California Regional Water Quality Control Board

San Diego Region

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Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

9174 Sky Park Court, Suite 100, San Diego, California 92123-4353
(858) 467-2952 • Fax (858) 571-6972
http:// www.waterboards.ca.gov/sandiego

September 22, 2010

In reply refer to:
744515: LPardy

Mr. Walter Freeman
Carlsbad Unified School District
6225 El Camino Real
Carlsbad, CA 92009

Subject: Action on Request for Clean Water Act Section 401 Water Quality Certification for the Carlsbad High School at College Boulevard and Cannon Project, Water Quality Certification No. 09C-068

Dear Mr. Freeman:

Enclosed find Clean Water Act section 401 Water Quality Certification with enrollment in Waste Discharge Requirements for discharge to Waters of the U.S. for the **Carlsbad High School at College Boulevard and Cannon Road Project**. A description of the project and project location can be found in the project information sheet and maps, included as Attachments 1 through 5. The stream photo documentation procedure is included as Attachment 6.

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

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

In the subject line of any response, please include the requested "**In reply refer to:**" information located in the heading of this letter. For questions pertaining to the subject matter, please contact Linda Pardy at (858) 627-3932 or lpardy@waterboards.ca.gov.

Respectfully,

DAVID W. GIBSON
Executive Officer

Enclosures:

Clean Water Act Section 401 Water Quality Certification No. 09C-068 for Carlsbad High School at College and Cannon Project with 7 attachments.

cc: Refer to Attachment 2 of Certification No 09C-068 for Distribution List.

Tech Staff Info & Use	
File No.	09C-068
WDID	9 000001965
Reg. Measure ID	371048
Place ID	744515
Party ID	7833
Person ID	519286

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

PROJECT: **Carlsbad High School at College Boulevard and Cannon Road Project, Certification Number (09C-068), WDID: 9 000001965**

APPLICANT: **Mr. Walter Freeman**
Carlsbad Unified School District
6225 El Camino Real
Carlsbad, CA 92009

CIWQS
Reg. Meas. ID: 371048
Place ID:744515
Party ID: 7833

ACTION:

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

PROJECT DESCRIPTION:

The Carlsbad Unified School District proposes the High School at College Boulevard and Cannon Road Project (Project), which consists of the construction and operation of a new high school with approximately 140,000 square feet, including classroom buildings that contain a library, administration offices, and food services facilities, a fine arts center, a gymnasium, a pressbox, and a San Diego Gas & Electric building. The Project also includes other amenities such as a turf-covered football stadium with track, a baseball field, a softball field, tennis and basketball courts, four parking lots with approximately 790 spaces, associated driveways, and a student drop-off area. The Project contains less than 50 acres of impervious surface within a 55.6-acre site, located in the City of Carlsbad in northwestern San Diego County.

The Project is located at the northeast intersection of Cannon Road and College Boulevard, and is surrounded to the north, east, and south by the California Department of Fish and Game's (DFG) Carlsbad Highlands Ecological Reserve.

Calavera Creek and associated riparian woodland habitats lie along the immediate western boundary of the Project, with a 110-foot buffer between the Project and Calavera Creek. The Project would require permanent modifications to 0.19-acre (617 linear feet) of waters of the United States (U.S.); consisting of 0.07-acre (39 linear feet) of freshwater marsh, 0.10-acre (89 linear feet) area of mulefat scrub, and 0.02-acre (489 linear feet) of ephemeral streambed, all in an un-named tributary which traverses the project site from east to west and flows into Calavera Creek, tributary to Agua Hedionda Creek, and Agua Hedionda Lagoon, in Carlsbad hydrologic unit (HU) 904.

STANDARD CONDITIONS:

The following three standard conditions apply to all Certification actions, except as noted under Condition 3 for denials (Action 3).

1. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).

2. This Certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial Certification action (Actions 1 and 2) shall be conditioned upon total payment of the full fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.

ADDITIONAL CONDITIONS:

In addition to the three standard conditions, Carlsbad Unified School District shall satisfy all of the following:

A. GENERAL CONDITIONS:

1. Water Quality Certification No. 09C-068 (Certification) expires 5 (five) years from the date of issuance unless Carlsbad Unified School District commences the Project prior to that time.

2. Carlsbad Unified School District shall, at all times, fully comply with the engineering plans, specifications and technical reports submitted to the California Regional Water Quality Control Board, San Diego Region

(San Diego Water Board), to support this Certification and with all subsequent submittals required as part of this Certification and as described in Attachment 1. The conditions within this Certification supersede conflicting provisions within such plans submitted prior to the Certification action. Any modifications to plans submitted prior to the Certification require notification to the San Diego Water Board and may require reevaluation of the Project for individual Waste Discharge Requirements and/or Certification amendment.

3. During construction, Carlsbad Unified School District shall maintain a copy of this Certification at the project site so as to be available at all times to site personnel and public agencies.

4. Carlsbad Unified School District shall permit the San Diego Water Board or its authorized representative at all times, upon presentation of credentials:

    a. Entry onto project premises, including all areas on which wetland fill or wetland mitigation is located or in which records are kept.
    b. Access to copy any records required to be kept under the terms and conditions of this Certification.
    c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Certification.
    d. Sampling of any discharge or surface water covered by this Order.

5. Carlsbad Unified School District shall notify the San Diego Water Board **within 24 hours** of any unauthorized discharge, including hazardous or toxic materials, to waters of the U.S. and/or State. Such notification shall include a description of measures that were implemented to stop and contain the discharge, measures implemented to clean-up the discharge, the volume and type of materials discharged and recovered, and identification of additional best management practices (BMPs) or other measures that will be implemented to prevent future unauthorized discharges.

6. Carlsbad Unified School District shall, at all times, maintain appropriate types and sufficient quantities of materials onsite to contain any unauthorized discharge that may cause a condition of pollution or nuisance if the materials reach waters of the U.S. and/or State.

7. This Certification is not transferable in its entirety or in part to any person except after notice to the Executive Officer of the San Diego Water Board in accordance with the following terms.

    a. Transfer of Property Ownership: Carlsbad Unified School District shall notify the San Diego Water Board of any change in ownership of the project area. Notification of change in ownership requires, but is not limited to, a statement that Carlsbad Unified School District has provided the purchaser (transferee) with a copy of the section 401

Water Quality Certification and that the transferee understands and accepts the certification requirements, the obligation to implement the requirements, and the potential liability for failure to do so and requires the seller and purchaser to sign and date the notification and provide such notification to the Executive officer of the San Diego Water Board within **10 days** of the transfer of ownership.

b. Transfer of Mitigation Responsibility: Any notification of transfer of responsibilities to satisfy the mitigation requirements set forth in plans for the Project shall include a signed statement from an authorized representative of the transferee demonstrating acceptance and understanding of the responsibility to comply with and fully satisfy the mitigation conditions and an acknowledgment that failure to comply with the mitigation conditions and associated requirements may subject the transferee to enforcement by the San Diego Water Board under applicable laws. Notification of transfer of responsibilities meeting the above conditions shall be provided to the San Diego Water Board within **10 days** of the transfer date.

c. Transfer of Post-Construction BMP Maintenance Responsibility: Carlsbad Unified School District assumes responsibility for the inspection and maintenance of all post-construction structural BMPs until such responsibility is legally transferred to another entity. Any notification of transfer of responsibilities to satisfy BMP maintenance requirements set forth in this certification shall include a signed statement from an authorized representative of the transferee demonstrating acceptance and understanding of the responsibility to comply with and fully satisfy BMP maintenance requirements and agreement that failure to comply with the requirements may subject the transferee to enforcement by the San Diego Water Board under applicable laws. Notification of transfer of responsibilities meeting the above conditions shall be provided to the San Diego Water Board within **10 days** of the transfer date.

Upon properly noticed transfers of responsibility, the transferee assumes responsibility for compliance with this Certification and references in this Certification to Carlsbad Unified School District will be interpreted to refer to the transferee as appropriate. Transfer of responsibility does not automatically relieve Carlsbad Unified School District of the continuing obligation to comply with the requirements of this Certification in the event that a transferee fails to comply.

8. Any violation or threatened violation of the conditions of this Certification is subject to any remedies, penalties, process or sanctions authorized by 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.

9. In response to a suspected or known violation of any condition of this Certification, the San Diego Water Board may require the holder of any permit or license subject to this Certification to furnish, under penalty of perjury, any technical or monitoring reports the San Diego Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

10. In response to any suspected or known violation of the conditions of this Certification, the San Diego Water Board may add to or modify the conditions of this Certification as appropriate to ensure compliance with applicable laws.

11. Carlsbad Unified School District shall submit annual progress reports describing status of compliance with all requirements of this Certification to the San Diego Water Board prior to **September 1** of each year following the issuance of this Certification until the Project has reached completion.

12. Carlsbad Unified School District shall submit a Final Project Annual Report to the San Diego Water Board **within 30 days of completion of the project and any associated monitoring.** The report should include as-built drawings no bigger than 11" x 17" and photos of the completed project including post-construction including post-construction BMPs.

B. PROJECT CONDITIONS:

1. Prior to the start of the project, and annually thereafter, or more frequently as necessary, Carlsbad Unified School District shall educate all personnel on the requirements in this Certification, pollution prevention measures, spill response, and BMP implementation and maintenance.

2. Carlsbad Unified School District shall comply with the requirements of *State Water Resources Control Board Water Quality Order No. 2003-0017-DWQ, Statewide General Waste Discharge Requirements for discharges of dredged or fill material that have received State Water Quality Certification.* These General Waste Discharge Requirements are accessible at: http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/go_wdr401regulated_projects.pdf.

3. Carlsbad Unified School District shall notify the San Diego Water Board in writing at least **5 days** prior to the actual commencement of dredge, fill, and discharge activities.

4. Carlsbad Unified School District shall comply with the requirements of *State Water Resources Control Board Water Quality Order No. 2009-0009-DWQ,* the *NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*.

5. Any treatment, storage, and disposal of wastewater during the life of the project shall be done in accordance with waste discharge requirements established by the San Diego Water Board pursuant to CWC section 13260.

6. Discharges of concentrated flow during construction or after completion shall not cause downstream erosion or damage to properties or stream habitat.

7. Water containing mud, silt, or other pollutants from equipment washing or other activities, shall not be discharged to waters of the United States and/or the State or placed in locations that may be subjected to storm flows. Pollutants discharged to areas within a stream diversion area shall be removed at the end of each work day or sooner if rain is predicted.

8. Substances that may adversely affect or be deleterious to aquatic life including, but not limited to, petroleum products, raw cement/concrete, asphalt, coating materials, and pesticides shall be prevented from contaminating the soil and/or entering waters of the United States and/or State. BMPs shall be implemented to prevent such discharges during each project activity involving these types of hazardous materials.

9. All surface waters, including ponded waters, shall be diverted away from areas undergoing grading, construction, excavation, vegetation removal, and/or any other activity which may result in a discharge to the receiving water. Diversion activities shall not result in the degradation of beneficial uses or exceedance of water quality objectives of the receiving waters. Any temporary dam or other artificial obstruction constructed shall only be built from materials such as clean gravel which will cause little or no siltation. Normal flows shall be restored to the affected stream immediately upon completion of work at that location.

10. All areas that will be left in a rough graded state shall be stabilized no later than one week after completion of grading. The Carlsbad Unified School District shall implement and maintain BMPs to prevent erosion of the rough graded areas to prevent flow from this area from causing negative impacts to beneficial uses. After completion of grading, all undeveloped areas shall be revegetated. Carlsbad Unified School District shall give preference in the revegetation palette to locally native plant species for erosion control and landscaping and the revegetation palette shall not contain any plants listed on the California Invasive Plant Council Invasive Plant Inventory, which can be found online at http://www.cal-ipc.org/ip/inventory/weedlist.php.

11. Removal of vegetation shall occur by hand, mechanically, or using U.S. Environmental Protection Agency (EPA) approved herbicides deployed using applicable BMPs to prevent impacts to beneficial uses of waters of the State.

12. To protect rare, threatened, or endangered species the Carlsbad Unified School District shall implement all Conservation Measures included in the U.S. Fish and Wildlife Service Section 7 Consultation. The Carlsbad Unified School District shall provide a copy of the final Section 7 Consultation letter to the San Diego Water Board **prior to initiation of construction activities**.

C. POST CONSTRUCTION STORM WATER MANAGEMENT

1. All storm drain inlet structures within the Project boundaries shall be stamped and/or stenciled (or equivalent) with appropriate language prohibiting non-storm water discharges.

2. All post-construction BMPs, including those described in the Carlsbad Unified School District's August 2010 *Storm Water Management Plan* shall be sized to comply with the following numeric sizing criteria and treat 100 percent of the impervious surfaces associated with the project:
   a. Volume
      Volume-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:
      i. The volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the local historical rainfall record (0.6 inch approximate average for the San Diego County area); or
      ii. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile 24-hour runoff event; or
   b. Flow
      Flow-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:
      i. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour; or
      ii. The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or
      iii. Th e maximum flow rate of runoff, as determined from the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.

3. All Post-construction BMPs described in the August 2010 *Storm Water Management Plan* shall be installed and functional prior to occupancy and/or planned use of development areas.

4. The Carlsbad Unified School District or their designated party shall inspect and maintain structural BMPs per the manufacturer's specifications and/or the August 2010 *Storm Water Management Plan.*

5. Treatment BMPs shall be inspected prior to the commencement of the rainy season (October 1) and after every storm event exceeding 0.5 inches of precipitation.

6. Any rough graded desilting basins shall be designed, constructed and maintained, until all development on the project site is completed, according to the most recent California Stormwater Quality Association guidance for sediment basins.

7. The Carlsbad Unified School District shall maintain records regarding BMP inspections and maintenance in order to assess the performance of the systems and determine whether adaptations are necessary to protect receiving waters.

D. Receiving Water Monitoring

1. Carlsbad Unified School District shall develop and implement a five-year Receiving Waters Monitoring Plan in Calavera Creek (HSA 904.31) to evaluate potential project impacts from pollutants/stressors to Calavera Creek, in the Agua Hedionda Creek watershed. The Receiving Waters Monitoring Plan shall be developed and submitted to the San Diego Water Board for approval **prior to construction commencement**. The Receiving Waters Monitoring Plan shall assess conditions before, during, and after impacts have occurred by measuring changes in the benthic macroinvertebrate community, water quality, and a functional assessment of the health of wetland and riparian habitats in Calavera Creek. The five year receiving water monitoring will begin prior to the start of project construction, and the data and analysis shall be submitted with the **Annual Progress Reports** pursuant to Condition A.11 of this certification.

   a. **Benthic macroinvertebrate community analysis**
   Bioassessment monitoring shall be performed using the professional-level non-point source protocol of the California Stream Bioassessment procedure[1] to assess effects of the project on the biological integrity of receiving waters. At a minimum, bioassessment monitoring shall be performed at three sites (assessment stations) on Calavera Creek (as flow permits) once per year, during the established "index period" for

[1] Copies of the California Stream Bioassessment Procedure can be obtained at http://www.dfg.ca.gov/cabw/cabwhome.html. Additional information on stream bioassessment may be obtained at http://www.waterboards.ca.gov/sandiego/programs/bioassessment.html

the Agua Hedionda watershed. The first assessment station is the reference station, which shall be located upstream of the discharge from the project site on Calavera Creek in an reference area; the second assessment station shall be located immediately upstream of the discharge from the project site on Calavera Creek; the third assessment station shall be located immediately downstream of the discharge from the project site on Calavera Creek. The reference station upstream of the project discharge shall be located and sampled concurrently with second and third assessment stations. The results of the Benthic Macroinvertebrate Community Analysis shall be submitted each year **with the Annual Progress Report (see Condition A.11)**.

b. WATER QUALITY ASSESSMENT

Carlsbad Unified School District shall perform water quality sampling and analysis for alkalinity, ammonia as N (NH_3-N), chloride (Cl^-), nitrate-nitrogen as N (NO_3-N), nitrite-nitrogen as N (NO_2-N), total Keldjahl nitrogen (TKN), ortho-phosphate phosphorus (OPO_4 as P), total phosphorus (TPO_4), total suspended solids (TSS), chlorophyll *a*, pH, temperature, turbidity, specific conductance, and dissolved oxygen. At a minimum, sampling will be conducted once each year, concurrent with D.1.a. above. The results of the water quality assessment shall be submitted each year **with the Annual Progress Report (see Condition A.11)**.

c. CALIFORNIA RAPID ASSESSMENT METHOD

Carlsbad Unified School District shall conduct a quantitative function-based assessment of the health of wetland and riparian habitats in Calavera Creek using the California Rapid Assessment Method (CRAM)[2] at the three assessment stations described above (in section D.1.a, 'Benthic Macroinvertebrate Community Analysis). The results of the CRAM assessment shall be submitted each year **with the Annual Progress Report (see Condition A.11)**.

2. Where procedures are not otherwise specified for the Receiving Water Quality Monitoring Program, sampling, analysis, and quality assurance/quality control shall be conducted in accordance with the Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Program Plan (QAPrP)[3] for the State of California's Surface Water Ambient Monitoring Program, adopted by the State Water Resources Control Board.

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[2] Information on CRAM is available at the California Rapid Assessment Method homepage at http://www.cramwetlands.org/

[3] The Quality Assurance Program Plan is available on the State Water Board's SWAMP website at http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/qaprp082209.pdf

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

E. Compensatory Mitigation For Loss of Waters of the U.S./State

1. Mitigation for permanent discharges to 0.19 acre (617-linear feet) of wetland has been achieved at a 1:1 ratio, by the purchase of 0.19-acre of CDFG Wetland Creation/Restoration Credits (credit) from the North County Habitat Bank located in the City of Carlsbad, south of Palomar Airport Road between Armada Drive and Hidden Valley Road (ledger attached).

F. Photo Documentation Procedure

1. Carlsbad Unified School District shall conduct photo documentation of the monitoring locations, post-construction BMPs, and project site, including all areas of permanent and temporary impact prior to and after project construction. Photo documentation shall be conducted in accordance with the State Water Board Standard Operating Procedure 4.2.1.4: Stream Photo Documentation Procedure, included as Attachment Number 6. In addition, photo documentation shall include Geographic Positioning System (GPS) coordinates for each of the photo points referenced. Carlsbad Unified School District shall submit this information in a photo documentation report to the San Diego Water Board **with the annual reports (see Condition A.11)**. The report shall include a compact disc that contains digital files of all the photos (jpeg file type or similar).

G. Geographic Information System Reporting

Carlsbad Unified School District shall submit Geographic Information System (GIS) shape files of the impact and mitigation bank areas **with the final project annual reports (see Condition A.12)** . All impact and mitigation areas shapefiles shall be polygons. Two GPS readings (points) shall be taken on each line of the polygon and the polygon shall have a minimum of 10 points. GIS metadata shall also be submitted.

H. Reporting

1. All information requested in this Certification is pursuant to California Water Code (CWC) section 13267. Civil liability may be administratively imposed by the San Diego Water Board for failure to furnish requested information pursuant to CWC section 13268.

2. All reports and information submitted to the San Diego Water Board shall be submitted in both hardcopy and electronic format. The preferred electronic format for each report submission is one file in PDF format that is also Optical Character Recognition (OCR) capable.

3. All applications, reports, or information submitted to the San Diego Water Board shall be signed and certified as follows:
   a. For a corporation, by a responsible corporate officer of at least the level of vice president.
   b. For a partnership or sole proprietorship, by a general partner or proprietor, respectively.
   c. 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 of a person designated in Items 3.a. through 3.c. above may sign documents if all of the following conditions are satisfied:
   a. The authorization is made in writing by a person described in Items 3.a. through 3.c. 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.

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

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

6. Carlsbad Unified School District shall submit reports required under this Certification, or other information required by the San Diego Water Board, to:

   Executive Officer
   California Regional Water Quality Control Board, San Diego Region
   Attn: 401 Certification; Project No. 09C-068
   9174 Sky Park Court, Suite 100
   San Diego, California 92123

7. Required Reports: The following list summarizes the reports required to be submitted to the San Diego Water Board by the conditions of this Certification.

Report Topic	Certification Condition	Due Date(s)
Spill notification	A.5	Within 24 hours of unauthorized discharge
Transfer of property ownership (if any)	A.7.a.	Within 10 days of sale/transfer
Transfer of mitigation responsibility (if any)	A.7.b.	Within 10 days of transfer responsibility
Transfer of Post-Construction BMP Maintenance Responsibility (if any)	A.7.c.	Within 10 days of transfer responsibility
Annual Progress Reports	A.11	Annually, prior to September 1 of each year
Final Project Annual Report	A.12	Within 30 days of completion of project & monitoring
Dredge/fill commencement	B.3	5 days prior to dredge/fill commencement
Final USFWS Section 7 COnsultation	B.12	Prior to initiation of construction activities
Receiving Water Monitoring Plan	D.1. a-c	Submitted prior to construction commencement
Receiving Water Monitoring Results	D.1. a-c	Submitted annually, with A.11 above
Photo documentation	F.1	Submitted annually, with A.11 above
GIS shapefiles	G.1	With Final Project Annual Report (A.12 above)

CEQA FINDINGS:

1. The Carlsbad Unified School District is the lead agency under the California Environmental Quality Act (Public Resources Code section 21000, et seq., (CEQA), and circulated an Environmental Impact Report (EIR) for the project and certified the EIR (SCH No. 2008011034) on February 11, 2009.

2. Subsequent to certification of the EIR, the U. S. Army Corps of Engineers (US ACOE) made a determination that a small freshwater marsh within the project area falls within US ACOE jurisdiction and, separately, the San Diego Association of Governments revised its traffic modeling data for the Project. As a result, Carlsbad Unified School District revised the previously certified EIR to address the changed environmental conditions and new information. The EIR was recirculated as the '*Revised and Recirculated Analysis for the New High School at College and Cannon EIR*' (Revised and Recirculated EIR). The Carlsbad Unified School District certified the Revised and Recirculated EIR (Final EIR) on January 13, 2010.

3. The Carlsbad Unified School District filed a Notice of Determination for the Final EIR on January 20, 2010, pursuant to CEQA Guidelines, Title 14, California Code of Regulations, 15091 (14 CCR section 15091). Carlsbad Unified School District's Final EIR included the following determinations as relevant to water quality impacts: (a) The project will have a significant effect on the environment; (b) An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA; (c) Mitigation measures were made a condition of the approval of the project; (d) A mitigation and monitoring plan was adopted for the project; and (e) Findings were made pursuant to section 15091 of the CEQA Guidelines.

4. The San Diego Water Board is a Responsible Agency under CEQA. As required by section 15096(f) of the CEQA Guidelines, the San Diego Water Board has considered environmental effects in the Final EIR. As required by section 15096(h) of the CEQA Guidelines, the San Diego Water Board makes the following findings required by section 15091 of the CEQA Guidelines concerning potentially significant environmental effects within the board's jurisdiction and concurs with the Carlsbad Unified School District that the following mitigation measures identified in the Final EIR will reduce specified impacts to a less than significant level.
    a. The San Diego Water Board finds that Impact 5.4-3 (Biological Resources (impacts to US ACOE jurisdictional wetlands)) is potentially significant without mitigation. The San Diego Water Board finds that in addition to requirements of the California Department of Fish and Game and US ACOE, the regulatory requirement that the Carlsbad Unified School District obtain and comply with a Clean Water Act section 401 Water Quality Certification from the San Diego Water Board, including the documented purchase of credit at the North

County Mitigation Bank, prior to undertaking any activities affecting wetlands will result in reduction of the potential biological resources impacts to a less than significant level.

b. The San Diego Water Board finds that Impact 5.8.1 is potentially significant without mitigation as during the construction phase of the proposed project, "there is the potential for short-term unquantifiable increases in pollutant concentrations from the site. After project development, the quality of storm runoff (sediment, nutrients, metals, pesticides, pathogens, and hydrocarbons) may be altered." (see Draft Environmental Impact Report (DEIR), Hydrology and Water Quality, p. 5.8-15 (incorporated into Final EIR).) The San Diego Water Board finds that Impact 5.8-3 is potentially significant without mitigation because "implementation of the proposed project would alter the existing drainage pattern of a site and result in increased erosion or siltation." (See DEIR, Hydrology and Water Quality, p. 5.8-15 (incorporated into Final EIR.) The San Diego Water Board further finds that the requirement that the Carlsbad Unified School District obtain and comply with a Storm Water Pollution Prevention Plan (SWPPP) and a Water Quality Management Plan (WQMP) prior to commencement of grading or construction activities on-site will reduce the potential environmental impacts of these aspects of the proposed Project to a less than significant level.

PUBLIC NOTIFICATION OF PROJECT APPLICATION:

On September 10, 2009, the San Diego Water Board provided public notice of the Project application by posting it on the San Diego Water Board web site. The notice remained available to the public throughout the San Diego Water Board's consideration of the application and supplemental materials. The San Diego Water Board determined the application for the Project to be complete on March 22, 2010. Thereafter, the San Diego Water Board requested and received from the Carlsbad Unified School District supplemental information to facilitate the Board's evaluation of the application. All of the documents relied upon were available to the public for comment on or before September 8, 2010, with the exception of the August 2010 Storm Water Management Plan which, although received by the San Diego Water Board on September 1, 2010, was inadvertently unavailable to the public until September 15, 2010. In addition to the public notice period for the application, the public had additional opportunities to submit public comment on the application and supplemental materials, with a public comment period closing on September 20, 2010, at 5 p.m. The San Diego Water Board received and considered comments from the public received prior to and on September 20, 2010, prior to issuance of this certification.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

Documents relied upon for preparation of this Water Quality Certification may be obtained by contacting:

Linda Pardy
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123
858 627-3932
LPardy@waterboards.ca.gov

WATER QUALITY CERTIFICATION:

I hereby certify that the proposed discharge from Carlsbad High School at College and Cannon Project (Project No. 09C-068) 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 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 and all proposed mitigation being completed in strict compliance with the applicant's project description and/or on the attached Project Information Sheet, and (b) on compliance with all applicable requirements of the *Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan).

David W. Gibson 9-22-10

DAVID W. GIBSON Date
Executive Officer
San Diego Water Board

Attachments:
1. Project Information
2. Distribution List
3. Location Map
4. Site Maps
5. Jurisdictional Delineation Map
6. Stream Photo Documentation Procedures
7. 5/18/2010 NCHB Mitigation Bank Ledger

ATTACHMENT 1
PROJECT INFORMATION

Applicant:	Mr. Walter Freeman Carlsbad Unified School District 6225 El Camino Real Carlsbad, CA 92009 Telephone: 760 331-5036 Email: WFreeman@carlsbadusd.net
Applicant Representative:	Shelby Howard Helix Environmental Planning, Inc. 7578 El Cajon Blvd., Suite 200 La Mesa, CA 91941 Telephone: 619 462-1515 Facsimile: 619 462-1582 Email: ShelbyH@helixepi.com
Project Name:	Carlsbad High School at College Boulevard and Cannon Road Project
Project Location:	The project is located at the northeast corner of College Boulevard and Cannon Road in the City of Carlsbad, in San Diego County, California. The County Assessor's office designates the site as Assessor's Parcel Numbers 168-050-19 (42 acres) and 168-050-46 (15 acres). The project address is 3900 Cannon Road, Carlsbad, CA 92010. The project is surrounded by open space, and lies directly adjacent to the California Department of Fish and Game (DFG) Carlsbad Highlands Ecological Reserve on the North, East, and South. An un-named ephemeral tributary to Calavera Creek enters the northeastern portion of the project site from the Carlsbad Highlands Ecological Reserve, passing through the near center of the project. This un-named ephemeral tributary to Calavera Creek continues westerly, passing through mulefat scrub habitat and a freshwater marsh, then finally draining into Calavera Creek. Calavera Creek and associated riparian woodland habitats lie along the western boundary of the project. The center reading is Latitude 33.158464° N, Longitude -117.285111° W. Currently, these are

unsectioned lands on USGS Map: San Luis Rey quadrangle, Township 11 South, Range 4 West.

Type of Project: Construction and operation of a new high school

Need for Project: The new high school is to serve the growing residential population of Carlsbad.

Project Description: The Carlsbad Unified School District proposes the High School at College Boulevard and Cannon Road Project (Project), which consists of the construction and operation of a new high school with approximately 140,000 square feet, including classroom buildings that contain a library, administration offices, and food services facilities, a fine arts center, a gymnasium, a pressbox, and a San Diego Gas & Electric building. The Project also includes other amenities such as a turf-covered football stadium with track, a baseball field, a softball field, tennis and basketball courts, four parking lots with approximately 790 spaces, associated driveways, and a student drop-off area. The Project contains less than 50 acres of impervious surface within a 55.6-acre site, located in the City of Carlsbad in northwestern San Diego County.

The project would significantly alter the existing un-named ephemeral tributary to Calavera Creek by re-aligning and filling 489 linear feet of unvegetated ephemeral streambed, 89 linear feet of an ephemeral mulefat scrub, and 128 linear feet of freshwater wetland. The natural waterbody would be eliminated, and the planned hydraulic connection between Carlsbad Highlands Ecological Reserve and Calavera Creek would be constructed as a standard BMP (BMP-10 Vegetated Swale). In addition, stormwater runoff from the project site will be directed away from standard BMP-10 Vegetated Swale and instead directed to a Bioretention Swale (BMP-11).

<u>Proposed Drainage System</u>
The project includes stormwater LID features and structures which connect to an outlet point located at the northwest corner of College Boulevard and Cannon Road at the southwest corner of the project site. The outlet system consists of one 12-inch pipe and a 40-foot wide overflow spillway weir. During a storm

	event, stormwater runoff will pond to a depth of 6-inches then enter a 24-inch catch basin and discharge toward Calavera Creek through the 12-inch pipe and along the overflow spillway. The subdrain will connect to this 12-inch storm drain pipe at a cleanout. The 12-inch pipe will connect to the headwall of an existing box culvert in Calavera Creek. In case of a 100-year storm event the bioretention area will overflow at a spillway weir and will drain within 72 hours. Stormwater runoff from the upper parking lots will be directed through a series of storm drain pipes to BMP filters to the proposed storm drain system in the extension of Cannon Road. Stormwater from the public extension of Cannon Road will be treated through vegetated swales on either side of the roadway before being collected into the public storm drain system.
Federal Agency/Permit:	U.S. Army Corps of Engineers, section 404 Permit, NWP 39, Applied August 24, 2009, Status pending Theresa Stevens, 805 585-2146, Theresa.stevens@usace.army.mil
Other Required Regulatory Approvals:	U.S. Fish and Wildlife Service, section 7 consultation, Janet Stuckrath, (760) 431-9440 ext. 270, Janet_Stuckrath@fws.gov California Department of Fish and Game, 1602 Streambed Alteration Agreement, Applied April 3, 2009, Notification No. 1600-2009-0094-R5 Tamara Spear, 858 467-4223, tspear@dfg.ca.gov
Receiving Water:	A tributary to Calavera Creek, and also Calavera Creek, which are tributary to Agua Hedionda Creek and Agua Hedionda Lagoon. The project lies within Los Monos Hydrologic Sub Area (HSA) 904.31, which is in the Agua Hedionda Hydrologic Area (904.3), Carlsbad Hydrologic Unit (904).
Affected Waters of the United States and State:	Permanent impacts: Wetland - (freshwater marsh) within an unnamed tributary to Calavera Creek (904.31) 0.07 acre (39 linear feet);

	Streambed - (mulefat scrub) within an unnamed tributary to Calavera Creek (904.31), 0.10 acre (89 linear feet); - (ephemeral streambed) within an unnamed tributary to Calavera Creek (904.31), 0.02 acre (489 linear feet). <u>Temporary impacts</u>: - None
Dredge Volume:	Approximately 257 cubic yards of fill would be placed in waters of the U.S.
Related Projects Implemented/to be Implemented by the Applicant(s):	Proposed future expansion of the high school to include a performing arts building and additional teaching stations.
Compensatory Mitigation:	Mitigation for permanent discharges to 0.19 acre (617-linear feet) of wetland has been achieved at a 1:1 ratio, by the purchase of 0.19-acre of CDFG Wetland Creation/Restoration Credits (credit) from the North County Habitat Bank located in the City of Carlsbad, south of Palomar Airport Road between Armada Drive and Hidden Valley Road. The North County Habitat Bank located in the City of Carlsbad, south of Palomar Airport Road between Armada Drive and Hidden Valley. Latitude 33.121661° N, Longitude -117.310998° W. (Encinas Creek). The Mitigation Bank/In-Lieu Fee Operator is Westmark Development Corporation, c/o McCollum Associates. Office address of Operator is 10196 Clover Ranch Drive, Sacramento, CA 95829. Phone number is (916) 688-2040.

Best Management Practices (BMPs):

Standard BMPs include the following: Minimize impervious areas (BMP-1); Disconnect discharges (BMP-2); Conserve natural areas (BMP-3); Stenciling inlets and signage (BMP-4); Landscape design (BMP-5); Water efficient irrigation (BMP-6); Protect slopes and channels (BMP-7); Trash receptacles (BMP-8); and Material storage areas (BMP-9).

Treatment Control BMPs include the following: Vegetated Swale (BMP-10); Bioretention area (BMP-11); Higher rate media filters (BMP-12); Bioclean filter insert (BMP-13); and Velocity dissipation devices (BMP-14).

Low Impact Design (L.I.D.) BMPs include the following: Bioretention strip (BMP-15); Roof runoff controls (BMP-16); and Pervious concrete ribbon gutter (BMP-17). (See August 2010 *Storm Water Management Plan*, Post Construction BMP Site Plan for placement of BMPs).

Source control measures include permanent and operational source control BMPs as listed in the August 2010 *Storm Water Management Plan*, Table 3-1, entitled, "*Source Control BMPs Permanent and Operational.*"

Construction BMPs include the following: Scheduling (SS-1); Preservation of existing vegetation (SS-2); Hydraulic mulch (SS-3); Hydroseeding (SS-4); Straw Mulch (SS-6); Geotextiles, mats, plastic covers and erosion control blankets (SS-7); Wood mulching (SS-8); Silt fence (SC-1); Fiber rolls (SC-5); Gravel bag berm (SC-6); Street sweeping and vacuuming (SC-7); Storm drain inlet protection (SC-10); Sandbag barrier (SC-8); Wind erosion control (WE-1); Stabilized construction entrance/exit (TC-1); Illicit connection/ illegal discharge detection and reporting (NS-6); Potable water/ irrigation (NS-7); Vehicle and equipment cleaning (NS-8); Vehicle and equipment fueling (NS-9); Vehicle and equipment maintenance (NS-10); Concrete curing (NS-12); Material delivery and storage (WM-1); Material use (WM-2); Stockpile management (WM-3);

Spill prevention and control (WM-4); Solid waste management (WM-5); Hazardous waste management (WM-6); Contaminated soil management (WM-7); Concrete waste management (WM-8); and Sanitary/septic waste management (WM-9).

Documents Relied Upon:

401 application provided on 9/8/2009 by Walter Freeman, Carlsbad Unified School District.

San Diego Water Board Incomplete letters (dated 9/30/2009, 10/08/2009, and 11/16/2010)

Supplemental information dated 10/20/2009 paperless office (PO)#81307, 10/26/2009 PO#078092, 3/12/2010 PO#89094, 4/12/2010 PO#102077, 4/16/2010 (emails provided on CD ref 8/16/2010), 4/19/2010 PO#102538 and PO#092546, 4/21/2010 PO#102976, 5/28/10 PO#104980, 6/23/10 PO#108896, and 8/31/2010 PO#102976.

Email dated March 12, 2010 at 3:23 PM from Shelby Howard (Applicant Representative) regarding Carlsbad High School – Response to request for additional information (744515-lpardy) (emails provided on CD ref 8/16/2010).

San Diego Water Board Complete letter (3/22/2010)

Email dated April 16, 2010 10:48AM from Shelby Howard (Applicant Representative) regarding Carlsbad HS - Recirculated EIR (email provided on CD ref 8/16/2010)

Email dated April 16, 2010 at 2:29 PM from Shelby Howard (Applicant Representative) regarding Carlsbad High School at College and Cannon (File No. 09C-068, Place ID #744515) – Compensatory Mitigation and attachment entitled, "HELIX updates to Application #09-068 (Section 4) Carlsbad High School at College and Cannon." (sic #09C-068) (email provided on CD ref 8/16/2010)

Email dated April 20, 2010 at 2:06 PM from Shelby Howard regarding Carlsbad HS – Recirculated EIR Question about mulefat scrub acreage (email provided on CD ref 8/16/2010)

San Diego Water Board Denial Without Prejudice (5/5/2010)

July 14, 2010 Compensatory Mitigation letter, prepared by Helix Environmental Planning, Inc.

August 2010 Storm Water Management Plan SWMP, prepared by Flores Lund Consultants - ref on 8-16-10 CD provided by Regional Board.

August 5, 2010 Hydromodification Feasibility prepared by Carlsbad Unified School District

July 2010 Storm Water Management Plan SWMP prepared by Flores Lund Consultants - ref on Flores Lund 9-1-10 CD as C0742-SWMP-report.pdf

July 2010 Hydrology and Drainage Basin Calculations prepared by Flores Lund Consultants – ref on Flores Lund 9-1-10 CD as C0742-Hydrology Report.pdf

Drainage area summary prepared by Flores Lund Consultants – ref on Flores Lund 9-1-10 CD as C0742-DRAINAGE AREA SUMMARY.pdf

Water Balance Calculation prepared by Flores Lund Consultants – ref on Flores Lund CD as Copy of College and Cannon Water Balance Calcs_1.xls and water balance calc-cover sheet.pdf

Map of proposed conditions prepared by Flores Lund Consultants - ref on Flores Lund 9-1-10 CD as C0742 PROPOSED CONDITIONS.pdf (included in the August 2010 SWMP)

Map of Post Construction BMPs prepared by Flores Lund Consultants - ref on Flores Lund 9-1-10 CD as C0742 POST CONST BMP SITE PLAN.pdf (included in the August 2010 SWMP)

Map of Existing Conditions prepared by Flores Lund Consultants - ref on Flores Lund 9-1-10 CD as C0742 EXISTING CONDITIONS.pdf

Spreadsheets for drainage areas A-I prepared by Flores Lund Consultants – ref on Flores Lund 9-1-10 CD as C0742 11, 12, 14, and 14 Drainage Area Flow A-I (4 separate pdf files)

Conditional Letter of Map Revision Request for the High School at College and Cannon June 2010 – ref on Flores Lund 9-1-10 CD as Basin BJB CLOMR.pdf

Swale Adjacent to street pdf (revised map included in August 2010 SWMP)

Scan pdf of vegetated swale on south end of project site. (revised map included in August 2010 SWMP)

ScourStop design methodology Quick Reference Chart

August 13, 2010 Lyle Engineering Memorandum to Erin Sweeney, Flores Lund Consultants RE:Carlsbad High School – Hydraulic Study of Bioretention Overflow Spill

Rick Engineering Training Notes on Bioretention Design – ref on 9-1-10 Flores Lund CD as img-7210339-0001.pdf

County of San Diego Fact Sheet 17 Curb Cuts – ref on 9-1-10 Flores Lund CD as img-6070630-0001.pdf

County of San Diego LID Appendix swale system design– ref on 9-1-10 Flores Lund CD as img-6070630-0001(1).pdf

Carlsbad SUSMP Chapter 2 – ref on 9-1-10 Flores Lund CD as EngStandsw-stds-vol4-ch2.pdf

Public Notice: December 10, 2009 on the San Diego Water Board website. Public comments were received and considered.

Fees: Total Due: $4,589.00
Total Paid: $4,589.00, as follows:
08/09/2009 $640.00 (Check No. 12-671334)
10/16/2009 $3,949.00 (Check No. 12-694060)

CIWQS:

Regulatory Measure ID: 371048
Place ID: 744515
Party ID: 7833
Person ID: 519286

ATTACHMENT 2
DISTRIBUTION LIST

cc: via email

Mr. Walter Freeman
Carlsbad Unified School District
WFreeman@carlsbadusd.net

Shelby Howard
Helix Environmental Planning, Inc.
shelbyh@helixepi.com

Tecla Levy
City of Carlsbad
Tecla.Levy@carlsbadca.gov

Theresa Stevens
U.S. Army Corps of Engineers, Regulatory Branch
Theresa.Stevens@usace.army.mil

Janet Stuckrath
U.S. Department of the Interior
U.S. Fish and Wildlife Service
Janet Stuckrath@fws.gov

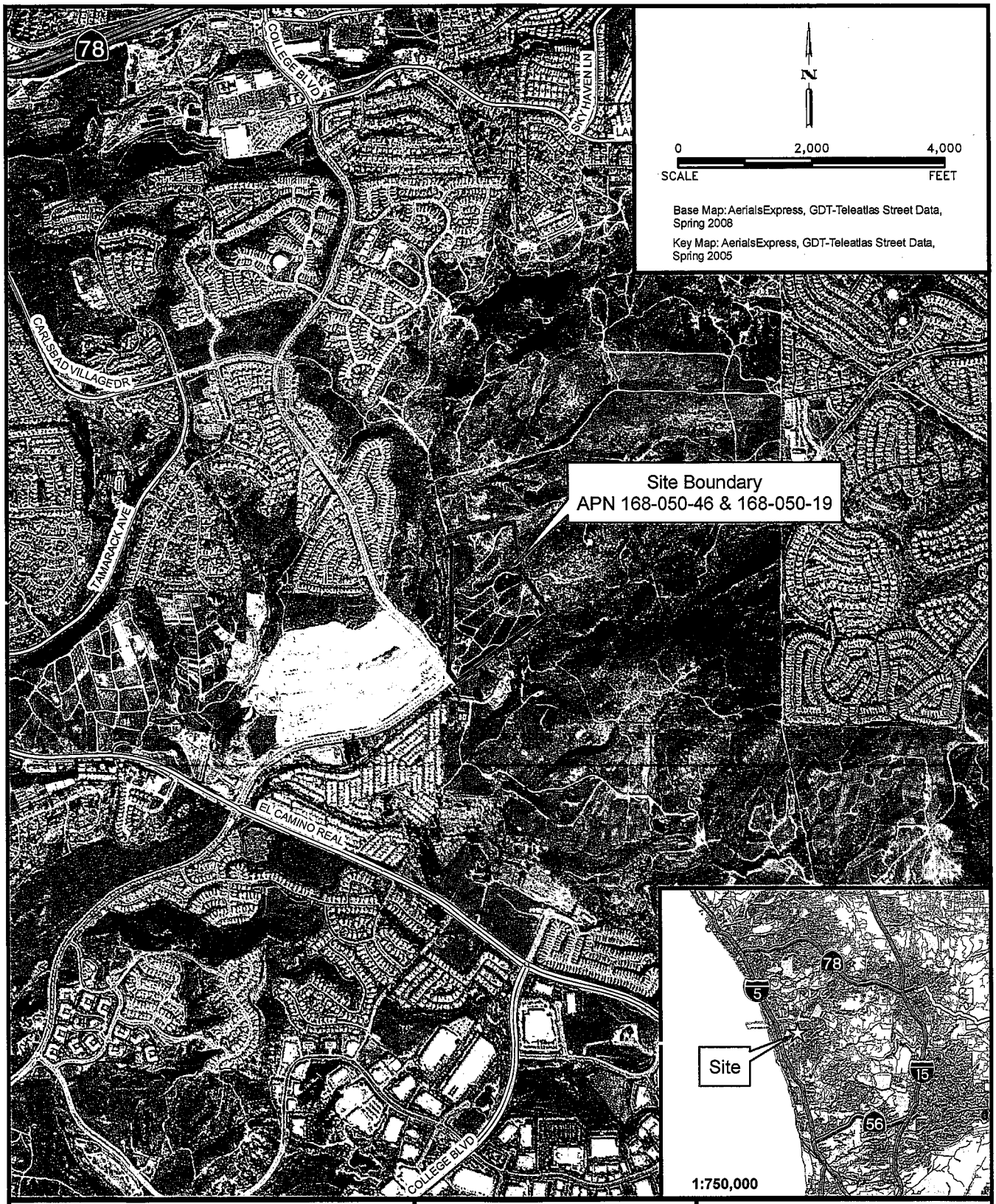
David Smith
Wetlands Regulatory Office
U.S. Environmental Protection Agency, Region 9
R9-WTR8-Mailbox@epa.gov

Bill Orme
State Water Resources Control Board,
Division of Water Quality
401 Water Quality Certification and Wetlands Unit
Stateboard401@waterboards.ca.gov

S. Wayne Rosenbaum
Foley & Lardner LLP
402 W. Broadway, Suite 2100
San Diego, CA 92101-3542
SRosenbaum@foley.com

Tech Staff Info & Use	
File No.	09C-068
WDID	9000001965
Reg. Meas. ID	371048
Place ID	744515
Party ID	7833
Person ID	519286

Attachment 3. Location Map - Aerial



Carlsbad Unified School District
Proposed High School at College and Cannon
College Boulevard and Cannon Road
Carlsbad, California

SITE LOCATION MAP

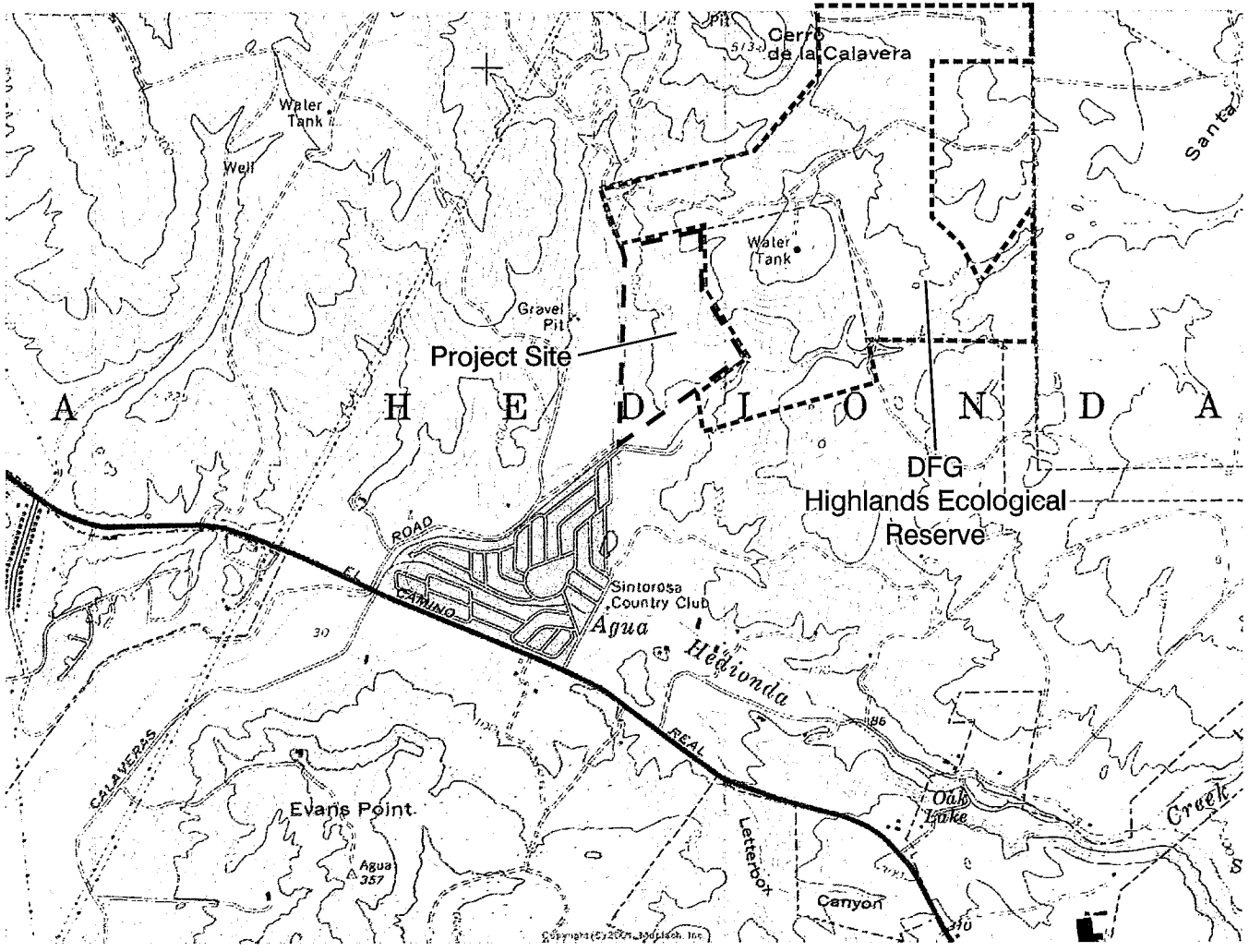
Project No.
601579-004

Date
May 2009

Figure 1

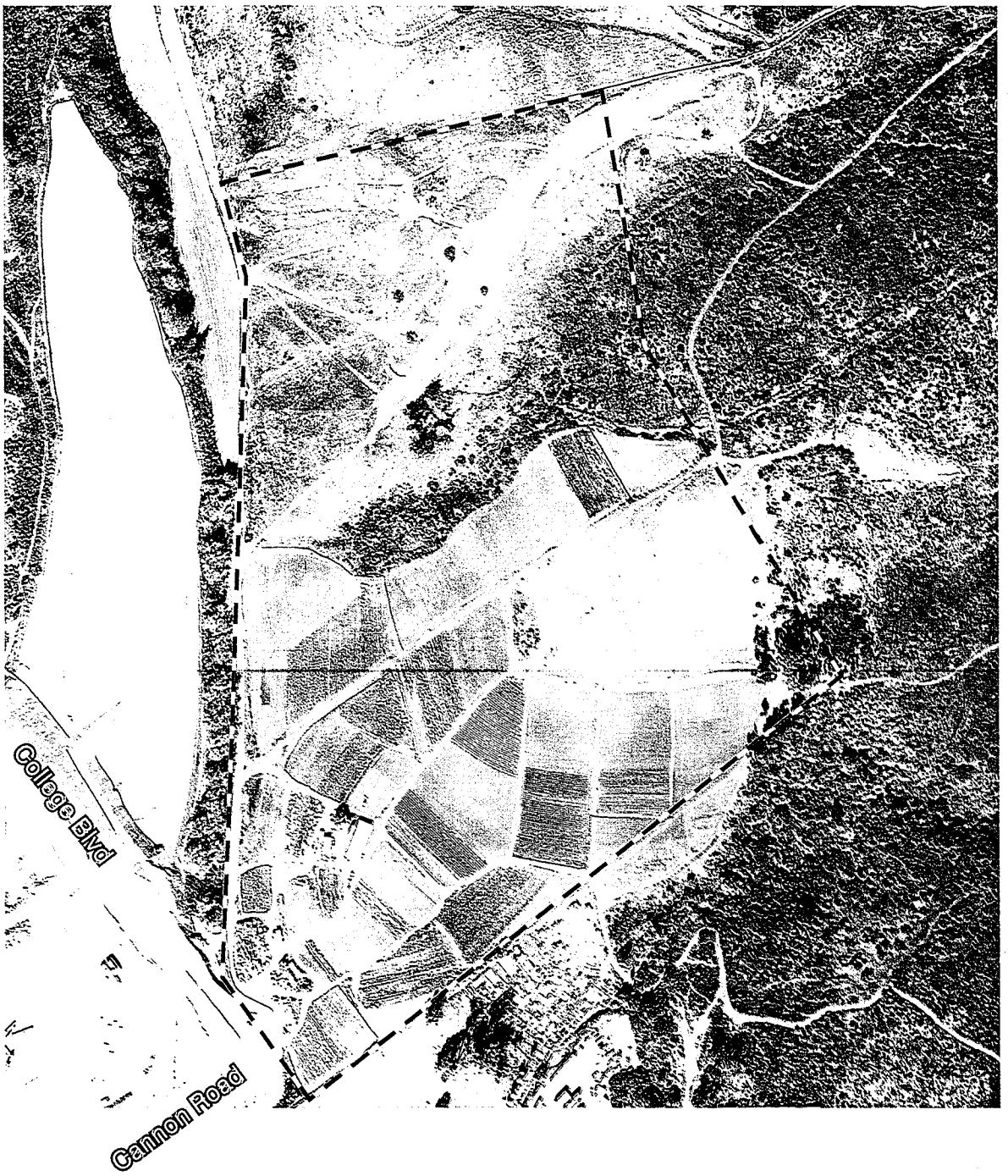
\\GIS\Administration\ArcGISTemplates\NEW_GDT_SiteLocationMap.mxd

Topographic Map



Source: USGS 7.5 Series San Luis Rey Quadrangle

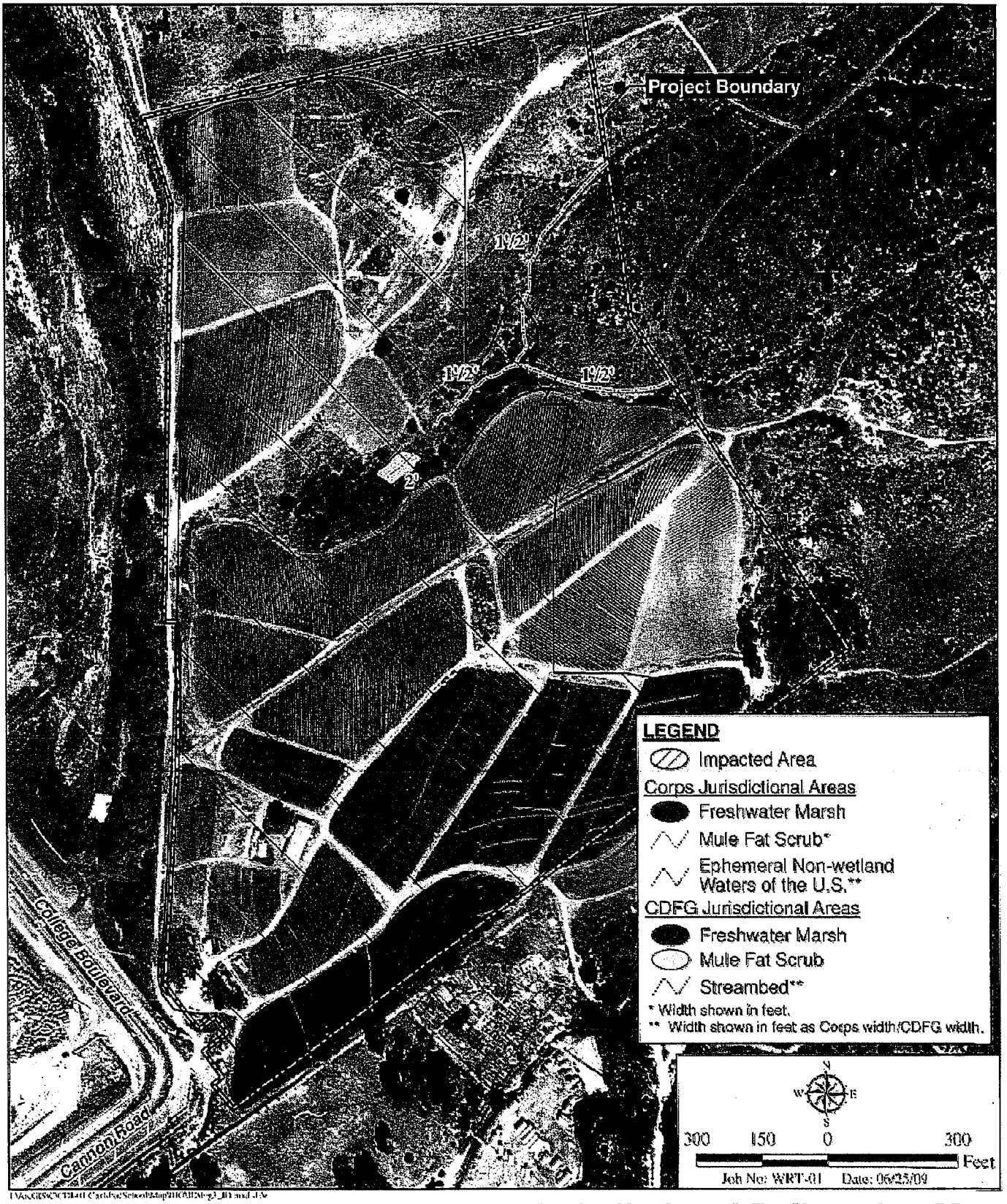
Aerial Photograph



— — Site Boundary

0 600
Scale (Feet)

Source: Google Earth Pro 2007



Jurisdictional Delineation Map

CARLSBAD HIGH SCHOOL

HELIX

Figure 3

ATTACHMENT 6
STREAM PHOTO DOCUMENTATION PROCEDURES

Standard Operating Procedure (SOP)

Stream Photo Documentation Procedure
(CARCD 2001, Written by TAC Visual Assessments work group)

Introduction:

Photographs provide a qualitative, and potentially semi-quantitative, record of conditions in a watershed or on a water body. Photographs can be used to document general conditions on a reach of a stream during a stream walk, pollution events or other impacts, assess resource conditions over time, or can be used to document temporal progress for restoration efforts or other projects designed to benefit water quality. Photographic technology is available to anyone and it does not require a large degree of training or expensive equipment. Photos can be used in reports, presentations, or uploaded onto a computer website or GIS program. This approach is useful in providing a visual portrait of water resources to those who may never have the opportunity to actually visit a monitoring site.

Equipment:

Use the same camera to the extent possible for each photo throughout the duration of the project. Either 35 mm color or digital color cameras are recommended, accompanied by a telephoto lens. If you must change cameras during the program, replace the original camera with a similar one comparable in terms of media (digital vs. 35 mm) and other characteristics. A complete equipment list is suggested as follows:

<u>Required:</u>

- Camera and backup camera
- Folder with copies of previous photos (do not carry original photos in the field)
- Topographic and/or road map
- Aerial photos if available
- Compass
- Timepiece
- Extra film or digital disk capacity (whichever is applicable)
- Extra batteries for camera (if applicable)
- Photo-log data sheets or, alternatively, a bound notebook dedicated to the project
- Yellow photo sign form and black marker, or, alternatively, a small black board and chalk

Optional:
- GPS unit
- Stadia rod (for scale on landscape shots)
- Ruler (for scale on close up views of streams and vegetation)
- Steel fence posts for dedicating fixed photo points in the absence of available fixed landmarks

How to Access Aerial Photographs:

Aerial Photos can be obtained from the following federal agencies:

USGS Earth Science Information Center
507 National Center
12201 Sunrise Valley Drive
Reston, VA 22092
800-USA-MAPS

USDA Consolidated Farm Service Agencies
Aerial Photography Field Office
222 West 2300 South
P.O. Box 30010
Salt Lake City, UT 84103-0010
801-524-5856

Cartographic and Architectural Branch
National Archives and Records Administration
8601 Adelphi Road
College park, MD 20740-6001
301-713-7040

Roles and Duties of Team:

The team should be comprised of a minimum of two people, and preferably three people for restoration or other water quality improvement projects, as follows:
1. Primary Photographer
2. Subject, target for centering the photo and providing scale
3. Person responsible for determining geographic position and holding the photo sign forms or blackboard.

One of these people is also responsible for taking field notes to describe and record photos and photo points.

Safety Concerns:

Persons involved in photo monitoring should **ALWAYS** put safety first. For safety reasons, always have at least two 2 volunteers for the survey. Make sure that the area(s) you are surveying either are accessible to the public or that you have obtained permission from the landowner prior to the survey.

Some safety concerns that may be encountered during the survey include, but are not limited to:

- Inclement weather
- Flood conditions, fast flowing water, or very cold water
- Poisonous plants (e.g.: poison oak)
- Dangerous insects and animals (e.g.: bees, rattlesnakes, range animals such as cattle, etc.)
- Harmful or hazardous trash (e.g.: broken glass, hypodermic needles, human feces)

We recommend that the volunteer coordinator or leader discuss the potential hazards with all volunteers prior to any fieldwork.

General Instructions:

From the inception of any photo documentation project until it is completed, always take each photo from the same position (photo point), and at the same bearing and vertical angle at that photo point. Photo point positions should be thoroughly documented, including photographs taken of the photo point. Refer to copies of previous photos when arriving at the photo point. Try to maintain a level (horizontal) camera view unless the terrain is sloped. (If the photo can not be horizontal due to the slope, then record the angle for that photo.) When photo points are first being selected, consider the type of project (meadow or stream restoration, vegetation management for fire control, ambient or event monitoring as part of a stream walk, etc.) and refer to the guidance listed on *Suggestions for Photo Points by Type of Project.*

When taking photographs, try to include landscape features that are unlikely to change over several years (buildings, other structures, and landscape features such as peaks, rock outcrops, large trees, etc.) so that repeat photos will be easy to position. Lighting is, of course, a key ingredient so give consideration to the angle of light, cloud cover, background, shadows, and contrasts. Close view photographs taken from the north (i.e., facing south) will minimize shadows. Medium and long view photos are best shot with the sun at the photographer's back. Some artistic expression is encouraged as some photos may be used on websites and in slide shows (early morning and late evening shots may be useful for this purpose). Seasonal changes can be used to advantage as foliage, stream flow, cloud cover, and site access fluctuate. It is often important to

include a ruler, stadia rod, person, farm animal, or automobile in photos to convey the scale of the image. Of particular concern is the angle from which the photo is taken. Oftentimes an overhead or elevated shot from a bridge, cliff, peak, tree, etc. will be instrumental in conveying the full dimensions of the project. Of most importance overall, however, is being aware of the goal(s) of the project and capturing images that clearly demonstrate progress towards achieving those goal(s). Again, reference to *Suggestions for Photo Points by Type of Project* may be helpful.

If possible, try to include a black board or yellow photo sign in the view, marked at a minimum with the location, subject, time and date of the photograph. A blank photo sign form is included in this document.

Recording Information:

Use a systematic method of recording information about each project, photo point, and photo. The following information should be entered on the photo-log forms (blank form included in this document) or in a dedicated notebook:

- Project or group name, and contract number (if applicable, e.g., for funded restoration projects)
- General location (stream, beach, city, etc.), and short narrative description of project's habitat type, goals, etc.
- Photographer and other team members
- Photo number
- Date
- Time (for each photograph)
- Photo point information, including:
    - Name or other unique identifier (abbreviated name and/or ID number)
    - Narrative description of location including proximity to and direction from notable landscape features like roads, fence lines, creeks, rock outcrops, large trees, buildings, previous photo points, etc. – sufficient for future photographers who have never visited the project to locate the photo point
    - Latitude, longitude, and altitude from map or GPS unit
- Magnetic compass bearing from the photo point to the subject
- Specific information about the subject of the photo
- Optional additional information: a true compass bearing (corrected for declination) from photo point to subject, time of sunrise and sunset (check newspaper or almanac), and cloud cover.

For ambient monitoring, the stream and shore walk form should be attached or referenced in the photo-log.

When monitoring the implementation of restoration, fuel reduction, or Best Management Practices (BMP) projects, include or attach to the photo-log a narrative description of observable progress in achieving the goals of the project. Provide supplementary information along with the photo, such as noticeable changes in habitat, wildlife, and water quality and quantity.

Archive all photos, along with the associated photo-log information, in a protected environment.

The Photo Point: Establishing Position of Photographer:

1. Have available a variety of methods for establishing position: maps, aerial photos, GPS, permanent markers and landmarks, etc. If the primary method fails (e.g., a GPS or lost marker post) then have an alternate method (map, aerial photo, copy of an original photograph of the photo-point, etc).

2. Select an existing structure or landmark (mailbox, telephone pole, benchmark, large rock, etc.), identify its latitude and longitude, and choose (and record for future use) the permanent position of the photographer relative to that landmark. Alternatively, choose the procedure described in *Monitoring California's Annual Rangeland Vegetation* (UC/DANR Leaflet 21486, Dec. 1990). This procedure involves placing a permanently marked steel fence post to establish the position of the photographer.

3. For restoration, fuel reduction, and BMP projects, photograph the photo-points and carry copies of those photographs on subsequent field visits.

Determining the Compass Bearing:

1. Select and record the permanent magnetic bearing of the photo center view. You can also record the true compass bearing (corrected for declination) but do not substitute this for the magnetic bearing. Include a prominent landmark in a set position within the view. If possible, have an assistant stand at a fixed distance from both the photographer and the center of the view, holding a stadia rod if available, within the view of the camera; preferably position the stadia rod on one established, consistent side of the view for each photo (right or left side).
2. Alternatively, use the procedure described in *Monitoring California's Annual Rangeland Vegetation* (UC/DANR Leaflet 21486, Dec. 1990). This procedure involves placing a permanently marked steel fence post to establish the position of the focal point (photo center).
3. When performing ambient or event photo monitoring, and when a compass is not available, then refer to a map and record the approximate bearing as north, south, east or west.

Suggestions for Photo Points by Type of Project:

Ambient or Event Monitoring, Including Photography Associated with Narrative Visual Assessments:

1. When first beginning an ambient monitoring program take representative long and/or medium view photos of stream reaches and segments of shoreline being monitored. Show the positions of these photos on a map, preferably on the stream/shore walk form. Subjects to be photographed include a representative view of the stream or shore condition at the beginning and ending positions of the segment being monitored, storm drain outfalls, confluence of tributaries, structures (e.g., bridges, dams, pipelines, etc.).

2. If possible, take a close view photograph of the substrate (streambed), algae, or submerged aquatic vegetation.

3. Time series: Photographs of these subjects at the same photo points should be repeated annually during the same season or month if possible.

4. Event monitoring refers to any unusual or sporadic conditions encountered during a stream or shore walk, such as trash dumps, turbidity events, oil spills, etc. Photograph and record information on your photo-log and on your Stream and Shore Walk Visual Assessment form. Report pollution events to the Regional Board. Report trash dumps to local authorities.

All Restoration and Fuel Reduction Projects – Time Series:

Take photos immediately before and after construction, planting, or vegetation removal. Long term monitoring should allow for at least annual photography for a minimum of three years after the project, and thereafter at 5 years and ten years.

Meadow Restoration:

1. Aerial view (satellite or airplane photography) if available.

2. In the absence of an aerial view, a landscape, long view showing an overlapping sequence of photos illustrating a long reach of stream and meadow (satellite photos, or hill close by, fly-over, etc.)

3. Long view up or down the longitudinal dimension of the creek showing riparian vegetation growth bounded on each side by grasses, sedges, or whatever that is lower in height

4. Long view of conversion of sage and other upland species back to meadow vegetation

5. Long view and medium view of streambed changes (straightened back to meandering, sediment back to gravel, etc.)

6. Medium and close views of structures, plantings, etc. intended to induce these changes

Stream Restoration/stabilization:

1. Aerial view (satellite or airplane photography) if available.

2. In the absence of an aerial view, a landscape, long-view showing all or representative sections of the project (bluff, bridge, etc.)

3. Long view up or down the stream (from stream level) showing changes in the stream bank, vegetation, etc.

4. Long view and medium view of streambed changes (thalweg, gravel, meanders, etc.)

5. Medium and close views of structures, plantings, etc. intended to induce these changes.

6. Optional: Use a tape set perpendicular across the stream channel at fixed points and include this tape in your photos described in 3 and 4 above. For specific procedures refer to Harrelson, Cheryl C., C.L. Rawlins, and John P. Potyondy, *Stream Channel Reference Sites: An Illustrated Guide to Field Techniques*, United States Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, General Technical Report RM-245.

Vegetation Management for Fire Prevention ("fuel reduction"):

1. Aerial view (satellite or airplane photography) if available.

2. In the absence of an aerial view, a landscape, long view showing all or representative sections of the project (bluff, bridge, etc.)

3. Long view (wide angle if possible) showing the project area or areas. Preferably these long views should be from an elevated vantage point.

4. Medium view photos showing examples of vegetation changes, and plantings if included in the project. It is recommended that a person (preferably holding a stadia rod) be included in the view for scale.

5. To the extent possible include medium and long view photos that include adjacent stream channels.

Stream Sediment Load or Erosion Monitoring:

1. Long views from bridge or other elevated position.

2. Medium views of bars and banks, with a person (preferably holding a stadia rod) in view for scale.

3. Close views of streambed with ruler or other common object in the view for scale.

4. Time series: Photograph during the dry season (low flow) once per year or after a significant flood event when streambed is visible. The flood events may be episodic in the south and seasonal in the north.

5. Optional: Use a tape set perpendicular across the stream channel at fixed points and include this tape in your photos described in 1 and 2 above. For specific procedures refer to Harrelson, Cheryl C., C.L. Rawlins, and John P. Potyondy, *Stream Channel Reference Sites: An Illustrated Guide to Field Techniques*, United States Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, General Technical Report RM-245.

PHOTO- LOG FORM

Project:
Location:
Date:
Photographer:
Team members:

Photo #	Time	Photo Point ID	Photo Pt. Description & Location	Bearing to Subject	Subject Description

General Notes or Comments (weather, cloud cover, time of sunrise and sunset, other pertinent information):

PHOTO SIGN FORM: Print this form on yellow paper. Complete the following information for each photograph. Include in the photographic view so that it will be legible in the finished photo.

Location:

Subject Description:

Date:

Time:

North County Habitat Bank Credit Sales Ledger, Exhibit F-2 to the BEI
May 18, 2010

Project Title	*Project Proponent*	*Date Sold*	*USACE Wetland Creation-Restoration Credits Sold*	*Remaining*	*CDFG Wetland Creation-Restoration Credits Sold*	*Remaining*	*USACE Riparian Enhancement Credits Sold*	*Remaining*	*CDFG Riparian Enhancement Credits Sold*	*Remaining*	*Upland Preservation Credits Sold/Remaining*	*CDFG SAA#*	*USACE Permit #*	RWQCB
			0/4.78	**4.78**	**0/6.07**	**6.07**	**0/2.80**	**2.8**	**0/6.78**	**6.78**	**0/2.84**			
ORIX Industrial Park	ORIX Real Estate Capital, Inc.	6/14/2007	0.55	4.23	0.55	5.52	0.061	2.740	0.061	6.720	0/2.84		TBD	
La Costa Town Square	La Costa Town Square, LLC	5/29/2007	0.15	4.08	0.15	5.37	0.017	2.723	0.017	6.703	0/2.84		TBD	
4S Pipeline Repair	Olivenhain Municipal Water District	11/30/2006	0	4.08	0	5.37	0.122	2.601	0.122	6.581	0/2.84	TBD	404 NWP 12 #200500011-LAI	
Quarry Creek	Hanson Aggregates	5/29/2007	0	4.08	0	5.37	0.000	2.601	0.000	6.581	1.93/0.91	Default 12/29/04	N/A	
Laurel Creek	Hall Land Company, Inc.	6/8/2007	0.44	3.64	0.44	4.93	0.048	2.553	0.048	6.533	0/0.91	N/A	2006-00802-SMJ	WPC:18-2006019:MPORT
Poinsettia Place	Sierra Linda Development Company/Poinsettia Place	7/27/2007	0	3.64	0.2	4.73	0.000	2.553	0.022	6.511	0/0.91	1600-2006-0077-R5	N/A	
Agua Hedionda Lagoon	City of Carlsbad	7/27/2007	0.48	3.16	0.48	4.25	0.053	2.500	0.053	6.458	0/0.91	1600-2006-0060-R5	200600151-KJC	06C-007
Country Estates	Joseph and Donna Jaoudi	9/12/2007	0	3.16	0	4.25	0.200	2.300	0.200	6.258	0/0.91	TBD	TBD	
El Camino Executive Cntr	Hawkes O-Side I, LLC	9/11/2007	0.02	3.14	0.02	4.23	0.002	2.298	0.002	6.256	0/0.91	TBD	SPL-2007-397-TCD	WPC-18-2007033 Porter
TET Correction	TET correction	11/28/2007	0	3.14	0	4.23	0.000	2.298	1.550	4.706	0/0.91	N/A	N/A	N/A
La Costa Town Square	La Costa Town Square, LLC	1/7/2008	0.27	2.87	0.27	3.96	0.000	2.298	0.000	4.706	0/0.91	N/A	TBD	
CSU San Marcos	Ca. State University	3/28/2008	0.017	2.853	0.017	3.943	0.000	2.298	0.000	4.706	0/0.91	TBD	N/A	WPC:07C-116:bjames
Oceanside Marketplace	Oceanside Marketplace and Business Park, LLC	4/4/2008	0	2.853	0	3.943	0.000	2.298	0.010	4.696	0/0.91	1600-2007-0493-R5	TBD	07C-116
Upland credit correction	Easement correction	4/5/2008	0	2.853	0	3.943	0.000	2.298	0.000	4.696	0.07/0.84	1600-2007-0392-R5	N/A	N/A
SDGE 5393 Access Rd	SDGE	5/27/2008	0.027	2.826	0.027	3.916	0.000	2.298	0.000	4.696	0.00/0.84	N/A	200601033-KJC	06C-026
Garner Property	North Coast Equestrian Park, LLC	6/1/2008	0	2.826	0	3.916	0.000	2.298	0.050	4.646	0/0.84	TBD	N/A	
Target Vista South	Target Corporation	6/4/2008	0.2	2.626	0.2	3.716	0.000	2.298	0.000	4.646	0/0.84	1600-2007-0062	2007-1390-RRS	07C-108
Various Projects	SDGE	5/27/2008	0.006	2.62	0.006	3.71	0.000	2.298	0.000	4.646	0.00/0.84	1600-2007-0497-R5	TBD	
Agua Hedionda Lagoon	City of Carlsbad	12/24/2009	0.02	2.6	0.02	3.69	1.138	1.160	3.560	1.086	0.00/0.84	1600-2006-0060-R5	200600151-KJC	06C-007
Various Projects-not used	City of Carlsbad	7/27/2007	1.65	0.95	1.65	2.04	0.000	1.160	0.000	1.086	0/0.84		TBD	
San Elijo Road	City of San Marcos	2/2/2010	0.6	0.35	0.6	1.44	0	1.16	0	1.086	0/0.84	R5-2003 0184	200301116 SMJ	03C 067
El Camino Real	City of Carlsbad	4/13/2010	0.03	0.32	0.07	1.37	0.030	1.130	0.030	1.056	0.00/0.84	2008-0365-R5	N/A	08C-074

Carlsbad High School	Carlsbad School Distr	3/25/2010	0.09	0.23	0.19	1.18	0.000	1.130	0.000	1.056	0.00/0.84	2009-0094-R5	2009-00354-TS	09C-068
San Elijo Road	City of San Marcos	5/10/2010	0.1	0.13	0.1	1.08	0	1.130	0	1.056	0.00/0.84	TBD	TBD	TBD