubble curtains or other methods to minimize acoustical impacts to aquatic species will be implemented. These measures will be developed in coordination with the CFWO when project design and construction methodology is further developed.	Section 3.21.4 and Appendix O	Design Engineer / Biologist / Resident Engineer	Design / Construction						
BO20. If nighttime construction is necessary, all lighting used at night for project construction (e.g., staging areas, equipment storage sites, roadway) will be selectively placed and directed onto the roadway or construction site and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats.	Section 3.21.4 and Appendix O	Biologist / Resident Engineer/ Biological Monitor	Design / Construction						
BO21. Appropriate best management practices (BMPs) will be used to control erosion and sedimentation and to capture debris and contaminants from bridge demolition and construction to prevent their deposition in coastal lagoons and waterways. No sediment or debris will be allowed to enter lagoons, creeks, rivers, or other drainages. All debris from the demolition and construction of bridges will be contained so that it does not fall into channels. Appropriate BMPs will be used during construction to limit the spread of resuspended sediment and contain debris. These may include cofferdams, blasting mats, silt curtains, turbidity curtains and/or other barriers. Water within cofferdams will not be returned to the San Luis Rey River or lagoons until it is clear and clean. This may be accomplished through the use of desiltation tanks or other appropriate measures. Collected sediments will be removed from the site and disposed of properly. BMPs (e.g., gravel bags) will be used at the discharge point to avoid erosion.	Section 3.17.3 and Appendix O	Design Engineer / Resident Engineer	Design / Construction						
BO22. Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.	Section 3.20.4 and Appendix O	Design Engineer / Resident Engineer	Design / Construction						
BO23. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated areas that are a minimum of 100 feet from drainages/lagoons and associated plant communities, to preclude adverse water quality impacts. Fuel cans and fueling of tools will not be allowed inside the drainages.	Section 3.17.3 and Appendix O	Design Engineer / Resident Engineer	Design / Construction						
BO24. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate BMPs	Section 3.17.3 and Appendix O	Resident Engineer	Construction						
BO25. Cationic polymers are attracted to the hemoglobin in fish gills and can cause suffocation at relatively low concentrations. Cationic polymers will not be used for dust control.	Section 3.20.4 and Appendix O	Design Engineer / Resident Engineer	Design / Construction						
BO26. Bioswales and detention basins will be placed to avoid impacts to wetlands (e.g., these features will not be located at the base of slope within lagoons).	Section 3.17.3 and Appendix O	Design Engineer / Biologist	Design						

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BO27. The project site will be kept as clear of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site. All spoils and material disposal will be disposed of properly.	Section 3.17.3 and Appendix O	Resident Engineer	Construction						
BO28. If fill must be borrowed from or disposed of offsite, the construction contractor will identify any necessary borrow and disposal sites and provide this information to Caltrans for review. Caltrans will review borrow and disposal site information and submit the information to the CFWO. If borrow or disposal activities may affect a listed species or critical habitat, FHWA/Caltrans will reinitiate Section 7 consultation.[5]	Section 3.17.3 and Appendix O	Design Engineer / Biologist / Project Management / Resident Engineer	Construction						
[5] Under the current process, FHWA will reinitiate formal consultation and Caltrans (acting for FHWA) will reinitiate informal consultation.									
BO29. Contractors and construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint.	Section 3.17.3 and Appendix O	Resident Engineer	Construction						
BO30. Project personnel will be prohibited from bringing domestic pets to construction sites to ensure that domestic pets do not disturb or depredate wildlife in adjacent habitats.	Section 3.20.4 and Appendix O	Resident Engineer	Construction						
BO31. A CFWO-approved biologist (Biological Monitor[6]) will be on site during: a) initial clearing and grubbing; and b) weekly during project construction within 500 feet of offsite gnatcatcher, rail, goby, and manzanita habitat to ensure compliance with all conservation measures. Caltrans will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 5 working days prior to initiating project impacts. The contract of the Biological Monitor will allow direct communication with the CFWO at any time regarding the proposed project. The Biological Monitor will be provided with a copy of this consultation. The Biological Monitor and a Caltrans Project Biologist[7] will be available during pre-construction and construction phases to review grading plans, address protection of sensitive biological resources, monitor ongoing work, and maintain communications with the Resident Engineer to ensure that issues relating to biological resources are appropriately and lawfully managed. The Biological Monitor will perform the following duties:									

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a. Perform a minimum of three focused preconstruction surveys, on separate days, to determine the presence of gnatcatchers or rails in the project impact footprint. Surveys will begin a maximum of 30 days prior to performing vegetation clearing/grubbing, and one survey will be conducted the day immediately prior to the initiation of vegetation clearing. If any gnatcatchers or rails are found in the project impact footprint, the Biological Monitor will direct construction personnel to begin vegetation clearing/grubbing in an area away from the gnatcatchers and/or rails. It will be the responsibility of the Biological Monitor to ensure that gnatcatchers and rails will not be injured or killed by vegetation clearing/grubbing. The Biological Monitor will also record the number and location of gnatcatchers and rails disturbed by vegetation clearing/grubbing. Caltrans will notify the CFWO at least 7 days prior to vegetation clearing/grubbing to allow the CFWO to coordinate with the Caltrans Project Biologist on potential bird flushing activities;	Section 3.21.4 and Appendix O	Biologist / Resident Engineer / Biological Monitor	Pre-construction / Construction						
b. Oversee installation of and inspect the construction fencing and erosion control measures a minimum of once per week to ensure that any breaks in the fencing or erosion control measures are repaired immediately and that rails have not entered the project impact footprint;									
c. Implement the goby capture, relocation and exclusion plan; and manzanita translocation plan;									
d. Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust;									
e. Train all contractors and construction personnel on the biological resources associated with the project and ensure that training is implemented by construction personnel. At a minimum, training will include: 1) the purpose for resource protection; 2) a description of the gnatcatcher, rail, goby, and manzanita and their habitats; 3) the conservation measures that should be implemented during project construction to conserve the gnatcatcher, rail, goby, and manzanita, including strictly limiting activities, vehicles, equipment, and construction materials to the fenced project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the project site by fencing); 4) environmentally responsible construction practices; 5) the protocol to resolve conflicts that may arise at any time during the construction process; and 6) the general provisions of the Act, the need to adhere to the provisions of the Act, and the penalties associated with violating the Act;									
f. Request that the Resident Engineer halt work, if necessary, and confer with the Caltrans Project Biologist and the CFWO to ensure the proper implementation of species and habitat protection measures. The Caltrans Project Biologist will report any noncompliance issue to the CFWO within 24 hours of its occurrence;									

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g. Monitor the project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread in association with the project. Such measures may include inspection and cleaning of construction equipment and use of eradication strategies. All heavy equipment will be washed and cleaned of debris prior to entering a lagoon area to minimize the spread of invasive weeds;									
h. Submit monthly email reports (including photographs of impact areas) to the Caltrans Project Biologist during clearing of, and construction within, 500 feet of gnatcatcher, rail, goby, and manzanita habitats. The monthly reports will document that authorized impacts were not exceeded and general compliance with all conditions. The reports will also outline the location of construction activities, the type of construction that occurred, and equipment used. These reports will specify numbers, locations, and sex of gnatcatchers, rails, and gobies (if observed), their observed behavior (especially in relation to construction activities), and remedial measures employed to avoid and minimize impacts to these species. The Caltrans Project Biologist will review reports and forward them to the CFWO. Raw field notes should be available upon request by the CFWO; and									
i. Submit a final report to Caltrans Project Biologist within 120 days of the completion of construction for each project phase that includes: photographs of habitat areas that were to be avoided and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures was achieved. As-built construction drawings with an overlay of habitat that was impacted and avoided will be provided as well once they have been completed. The Caltrans Project Biologist will review the report and forward it to the CFWO.									
[6] The Biological Monitor will be familiar with the federally listed species potentially affected by the project (i.e., gnatcatcher, rail, goby and manzanita) and with the habitats that support these species.									
[7] The Caltrans Project Biologist will be a Caltrans biologist familiar with the federally listed species potentially affected by the project and with the habitats that support these species; he/she will be the primary contact for the CFWO during project implementation.									

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BO32. All native or sensitive habitats outside and adjacent to the permanent and temporary construction limits will be designated as Environmentally Sensitive Areas (ESAs) on project maps. ESAs will be temporarily fenced during construction with orange plastic snow fence, orange silt fencing, or in areas of flowing water, with stakes and flagging. No personnel, equipment or debris will be allowed within the ESAs. Fencing and flagging will be installed in a manner that does not impact habitats to be avoided and such that it is clearly visible to personnel on foot and operating heavy equipment. At the bridge construction areas where there is the potential for rail movement under the bridges, fencing will be installed in a manner that will direct rails to the open channel under bridges to the extent feasible. Caltrans will submit to the CFWO for approval, at least 5 days prior to initiating project impacts (except for impacts resulting from clearing to install temporary fencing), the final plans for initial clearing and grubbing of habitat and project construction. These final plans will include photographs that show the fenced and flagged limits of impact and all areas to be impacted or avoided. If work occurs beyond the fenced or demarcated limits of impact all work will cease until the problem has been remedied to the satisfaction of the CFWO. Temporary construction fencing and markers will be maintained in good repair until the completion of each phase of project construction and removed upon completion of each project phase.	Section 3.21.4, Section 3.17.3 and Appendix O	Design Engineer / Biologist / Resident Engineer / Biological Monitor	Design / Pre-construction / Construction							
BO33. During project construction all invasive species included on National Invasive Species Management Plan, the State of California Noxious Weed List, and the California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory list found growing within the project right-of-way will be removed. Weed removal will be conducted within the project right-of-way at least once per year during the construction period. Special care will be taken during transport, use, and disposal of soils containing invasive weed seeds and all weedy vegetation removed during construction will be properly disposed of to prevent spread into areas outside of the construction area.	Section 3.22.4, Section 3.17.3 and Appendix O	Resident Engineer / Biological Monitor	Construction						
BO34. A channel large enough for fish and rail movement will be kept open throughout project construction in the San Luis Rey River and each of the lagoons. Prior to initiation of construction in the San Luis Rey River and each of the lagoons, Caltrans will submit a plan to the CFWO for maintaining a channel for fish and/or rail movement in the San Luis Rey River and each of the lagoons.	Section 3.21.4 and Appendix O	Biologist / Resident Engineer	Pre-construction / Construction						

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BO35. Permanent and temporary impacts to gnatcatchers, rails, gobies, manzanita, and critical habitat for the gnatcatcher and goby (as summarized in Tables 3 and 4 of the BO [Appendix O]) resulting from the I-5 North Coast Corridor Project will be offset through habitat creation restoration, and preservation/enhancement as shown in Table 5 and Figures 22-31 of the BO (Appendix O). Implementation of these conservation measures is phased ahead of project impacts. In addition, large-scale lagoon restoration and lagoon management endowments shown in Table 5 of the BO (Appendix O) will be implemented to provide additional conservation to offset impacts from the I-5 North Coast Corridor Project, Los Angeles to San Diego Rail Corridor, and I-5 / State Route-78 Interchange Project (with project elements as listed in the REP).	Section 3.21.4 and Appendix O	Biologist / Project Manager	Design						
BO36. Caltrans will submit draft San Dieguito Lagoon W19, Hallmark, Dean, San Elijo Uplands, Deer Canyon, Laser, and La Costa wetland and upland creation / restoration / enhancement plans to the CFWO for review and approval prior to initiating project impacts. Caltrans will provide the final plans to the CFWO. The final plans will include the following information and conditions:									
a. All final specifications and topographic-based grading, planting and irrigation plans (0.5-foot contours and typical cross-sections for wetlands and 10-foot contours for uplands) for the creation/restoration/enhancement sites. All wetland mitigation areas will be graded to the same elevation as adjacent existing Corps jurisdictional wetlands areas, and/or to within 1-foot of the groundwater table, and will be left in a rough grade state with micro topographic relief (including channels for wetlands) that mimics natural topography. All upland habitat creation/restoration/enhancement sites will be prepared for planting by decompacting the top soil in a way that mimics natural upland habitat top soil to the maximum extent practicable while maintaining slope stability. Topsoil and plant materials salvaged from the impacted areas (including live herbaceous, shrub and tree species) will be transplanted to, and/or used as a seed/cutting source for, the creation and enhancement areas to the maximum extent practicable. Planting and irrigation will not be installed until the CFWO has approved of the site grading. All plantings will be installed in a way that mimics natural plant distribution and not in rows.									
b. Planting palettes (plant species, size and number/acre) and seed mix (plant species and pounds/acre). The multitude of plant palettes proposed in the draft plans will include native species specifically associated with the habitat type(s). Unless otherwise approved by the CFWO, only locally native species (no cultivars) obtained within San Diego County available from as close to the project area as possible will be used. The source and proof of local nativeness of all plant material and seed will be provided.									

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c. Container plant survival will be 80 percent of the initial plantings for the first 5 years. At the first and second anniversary of plant installation, all dead plants will be replaced unless their function has been replaced by natural recruitment.	Section 3.17.3 and Appendix O	Biologist	Design / Construction / Post-construction						
d. A final implementation schedule that indicates when all native habitat impacts, as well as native habitat creation / restoration / enhancement grading, planting and irrigation will begin and end. Necessary site preparation and planting will be completed during the concurrent or next planting season (i.e., late fall to early spring) after receiving the CFWO's approval of grading.									
e. Five years of success criteria for creation / restoration / enhancement areas including: separate percent cover criteria for herbaceous understory, shrub midstory, and tree overstory, and a total percent absolute cover for all three layers at the end of 5 years for wetlands, and a total percent absolute cover for uplands; evidence of natural recruitment of multiple species for all habitat types; 0 percent coverage will be maintained for Cal-IPC's "Invasive Plant Inventory" species, and no more than 10 percent coverage for other exotic/weed species.									
f. A minimum 5 years of maintenance and monitoring of creation / restoration / enhancement areas, unless success criteria are met earlier and all artificial water supplies have been off for at least 2 years.									
g. A qualitative and quantitative vegetation monitoring plan with a map of proposed sampling locations. Photo points will be used for qualitative monitoring and stratified random sampling will be used for all quantitative monitoring.									
h. Contingency measures in the event of creation/restoration/enhancement failure.									
i. Annual mitigation maintenance and monitoring reports will be submitted to the CFWO no later than December 1 of each year.									
j. If maintenance of a wetland creation / restoration / enhancement area potentially occupied by rails is necessary between March 15 and September 15, a biologist with knowledge of rail biology and ecology and approved by the CFWO will survey for rails within the creation / restoration / enhancement area, access paths to it, and other areas susceptible to disturbances by creation / restoration / enhancement site maintenance. Surveys will consist of three visits separated by 2 weeks starting April 1 of each maintenance/monitoring year. Restoration work will be allowed to continue on the site during the survey period. However, if rails are found during any of the visits, the applicant will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the rail (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).									

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k. If maintenance of a coastal sage scrub restoration / enhancement area is necessary between February 15 and August 31, a biologist with knowledge of the biology and ecology of gnatcatchers and approved by the CFWO will survey for gnatcatchers within the creation / restoration / enhancement area, access paths to it, and other areas susceptible to disturbances by site maintenance. Surveys will consist of three visits separated by 2 weeks starting March 1 of each maintenance/monitoring year. Work will be allowed to continue on the site during the survey period. However, if gnatcatchers are found during any of the visits, Caltrans will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the gnatcatcher (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).									
BO37. Perpetual biological conservation easements or other conservation mechanisms acceptable to the CFWO will be recorded over the areas created, restored, and/or preserved / enhanced by the project at the San Dieguito Lagoon W19, Hallmark, Dean, San Elijo Uplands, Deer Canyon, Laser, and La Costa properties. The conservation mechanisms will specify that no easements or activities (e.g., fuel modification zones, public trails, drainage facilities, walls, maintenance access roads, utility easements) that will result in soil disturbance and/or native vegetation removal will be allowed within the biological conservation easement areas, with exceptions as documented in the Constraints sections of Mitigation Site Assessments for these properties and where the acreage of impacts is not included in the mitigation acreage totals in Table 5 of the BO (Appendix O). Draft Mitigation Site Assessments have been provided to the CFWO for our review and comment. A copy of final Mitigation Site Assessments will be provided to the CFWO that clearly document constraints and demonstrate compliance with the requirement that the acreage of impacts resulting from constraints is not included in the mitigation acreage totals in Table 5 of the BO (Appendix O). Revised draft conservation mechanisms will be provided to the CFWO for review and approval. Caltrans will also submit the final conservation mechanisms to the CFWO. Caltrans anticipates that they will not be able to place the conservation easements or other conservation mechanisms for these properties prior to initiating project impacts; however, annual reports will be provided on their status until the conservation mechanisms are recorded over the properties, which will occur either within 1-year of the issuance of this biological opinion, or within 1-year of purchase of each property, unless a written extension is requested by Caltrans showing good faith efforts to achieve the recordation and the extension request is granted by the CFWO.	Section 3.17.3 and Appendix O	Biologist / Project Management	Pre-construction / Post-construction						

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BO38. Caltrans will prepare and implement perpetual management, maintenance, and monitoring plans for the San Dieguito Lagoon W19, Hallmark, Dean, San Elijo Uplands, Deer Canyon, Laser, and La Costa properties. Caltrans will also establish non-wasting endowments for amounts approved by the CFWO based on Property Analysis Records (PAR) (Center for Natural Lands Management ©1998) or similar cost estimation methods, to secure the ongoing funding for the perpetual management, maintenance and monitoring of these properties. Caltrans will submit draft long-term management plans for the properties to the CFWO for review and approval. The long-term management plans will include, but not be limited to, the following: 1) the PAR or other cost estimation results for the non-wasting endowment; 2) proposed land manager's name, qualifications, business address, and contact information; 3) method of protecting the resources in perpetuity (e.g., conservation easement), monitoring schedule, measures to prevent human and exotic species encroachment, funding mechanism, and contingency measures should problems occur. Caltrans will submit the final long-term management plans to the CFWO. Caltrans anticipates that the long-term management plans will not be prepared prior to initiating project impacts; however, annual reports will be provided on their status until the final management plans have been provided and the endowments have been established, which is anticipated to occur when the projects are projected to meet criteria (as documented in Table 5 of the BO [Appendix O]) and will occur within 1 year of achieving applicable success criteria for each property.	Section 3.17.3 and Appendix O	Biologist / Project Management	Pre-construction / Post-construction						
BO39. Caltrans will establish a non-wasting endowment for an amount approved by the CFWO, based on reliable and current estimates of maintenance costs, for long-term maintenance of Batiquitos and Los Peñasquitos Lagoons, including lagoon inlet maintenance and dredging. Caltrans will submit the estimates and information to demonstrate that the endowment will be non-wasting, and will adequately cover the costs of maintenance, to the CFWO for review and approval. Caltrans will make the endowment available for use within 1 year of establishment of the endowment, which will be established no later than December 1, 2015. Any delay in availability of funds will be reviewed and approved by the CFWO.	Section 3.17.3 and Appendix O	Project Management	Pre-construction / Post-construction						

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BO40. Caltrans will fund, in full, a large-scale salt water lagoon restoration at San Elijo Lagoon and/or Buena Vista Lagoon through the REP[8]. Caltrans will submit revised drafts of the REP to the CFWO for review and comment. Large-scale lagoon restoration funding will be used solely for salt water lagoon restoration, which will restore tidally-influenced habitats that are comparable with project impacts, for the benefit of listed species. Allocation of funding for large-scale salt water lagoon restoration will be determined, in coordination with the CFWO, prior to initiating project impacts. Caltrans will submit a copy of the final REP and funding proposal to the CFWO for review and approval.	Section 3.21.4 and Appendix O	Biologist / Project Management	Design / Pre-construction / Post-construction						
[8] A separate section 7 consultation with the Federal lead agency for the restoration project will be required to address impacts to listed species resulting from large-scale lagoon restoration.									
BO41. Caltrans will establish non-wasting endowments for amounts approved by the CFWO, based on reliable and current estimates of maintenance costs, for long-term maintenance of the large-scale lagoon restoration at San Elijo Lagoon and/or Buena Vista Lagoon. Caltrans will submit the endowment estimates to the CFWO for review and approval. The endowments are anticipated to be established during the year in which the large-scale lagoon restoration work is completed and no later than December 1, 2019 unless a written extension is requested by Caltrans showing good faith efforts to establish the endowment and the extension request is granted by the CFWO. Funds will be available for use within one year of establishment of the endowments.	Section 3.17.3 and Appendix O	Biologist / Project Management	Construction / Post-construction						
BO42. All areas of temporary impact, as quantified in Table 2 of the BO (Appendix O), will be revegetated and restored with native species. These areas will be returned to original grade, as feasible. Prior to initiating project impacts, a restoration plan will be developed for the temporary impact areas. The plan will be submitted to the CFWO for review and approval. This plan will include a detailed description of restoration methods, slope stabilization, and erosion control, criteria for restoration to be considered successful, and monitoring protocol(s). Following the completion of construction activities within each area of impact, the restoration plan will be implemented for a minimum of 5 years, unless success criteria are met earlier and all artificial water has been off for at least 2 years. Temporary impact areas will be planted as soon as possible following re-grading after completion of construction to prevent encroachment by nonnative plants.	Section 3.17.3 and Appendix O	Design Engineer / Biologist / Landscape Architect / Resident Engineer /	Design / Construction / Post-construction						

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BO43. Cut and fill slopes adjacent to native habitats will be revegetated with native habitats with similar composition to those within the project study area as feasible, including over 86 acres of slopes near lagoons and other open space that will be revegetated with coastal sage scrub. Duff and rare plants from areas with coastal sage scrub, maritime succulent scrub, and maritime chaparral may be salvaged from the project impact footprint to the extent practicable to aid in revegetating slopes with native habitats (excluding areas with invasive nonnative species such as African veldt grass and onion weed). The revegetated areas will have temporary irrigation and will be planted with native container plants and seeds selected in coordination with the Caltrans Project Biologist. At least 3 years of plant establishment/maintenance on these slopes will be conducted to control nonnative plants. Bioswales and detention basins will be planted with appropriate species as determined in coordination with the Caltrans Project Biologist and storm water pollution prevention professional. These areas will be planted as soon as possible following completed construction to prevent encroachment by nonnative plants. Slopes and interchanges located adjacent to developed urban areas will be planted with native and drought tolerant non-invasive species selected by the biologist and landscape architect.	Section 3.17.3 and Appendix O	Design Engineer / Biologist / Landscape Architect / Resident Engineer / Biological Monitor	Design / Construction / Post-construction						
REASONABLE AND PRUDENT MEASURES									
Caltrans will implement significant conservation measures as part of the proposed action to minimize the incidental take of gnatcatchers, rails, and gobies. In addition to these conservation measures, the following reasonable and prudent measures are necessary to monitor and report the effects of the incidental take on gnatcatchers, rails, and gobies:	Appendix O	Biologist / Resident Engineer / Biological Monitor	Construction						
1. FHWA and/or Caltrans will monitor and report on compliance with the established take exemptions for gnatcatchers associated with the proposed action.									
2. FHWA and/or Caltrans will monitor and report on compliance with the established take exemptions for rails associated with the proposed action.									
3. FHWA and/or Caltrans will monitor and report on compliance with the established take exemptions for gobies associated with the proposed action.									

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Coastal California Gnatcatcher									
1.1 Prior to initiating each phase of the proposed project, three preconstruction surveys will be conducted within all suitable gnatcatcher habitat within the footprint for that phase of the project, within 30 days prior to initiation of vegetation removal activities, to verify that no more than 6 gnatcatcher pairs in phase 1, 8 gnatcatcher pairs in phase 2, and 1 gnatcatcher pair in phase 3 (unless bridge construction is moved forward in project phasing to avoid impacts to coastal wetlands in which case take of 4 pairs of gnatcatchers will be advanced from phase 2 to phase 1), with 15 pairs in total, will be taken as a result of the project. Prior to initiating each phase of the project, FHWA and/or Caltrans will provide to the CFWO a map showing the distribution of gnatcatchers relative to the project footprint for that phase, an estimate of the number of gnatcatchers territories that will be impacted by the project in that phase, and the cumulative total of gnatcatcher territories impacted by the project to date, or confirm in writing that maps, distribution information, and the number of territories that will be impacted by the project as shown in the BA remain correct.	Appendix O	Biologist / Resident Engineer / Biological Monitor	Pre-construction / Construction						
1.2 FHWA and/or Caltrans will notify the CFWO within 30 days of completing removal of gnatcatcher occupied habitat in each project phase. The purpose of this notification is to ensure that impacts to gnatcatcher-occupied habitat from the proposed project do not exceed the take exemptions.	Appendix O	Biologist / Resident Engineer / Biological Monitor	Pre-construction / Construction						
Light-footed Clapper Rail									
2.1 Prior to initiating each phase of the proposed project, three preconstruction surveys will be conducted within all suitable rail habitat within the footprint for that phase of the project, within 30 days prior to initiation of vegetation removal activities, to verify that no more than one pair in phase 1, two pairs in phase 2, and one pair in phase 3 (unless bridge construction is moved forward in project phasing to avoid impacts to coastal wetlands in which case take of all four pairs of rails will occur in phase 1), with four pairs in total, will be taken as a result of the project. Prior to initiating each phase of the project, FHWA and/or Caltrans will provide to the CFWO a map showing the distribution of rails relative to the project footprint for that phase, an estimate of the number of rail territories that will be impacted by the project in that phase, and the cumulative total of rail territories impacted by the project to date, or confirm in writing that maps, distribution information, and the number of territories that will be impacted by the project as shown in the BA remain correct.	Appendix O	Biologist / Resident Engineer / Biological Monitor	Pre-construction / Construction						
2.2 FHWA and/or Caltrans will notify the CFWO within 30 days of completing removal of rail occupied habitat in each project phase. The purpose of this notification is to ensure that impacts to rail-occupied habitat from the proposed project do not exceed the take thresholds.	Appendix O	Biologist / Resident Engineer / Biological Monitor	Pre-construction / Construction						

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Tidewater Goby - 3.1 Within 30 calendar days of the completion of project activities within goby habitat, FHWA and/or Caltrans will provide the CFWO with a report documenting the area of goby habitat impacted, the number of dead or injured gobies observed in the action area, and the number of gobies captured and released. The report will include information on the general condition of all gobies that were killed, injured, and captured/released. It will also include an assessment of how or why gobies may have been injured or killed and information on where gobies were captured and released. Caltrans will report incidences of take (observed death or injury or capture and relocation of gobies) to the CFWO within 3 days. All field notes and other documentation generated by the biological monitor will be made available to the CFWO upon request. The purpose of this notification is to ensure that impacts to goby-occupied habitat from the proposed project do not exceed the take thresholds.	Appendix O	Biologist / Resident Engineer / Biological Monitor	Pre-construction / Construction						
DISPOSITION OF SICK, INJURED, OR DEAD SPECIMENS - Upon locating dead, injured, or sick individuals of threatened or endangered species, initial notification must be made to the Division of Law Enforcement in either San Diego, California, at 619-557-5063 or in Torrance, California, at 310-328-6307 within 3 working days. Notification should also be sent by telephone and writing to the office in Carlsbad, California, at 6010 Hidden Valley Road, Suite 101, Carlsbad, California 92011, 760-431-9440. Written notification must be made within 5 calendar days and include the collection date and time, the location of the animal, and any other pertinent information. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. The remains of intact specimens shall be placed with educational or research institutions holding the appropriate State and Federal permits. Remains shall be placed with the San Diego Natural History Museum, San Diego. Arrangements regarding proper disposition of potential museum specimens shall be made with the institution by the authorized biologist prior to implementation of the action.	Appendix O	Biologist / Resident Engineer / Biological Monitor	Construction						
Eelgrass surveys will be completed at all lagoons with the exception of Buena Vista prior to bridge construction. In lagoons where eelgrass is identified in proximity to I-5 widening, eelgrass surveys will continue during and after construction, and mitigation will be implemented in accordance with the Resource Enhancement and Mitigation Program (REMP).	Section 3.17.3	Biologist / Resident Engineer / Biological Monitor	Pre-construction / Construction / Post-construction						

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Impacts to native upland habitats will be mitigated on a corridor-wide basis through the proposed North Coast Corridor REMP.	Section 3.17.3	Biologist	Design						
Any seeding of native upland habitats will be completed between October and February to ensure that the seed has proper conditions for germination.	Section 3.17.3	Biologist / Biological Monitor	Construction						
Wetlands and Other Waters									
Bioswales/detention basins will be placed in the loop ramps, and bioswales will be placed on slopes (i.e., not at base of slope within lagoons), as appropriate to treat runoff from the freeway.	Section 3.18.4	Design Engineer	Design						
Sensitive Plant Species									
Seed will be collected or plants will be salvaged to the extent practicable in the impact areas as mitigation. Salvaged plants and seed will be planted in mitigation sites, on revegetated new slopes, or in revegetated areas that were temporarily impacted. The majority of these species could potentially be salvaged or mitigated by planting in an off-site preserve.	Section 3.19.4	Biologist / Biological Monitor	Construction						
Sensitive Animal Species									
Exclusion devices will be installed on bridge drain holes and ledges during the non-breeding season (September 1 through February 15) to stop swallows, swifts, and any other birds or bats from nesting on or within bridges to be demolished.	Section 3.20.4	Biologist / Resident Engineer	Construction						
In-water construction activities at the San Luis Rey River will take place outside of the steelhead migration window when steelhead adults and juveniles are expected to be using the lower reach of the San Luis Rey River.	Section 3.21.4	Biologist / Resident Engineer	Construction						
Silt curtains, coffer dams, and/or other barriers will be used to prevent steelhead from entering the construction zone and prevent sedimentation and debris from entering the river.	Section 3.21.4	Biologist / Resident Engineer	Construction						
Best management practices will be implemented during construction to minimize impacts on steelhead and aquatic habitat in the San Luis Rey River. These include sediment control measures to minimize erosion and impacts to water quality, measures to prevent debris and fresh concrete from entering the river channel, and fueling and maintenance of heavy machinery in areas away from the river channel and sensitive habitats.	Section 3.21.4	Biologist / Resident Engineer	Construction						
All removal of native vegetation or non-native shrubs and trees located within the impact areas would be completed outside of the bird breeding season (February 15 to August 31), if possible, to avoid impacts to nesting birds. Otherwise, a qualified biologist would thoroughly survey all vegetation prior to removal to ensure there are no nesting birds on site. If nesting birds are identified on site, vegetation removal would be delayed until the chicks have fledged or the nest has failed.	Section 3.21.4	Biologist / Resident Engineer	Construction						

ATTACHMENT 6
LAGOON MANAGEMENT, ENDOWMENTS, and MITIGATION CREDITS

Lagoon Management/Endowments – Contingency Mitigation Credit (excerpt from REMP)

The resource agencies have indicated that an endowment for dredging to maintain the openings at the mouths of Batiquitos and Los Peñasquitos Lagoons is an important resource protection measure within the NCC. Ten million dollars has been determined to be adequate to maintain these lagoon mouths in perpetuity if set aside in a non-wasting endowment with a reasonable rate of return (approximately 5% annually). Development of LTMPs for use of the funds at Batiquitos and Los Peñasquitos Lagoons would identify specific tasks covered by the proposed endowment, and would support establishment of long-term goals to ensure appropriate triggers for dredging activities such that adequate funds are released from the endowment at appropriate times. A performance evaluation of the endowment would also occur at the end of the first phase of the PWP/TREP Implementation Phasing Plan (approximately 10 years) to ensure adequate financial contingencies are in place to cover activities in perpetuity. It is anticipated that the $10 million endowment would need to accrue interest for at least 1 year prior to use of funds.

Los Peñasquitos Lagoon has 25 years of maintenance dredging operation information and the numbers have remained relatively consistent with a cost of approximately $150,000 per year for the project.

Batiquitos Lagoon has more varied costs for its maintenance over the last 15 years. California Department of Fish and Wildlife identified that the mobilization and demobilization were not included in the overall cost and that the 1998 and 1999 costs were anomalies. If those two years are removed, the average annual cost per year is $308,854. Of note, Batiquitos Lagoon also has a $5.5 million dollar endowment for maintenance which is not generating enough interest (1%) because of how the State invests the monies.

If we assume $350,000 annual cost for maintenance dredging for Batiquitos Lagoon and $150,000 annual cost for maintenance dredging of Los Peñasquitos Lagoon, there should be adequate funds, $500,000 annually, from a non-wasting endowment originally established with a 10 million dollar fund.

SANDAG proposes to work with a community investment foundation to establish an endowment that will generate on average $500,000 a year. The endowment will be non-wasting and only the interest will be available for use. The REMP Working Group will meet annually to discuss the interest generated over the year and the distribution of any funds from the accumulated interest.

Caltrans and SANDAG will work with resource and regulatory agencies to establishment compensatory mitigation credits for this endowment to help offset PWP/TREP project impacts. The following is an estimation of potential credits for maintenance of the lagoon mouths, similar to the 35 acres allotted to the SONGs mitigation for maintenance of the San Dieguito Lagoon mouth.

Batiquitos Lagoon comprises approximately 581 acres of coastal wetlands, with approximately 107 acres in the central basin, 450 acres in the eastern basin and the remainder (24 acres) in the western basin. Based on modeling of tidal ranges of the

shoaled versus dredged condition in each basin there will be an increase in tidal range between 1 and 9 percent. When the percent increase in tidal range in each basin is multiplied by the acreage in each basin, there is a change of 0.24 acres in the western basin, 6.42 acres in the central basin, and 40.5 acres in the western basin. The total percent change is equal to 47.2 acres immediately following a dredging event, but the benefits will be reduced as the sediments redeposit and mute the tides until the next cycle. Once dredging is completed, sediment will again begin to settle out in the lagoon inlet. Overtime this sediment accumulates until a time when significant shoaling requires another dredging be initiated (approximately 3 years for Batiquitos Lagoon). To adjust for the muting that occurs during the three years between dredging events the percent change will be reduced by one-third (see Table 7, below). Therefore, the amount of credit available for the Batiquitos endowment would be 15.7 acres. SANDAG and Caltrans propose that funding an endowment for lagoon mouth maintenance at Batiquitos Lagoon should qualify for credit, or it should be agreed that it will serve as contingency credits for any deficits of credit release between beginning construction of the wetland mitigation sites and impacts from the LOSSAN and I-5 PWP/TREP projects, as necessary. These credits are mainly expected to be used in the first phase of construction; however, some may be used during the second phase of construction. The credits are primarily as contingency credits to be used when other compensatory mitigation has not achieved all of its success goals required for a credit release. Any credits from this endowment not used expressly used as contingency credits will be used as enhancement for the region.

Table 7. Batiquitos Lagoon Tidal Range Percent Change Following a Dredging Event

	TIDAL RANGE						
BASIN	Acreage	Existing Shoaled (ft)	Existing Dredged (Ft)	Difference (ft)	Percent Change	0.33 Percent Change	0.33 Percent Change* (Acres)
West Basin (WB2)	24	7.15	7.24	0.09	0.01	0.003	0.07
Central Basin (CB2)	107	6.8	7.23	0.43	0.06	0.02	2.14
East Basin (EB1)	450	6.47	7.12	0.65	0.09	0.03	13.5

* Acreage X Percent Change = Percent Change in Acres

Los Penasquitos Lagoon.

Los Peñasquitos Lagoon is located along the northwest border of the City of San Diego, just south of the City of Del Mar. There are approximately 463 acres of tidal wetlands within the lagoon and it extends inland approximately 2.04 miles. One of the major issues facing the lagoon is the rate of increased sedimentation from the alteration of the existing tidal prism (with the construction of the railroad bridge) and the urbanization of

the watershed. Additionally, due to the increase in freshwater runoff from landscaping, wastewater treatment and hardpan (cement lining), far more freshwater and associated sediment enters the lagoon year-round then it did historically, causing sedimentation and the saltmarsh to convert to freshwater marsh. Because of these issues, the lagoon mouth began to close seasonally. This can reduce the health of an estuary by limiting the amount of sediment it can remove from the system and causes significant changes in salinity levels. Evaporation reduces the amount of water within the closed lagoon and increases the concentration of salt, which can rise to lethal levels for many of the organisms that live within the water and mudflats of the lagoon, and thereby impact the entire area's food web. In an effort to mitigate for this, the Los Peñasquitos Lagoon Enhancement Plan was developed in 1985 by the Coastal Commission. Adaptive management included monitoring of the lagoon water quality and of the mechanical opening of the mouth of the lagoon before water quality became poor enough to kill organisms (PERL 2004).

Future restoration activities for the Los Peñasquitos Lagoon have focused on the reduction of sediment to the system, curtailing freshwater input, and maintaining the opening of the lagoon mouth. Therefore, maintenance of the Los Peñasquitos Lagoon mouth has been identified as a compensatory mitigation opportunity within the REMP. There are no modeling data for Los Peñasquitos Lagoon; however, since the mouth closes completely, the tidal range is eliminated at certain times of the year. If we assume a 1 percent benefit (least benefit seen at Batiquitos) to the tidal wetlands of the lagoon that would result in 4.6 acres of credit. It is anticipated that all 4.6 acres of credit will be used in the first phase of the I-5 NCC Projects.

It is generally agreed that maintenance of the mouths of both of these lagoons is important to estuary functions and services. Quantifying the benefits of the maintenance is a difficult thing to do. However, with some lag time between the sign off on all wetland mitigation sites and some first phase impacts to the lagoons, Caltrans and SANDAG propose that establishing the $10 million dollar endowment should either be granted compensatory mitigation credit, or it should be agreed to that it will serve as contingency credits for any deficits of credit release between beginning construction of the wetland mitigation sites and impacts from the LOSSAN and I-5 NCC projects, as necessary. SANDAG and Caltrans also propose that 10 percent of this mitigation credit (0.46 acres for Los Penasquitos Lagoon and 1.57 ac for Batiquitos Lagoon of the 4.6 and 15.7 acres identified above, respectively) would be available upon establishment of the endowment and the funding strategy. The remaining balance of the available credits for each lagoon would be available when the interest of the endowment exceeds $500,000, and when the first dredging activities have been completed at each lagoon system.