California Regional Water Quality Control Board, San Diego Region

September 28, 2012

Certified Mail – Return Receipt Requested
Article Number: 7011 0470 0002 8961 5193

In reply refer to:
764050: amonji

Lance Waite
Integral Communities
2235 Encinitas Blvd, Suite 216
Encinitas, CA 92024

Subject: Action on Request for Clean Water Act Section 401 Water Quality Certification No. 11C-015, the **Palomar Station Planned Smart Growth** Project.

Mr. Waite:

Enclosed find Clean Water Act Section 401 Water Quality Certification (Certification) for the **Palomar Station Planned Smart Growth** Project (Project) discharge to waters of the United States and acknowledgment of enrollment under State Water Resources Control Board Order No. 2003-017-DWQ, *Statewide General Waste Discharge Requirements for Dredged or Fill Discharges that have Received State Water Quality Certification (General WDRs)*. A description and location of the Project can be found in the project information sheet, location map, and site maps which are included as Attachments 1 through 4 of this certification.

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

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

In the subject line of any response, please include the reference number 764050:amonji. For questions or comments, please contact Alan Monji by phone at (858) 637-7140, or by email at amonji@waterboards.ca.gov.

Respectfully,

David W. Gibson,
Executive Officer
San Diego Regional Water Quality Control Board

DG:js:db:kkd:atm

Enclosures:

Clean Water Act Section 401 Water Quality Certification No. **11C-015** for the **Palomar Station Planned Smart Growth** Project, with **4** attachments

cc: Refer to Attachment 2 of Certification **11C-015** for Distribution List.

Tech Staff Info & Use	
File No.	11C-015
WDID	9000002235
Reg. Measure ID	377850
Place ID	764050
Party ID	526150

California Regional Water Quality Control Board, San Diego Region

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

PROJECT: **Palomar Station Planned Smart Growth, Certification Number 11C-015, WDID: 9 000002235**

CIWQS
Reg. Meas. ID: 377850
Place ID: 764050
Party ID: 526150

APPLICANT: **Lance Waite**
Integral Communities
2235 Encinitas Blvd, Suite 216
Encinitas, CA 92024

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 Palomar Station Planned Smart Growth Project (Project) is located on a 14.3 acre site located in the City of San Marcos, San Diego County, California. The Project is located between West Mission Road and State Route 78 and North Los Posas Road and Bingham Drive. The Project site consists of two parcels that are bisected by Armorlite Drive. Integral Solutions proposes a mixed use development site comprised of 370 residential condominium units and 49,000 square feet of commercial retail use which includes 5,000 square feet of restaurants. The Project includes 70,000 square feet of open space that is integrated throughout the Project.

The construction of the Project will permanently impact 1.92 acres (1,038 linear feet) of jurisdictional wetland waters of the United States and/or State which include 0.008 acres of vernal pool habitat. Offsite mitigation to wetland waters of the United States and/or State will be at the Woodward Street mitigation sites in San Marcos. Mitigation will include the enhancement of 0.59 acres (100 linear feet), establishment of 2.00 acres (1,076 linear feet), and preservation of 4.91 acres (600 linear feet) of waters of the United States and/or State. To mitigate for the vernal pool impacts, 4.8 acres of enhancement and 0.03 acres of restoration is proposed at the 4.8 acre Fry's Vernal Pool Preserve site in San Marcos.

The grading is proposed to begin in October 2012 and take approximately two to three months. The construction phase would follow and is expected to take two years to complete. The Project is projected to start operation in January 2015.

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I. STANDARD CONDITIONS

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

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 California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).

B. This Certification action is not intended and must 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.

C. The validity of any non-denial Certification action must be conditioned upon total payment of the full fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.

II. ADDITIONAL CONDITIONS: GENERAL

A. Water Quality Certification No. 11C-015 (Certification) is only valid if the project begins no later than 5 (five) years from the date of issuance. If the project has not begun within 5 years from the date of issuance, then this Certification shall expire 5 years from the date of issuance.

B. Integral Communities must comply with the requirements of State Water Resources Control Board Water Quality Order No. 2003-0017-DWQ, *Statewide General Waste Discharge Requirements for Discharges of Dredged or Fill Material that have Received State Water Quality Certification.* These General Waste Discharge Requirements are accessible at: http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/go_wdr401regulated_projects.pdf.

C. Integral Communities must, at all times, fully comply with the engineering plans, specifications and technical reports submitted to the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), to support this Certification and all subsequent submittals required as part of this Certification and as described in Attachment 1. The conditions within this Certification must supersede conflicting provisions within such plans submitted prior to the Certification action. Any modifications thereto, would require notification to the San Diego Water Board and

reevaluation for individual Waste Discharge Requirements and/or Certification amendment.

D. During construction, Integral Communities must maintain a copy of this Certification at the project site so as to be available at all times to site personnel and agencies.

E. Integral Communities must permit the San Diego Water Board or its authorized representative at all times, upon presentation of credentials:

1. Entry onto project premises, including all areas on which wetland fill or wetland mitigation is located or in which records are kept.

2. Access to copy any records required to be kept under the terms and conditions of this Certification.

3. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Certification.

4. Sampling of any discharge or surface water covered by this Certification.

F. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation must be subject to any remedies, penalties, process or sanctions as provided for under State law. For purposes of section 401(d) of the Clean Water Act, the applicability of any State law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.

G. In response to a suspected violation of any condition of this Certification, the San Diego Water Board may, pursuant to California Water Code (CWC) sections 13267 and 13383, require the holder of any permit or license subject to this Certification to investigate, monitor, and report information on the violation. The only restriction is that the burden, including costs of preparing the reports, must bear a reasonable relationship to the need for and the benefits to be obtained from the reports.

H. In response to any violation of the conditions of this Certification, or if the results of the Project have unintended impacts to water quality, the San Diego Water Board may modify the conditions of this Certification as appropriate to ensure compliance.

I. To protect rare, threatened, or endangered species Integral Communities must implement all Conservation Measures included in the United States Fish and Wildlife Service Section 7 Consultation.

III. ADDITIONAL CONDITIONS: CONSTRUCTION BEST MANAGEMENT PRACTICES

A. Prior to the start of the Project, and annually thereafter, Integral Communities must educate all personnel on the requirements in this Certification, pollution prevention measures, spill response measures, and Best Management Practices (BMPs) implementation and maintenance.

B. Integral Communities must, at all times, maintain appropriate types and sufficient quantities of materials on-site to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the United States and/or State.

C. Integral Communities must enroll in and comply with the requirements of State Water Resources Control Board Water Quality Order No. 2009-0009-DWQ, the *General Permit for Storm Water Discharges Associated with Construction Activity.*

D. The treatment, storage, and disposal of wastewater during the life of the project must be done in accordance with waste discharge requirements established by the San Diego Water Board pursuant to CWC § 13260.

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

F. Water containing mud, silt, or other pollutants from equipment washing or other activities, must not be discharged to waters of the United States and/or State or placed in locations that may be subjected to storm flows.

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

H. All areas that have 14 or more days of inactivity must be stabilized within 14 days of the last activity. Integral Communities is responsible for implementing and maintaining BMPs to prevent erosion of the rough graded areas. After completion of grading, all areas must be revegetated with native species appropriate for the area. The revegetation palette must not contain any plants listed on the California Invasive Plant Council Invasive Plant Inventory, which can be found online at http://www.cal-ipc.org/ip/inventory/weedlist.php.

I. Substances hazardous to aquatic life including, but not limited to, petroleum products, raw cement/concrete, asphalt, and coating materials, must be prevented from contaminating the soil and/or entering waters of the United States/State. BMPs must be implemented to prevent such discharges during each project activity involving hazardous materials.

J. Removal of vegetation must occur by hand, mechanically, or using United States Environmental Protection Agency (USEPA) approved herbicides deployed using applicable BMPs to prevent impacts to beneficial uses of waters of the State. Use of aquatic pesticides must be done in accordance with State Water Resources Control Board Water Quality Order No. 2004-0009-DWQ, the *Statewide General National Pollution Discharge Elimination System Permit for the Discharge of Aquatic Weed Control in Waters of the United States*, and any subsequent reissuance as applicable. Removal of vegetation must occur outside of the avian nesting season (March 15-August 31).

IV. ADDITIONAL CONDITIONS: POST-CONSTRUCTION BEST MANAGEMENT PRACTICES

A. Integral Communities shall not allow post-construction discharges to cause onsite or offsite downstream erosion, and/or damage to properties or damage to stream habitats from the project site.

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

C. All post-construction BMPs, including those described in the Water Quality Improvement Plan (WQIP) dated July 27, 2012 (and any subsequent versions submitted to the San Diego Water Board), prepared by Lundstrom Engineering and Surveying, must be implemented, installed, and functional prior to construction completion and maintained in perpetuity.

D. Post-construction BMPs, including but not limited to, bioretention areas, pervious concrete, porous pavers, and the StormTech detention system, as described in the WQIP (and any subsequent versions submitted to the San Diego Water Board), must treat 100 percent of the added impervious surface and all must be sized to comply with the following numeric sizing criteria:

1. Volume

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

a. The volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the local historical rainfall record; or

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

2. Flow

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

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

E. For all post-construction BMPs, including but not limited to, bioretention areas, pervious concrete, porous pavers, and the StormTech detention system, as described in the WQIP (and any subsequent versions submitted to the San Diego Water Board), prepared by Lundstrom Engineering and Surveying must comply with the current (as of the issuance date of the this Certification) requirements in *California Regional Water Quality Control Board, San Diego Region Order No. R9-2007-0001, NPDES No. CAS0108758, Waste Discharge Requirements For Discharges Of Urban Runoff From The Municipal Separate Storm Sewer Systems (MS4s) Draining The Watersheds Of The County Of San Diego.*; Integral Communities must:

1. No less than two times per year, assess the performance of the systems on protection of the receiving waters and identify any necessary corrective measures;
2. Have all preventive and corrective maintenance performed;
3. Maintain a log documenting all BMP inspections and maintenance activities.

F. The post construction BMPs must be designed, constructed, and maintained in accordance with the most recent California Stormwater Quality Association guidance. Maintenance activities shall include, but are not limited to:

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

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

V. ADDITIONAL CONDITIONS: COMPENSATORY MITIGATION

A. Mitigation for permanent discharges to 1.92 acres (1,038 linear feet) of waters of the United States and/or State, must be achieved as described in the habitat mitigation and monitoring plan for the *Palomar Station Habitat Mitigation Monitoring Plan,* prepared by Helix Environmental Planning, dated August 15, 2012 (and any subsequent versions reviewed and accepted/approved by the San Diego Water Board) at the tributary to San Marcos Creek on the Woodward Street parcels located in San Marcos, CA. The mitigation must include:

1. The establishment of 2.00 acres (1,076 linear feet) of riparian scrub. The establishment must occur through the removal of trash and non-native vegetation, followed by the establishment of 2.00 acres of riparian scrub in areas currently occupied with non-native grasslands. Grading will be necessary to achieve the hydrological characteristics for establishment of wetland habitat.
2. The enhancement of 0.59 acres (100 linear feet) of cismontane alkali marsh habitat. The enhancement must occur through the removal of non-native species, trash, and debris and the planting of native plant species.
3. The preservation of 4.91 acres (600 linear feet) of existing wetlands. The 4.91 acres shall be comprised of 0.35 acres of southern riparian forest, 3.59 acres of southern willow scrub, 0.80 acres of cismontane alkali marsh, 0.15 acres of freshwater march, and 0.02 acres of streambed habitat.

B. Mitigation for permanent discharges to 0.008 acres of waters of the United States and/or State vernal pool habitat, must be achieved as described in the restoration plan for the *Fry's Vernal Pool Preserve Restoration Plan,* prepared by Helix Environmental Planning, dated August 29, 2012 (and any subsequent versions reviewed and accepted/approved by the San Diego Water Board) at the Fry's Vernal Pool Preserve (Preserve).

The Preserve is a 4.8 acre site located at 150 Bent Avenue in San Marcos, CA. The Preserve has been permanently protected through a recordation of a conservation easement to the City of San Marcos, however, there is currently no long term habitat management plan, no designated permanent habitat manager, and no endowment for management activities.

Restoration activities at the Preserve will include:

1. Removal of weeds, invasive plants, trash, and debris from the 4.8 acre Preserve site.

2. Establishment of three vernal pools (0.03 acres) within the Preserve.

3. Preparation, funding, and implementation of a perpetual long term management, maintenance, and monitoring plan for the Preserve.

C. Prior to the start of construction, the *Fry's Vernal Pool Preserve Restoration Plan* (Restoration Plan) must be reviewed and approved by the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers.

D. Integral Communities shall monitor and maintain the Preserve in accordance with the Restoration Plan and *Fry's Vernal Pool Preserve Habitat Management Plan* (Management Plan).

E. The construction of proposed mitigation must be concurrent with project grading and completed no later than 9 months following the initial discharge of dredge or fill material into on-site waters. Delays in implementing mitigation must be compensated by an increased mitigation implementation of 10 percent of the cumulative compensatory mitigation for each month of delay.

F. Integral Communities must salvage leaf litter, coarse woody debris, and upper soil horizons from impacted jurisdictional water sites that are relatively free of invasive exotic species for use in on-site mitigation areas.

G. Mitigation shall be considered acceptable once it has met the pre-determined success criteria for that site, and shall be maintained, in perpetuity, in a manner that consistently meets the final success criteria identified in the *Palomar Station Habitat Mitigation Monitoring Plan,* prepared by Helix Environmental Planning, dated August 15, 2012 (and any subsequent versions reviewed and accepted/approved by the San Diego Water Board) and the *Fry's Vernal Pool Preserve Restoration Plan,* prepared by Helix Environmental Planning, dated August 29, 2012 (and any subsequent versions reviewed and accepted/approved by the San Diego Water Board).

H. Throughout the mitigation monitoring program, mitigation areas must be maintained 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 on-site or off-site mitigation areas.

I. San Diego Water Board acceptance of the final mitigation plan applies only to the Project described in this Certification and must not be construed as approval for other

current or future projects that are planning to use additional acreage at the site for mitigation.

J. Any maintenance activities that do not contribute to the success of the mitigation site and enhancement of beneficial uses and ecological functions and services are prohibited. Maintenance activities are limited to the removal of trash and debris, removal of exotic plant species, replacement of dead native plant species and remedial measures deemed necessary for the success of the restoration program.

K. If at any time during the implementation and establishment of the mitigation area(s), and prior to verification of meeting success criteria, a catastrophic natural event (e.g., fire, flood) occurs and impacts the mitigation area, Integral Communities is responsible for repair and replanting of the damaged area(s).

L. For the purpose of determining mitigation credit for the removal of exotic/invasive plant species, only the actual area occupied by exotic/invasive plant species may be quantified to comply with mitigation requirements.

M. **Within 60 days from the start of construction**, Integral Communities must provide the San Diego Water Board a draft preservation mechanism (e.g. deed restriction, conservation easement, etc.) that will protect all mitigation areas and their buffers in perpetuity. **Within one year of the issuance of this Certification**, Integral Communities must submit proof of a completed final preservation mechanism that will protect all mitigation areas and their buffers in perpetuity. 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 U.S. 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.

N. For purposes of this Certification, establishment is defined as the creation of vegetated or unvegetated waters of the United States/State where the resource has never previously existed (e.g. conversion of nonnative grassland to a freshwater marsh). Restoration is divided into two activities, re-establishment and rehabilitation. Re-establishment is defined as the return of natural/historic functions to a site where vegetated or unvegetated waters of the United States/State previously existed (e.g., removal of fill material to restore a drainage). Rehabilitation is defined as the improvement of the general suite of functions of degraded vegetated or unvegetated

waters of the United States/State (e.g., removal of a heavy infestation or monoculture of exotic plant species from jurisdictional areas and replacing with native species). Enhancement is defined as the improvement to one or two functions of existing vegetated or unvegetated waters of the United States/State (e.g., removal of small patches of exotic plant species from an area containing predominantly natural plant species). Preservation is defined as the acquisition and legal protection from future impacts in perpetuity of existing vegetated or unvegetated waters of the United States/State (e.g., conservation easement).

VI. MONITORING REQUIREMENTS

A. Prior to construction initiation, Integral Communities, shall develop a monitoring plan that contains the following elements for the Woodward Street mitigation sites:

1. **Benthic Macroinvertebrate Community Analysis**
Bioassessment monitoring must 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 must be performed at three sites (assessment stations) on the tributary to San Marcos Creek (as flow permits) before project initiation, and then on years three and five, during the established "index period" for the San Marcos Creek watershed. The first assessment station is the reference station, which must be located upstream of the mitigation site in a reference area; the second assessment station must be located at the furthest upstream location within the Woodward Mitigation site; the third assessment station must be located immediately downstream of the mitigation site. The reference station upstream of the project discharge must be located and sampled concurrently with the second and third assessment stations. The results of the Benthic Macroinvertebrate Community Analysis must be submitted **with the respective Annual Progress Report.**

2. **Water Quality Assessment**
Integral Communities must perform water quality sampling and analysis, at a minimum, for pH, temperature, turbidity, dissolved oxygen, phosphorous, and DDE. Water quality sampling must be coordinated with the Benthic Macroinvertebrate Community Analysis (section VI.A.1 above) in the appropriate monitoring years. The results of the water quality assessment must be submitted each year **with the Annual Progress Report.**

[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/rwqcb9/water_issues/programs/bioassessment/index.shtml

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

3. **California Rapid Assessment Method**
Integral Communities must conduct a quantitative function-based assessment of the health of wetland and riparian habitats to establish baseline conditions, set success criteria, and assess mitigation site progress at the Woodward Street sites using the California Rapid Assessment Method (CRAM)[3] at the three assessment stations described (in section VI.A) of this Certification. Prior to the start of construction and then three and five years following construction completion and continuing until success criteria have been met. The results of the CRAM assessment must be submitted with **the respective Annual Progress Reports.**

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

B. Integral Communities must conduct a quantitative, function based assessment of the health of vernal pool habitats in the Preserve using CRAM for Vernal Pools. The results must be analyzed and submitted with the annual Mitigation and Monitoring Reports and project information must be uploaded to Wetlands Portal http://www.californiawetlands.net/tracker/:

At a minimum, monitoring should be scheduled prior to the start of construction and then years 1, 2, 3, 5, and 7. The results of the CRAM assessment must be submitted with **the respective Annual Progress Reports.**

VII. NOTIFICATION REQUIREMENTS

A. Integral Communities must report to the San Diego Water Board any noncompliance which may endanger human health or the environment. Any information shall be provided orally within **24 hours** from the time Integral Communities becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time Integral Communities becomes aware of the circumstances. The written submission shall contain a description of the incident and its cause, the period of the noncompliance including exact dates and times, and if the and if the noncompliance has

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

not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The San Diego Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours.

B. 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.

1. **Transfer of Property Ownership**: Integral Communities 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 Integral Communities 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 Executive Officer of 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**: Integral Communities 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 Integral Communities 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. 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**.

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

C. Integral Communities must notify the San Diego Water Board in writing **at least 5 days prior to** the actual commencement of dredge, fill, and discharge activities.

VIII. REPORTING REQUIREMENTS

A. Integral Communities must submit annual progress reports describing status of compliance with all requirements of this Certification to the San Diego Water Board prior to **August 1** of each year following the issuance of this Certification until the project has reached completion. Integral Communities must submit a Final Project Annual Report to the San Diego Water Board **prior to August 1 following completion of the project.** The reports must include the following:

1. Date of construction initiation.

2. Date of construction completion.

3. Status of BMPs for the project.

4. Final Project Report: As-built drawings no bigger than 11"X17."

5. Final Project Report: Photo documentation of implemented post-construction BMPs. Photo documentation must be conducted in accordance with guidelines posted at http://www.waterboards.ca.gov/sandiego/water_issues/programs/401_certification/docs/StreamPhotoDocSOP.pdf. In addition, photo documentation must include Global Positioning System (GPS) coordinates for each of the photo points referenced.

B. Integral Communities must submit final grading and landscaping Plans **within 60 days of issuance of this Water Quality Certification and prior to initiation of construction activities.**

C. Integral Communities must submit final long term vernal pool Management Plan **within 60 days of issuance of this Water Quality Certification and prior to initiation of construction activities.**

D. Integral Communities must submit a Final Habitat and Mitigation Monitoring Plan **prior to commencement of Project construction.**

E. Mitigation monitoring reports must be submitted annually until mitigation has been deemed successful in accordance with the mitigation success criteria in the *Palomar Station Habitat Mitigation Monitoring Plan* and the *Fry's Vernal Pool Preserve Restoration Plan*. Annual monitoring reports must be submitted **prior to December 1 of each year**. Monitoring reports must include, but not be limited to, the following:

1. Names, statement of qualifications, and affiliations of the responsible lead professionals contributing to the report;

2. Date of initiation of mitigation installation and date mitigation installation was completed.

3. Mitigation as-builts, including topography maps and planting locations.

4. Tables presenting the raw data collected in the field as well as analyses of the physical and biological data;

5. Topographic complexity characteristics at each mitigation site;

6. Upstream and downstream habitat and hydrologic connectivity;

7. Source of hydrology;

8. Width of native vegetation buffer around the entire mitigation site;

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

10. Stream Photo documentation, including all areas of permanent and temporary impact, prior to and after project construction, and mitigation areas, including all areas of permanent and temporary impact, prior to and after project construction, must be submitted with the mitigation monitoring reports. See Section VIII.A.5 of this Certification for photo documentation procedures; and

F. The submittal of information under this Certification is required pursuant to CWC section 13267 and 13383. Civil liability may be administratively imposed by the San Diego Water Board for failure to submit information pursuant to CWC sections 13268 or 13383.

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

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

1. For a corporation, by a responsible corporate officer of at least the level of vice president.

2. For a partnership or sole proprietorship, by a general partner or proprietor, respectively.

3. For a municipality, or a state, federal, or other public agency, by either a principal executive officer or ranking elected official.

4. A duly authorized representative may sign applications, reports, or information if:

   a. The authorization is made in writing by a person described above.

   b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated activity.

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

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

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

J. Integral Communities must submit reports required under this Certification, or other information required by the San Diego Water Board, to:

Executive Officer
California Regional Water Quality Control Board
San Diego Region
Attn: 401 Certification; Project No. 11C-015
9174 Sky Park Court, Suite 100
San Diego, California 92123

IX. CEQA FINDINGS:

A. City of San Marcos is the lead agency under the California Environmental Quality Act (Public Resources Code section 21000, et seq., (CEQA)),and filed Notice of Determination of their Environmental Impact Report (EIR) on July 30, 2007 (SCH# 200308116). The City of San Marcos has determined the project will have a significant effect on the environment and mitigation measures were made a condition

of the Project.

B. The San Diego Water Board has reviewed the lead agency's Notice of Determination and also finds that the Project as proposed will have a significant effect on the environment and has conditioned mitigation measures accordingly and therefore determines that issuance of this Certification is consistent with the Notice of Determination.

X. PUBLIC NOTIFICATION OF PROJECT APPLICATION:

A. On March 2, 2011, receipt of the project application was posted on the San Diego Water Board web site to serve as appropriate notification to the public. No public comments were received.

XI. SAN DIEGO WATER BOARD CONTACT PERSON:

Alan Monji
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123
(858)-637-7140
amonji@waterboards.ca.gov.

XII. WATER QUALITY CERTIFICATION:

I hereby certify that the proposed discharge from the **Palomar Station Smart Growth Planned Project** (Project No. 11C-015) 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 and all proposed mitigation being completed in strict compliance with the applicants' 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 Region (9) (Basin Plan).

I, David W. Gibson, Executive Officer, do hereby certify the forgoing is a full, true, and correct copy of Certification No. 11C-015 issued on September 28, 2012.

David W. Gibson

9-27-2012

DAVID W. GIBSON
Executive Officer
San Diego Regional Water Quality Control Board

Date

Attachments:
1. Project Information
2. Distribution List
3. Location Maps
4. Site Plans and Mitigation Map

ATTACHMENT 1
PROJECT INFORMATION

Applicant:	Integral Communities Attention: Lance Waite 2235 Encinitas Blvd, Suite 216, Encinitas, CA 92024 Telephone: 760-445-1835 Email: LWaite@integralcommunities.com
Applicant Representatives:	Helix Environmental Planning Attention: Stephen Neudecker 7578 El Cajon Blvd, Suite 200, La Mesa, CA Telephone: 619-462-1515 Email: SteveN@helixpi.com
Project Name:	Palomar Smart Station Smart Growth
Project Location:	Project is within the City boundaries of San Marcos, San Diego County, California. The Project is located between West Mission Road and State Route 78 and North Los Posas Road and Bingham Drive. The Project site consists of two parcels that are bisected by Armorlite Drive. Latitude: 33°08'45.65" N Longitude: -117°11'16.76 W
Type of Project:	Construction of residential and commercial development.
Need for Project:	Develop a community adjacent to a mass transit station and community college.
Project Description:	The Palomar Station Planned Smart Growth Project (Project) is located on a 14.3 acre site located in the city of San Marcos, San Diego County, California. The Project is located between West Mission Road and State Route 78 and North Los Posas Road and Bingham Drive. The Project site consists of two parcels that are bisected by Armorlite Drive. Integral Solutions proposes a mixed use development site comprised of 370 residential condominium units and 49,000 square feet of commercial retail use which includes 5,000 square feet of restaurants. The Project includes 70,000 square feet of open space that is integrated throughout the project. The construction of the Project will permanently impact 1.92

	acres (1,038 linear feet) of jurisdictional wetland waters of the United States and/or State which include 0.008 acres of vernal pool habitat. Offsite mitigation to wetland waters of the United States and/or State will be at the Woodward Street mitigation sites in San Marcos. Mitigation will include the enhancement of 0.59 acres (100 linear feet), establishment of 2.00 acres (1,076 linear feet), and preservation of 4.91 acres (600 linear feet) of waters of the United States and/or State. To mitigate for the vernal pool impacts, 4.8 acres of enhancement and 0.03 acres (3 vernal pools) of establishment is proposed at the 4.8 acre Fry's Vernal Pool Preserve in San Marcos. The grading is proposed to begin in October 2012 and take approximately two to three months. The construction phase would follow and is expected to take two years to complete. The Project is projected to start operation in January 2015.
Federal Agency/Permit:	U.S. Army Corps of Engineers Individual 404 Permit, Lanika L. Cervantes.
Other Required Regulatory Approvals:	California Department of Fish and Game Streambed Alteration Agreement, Marilyn Fluharty U.S. Fish and Wildlife, Section 7 Consultation, Janet Stuckrath
California Environmental Quality Act (CEQA) Compliance:	Palomar Station Planned Smart Growth Project, Environmental Impact Report, Notice of Determination, July 30, 2007, SCH# 200308116, City of San Marcos
Receiving Water:	San Marcos Creek
Affected Waters of the United States/State:	Permanent: wetland; 1.92 acres, 1,038 linear feet
Dredge Volume:	None
Related Projects Implemented/to be Implemented by the Applicant(s):	None

Compensatory Mitigation:	Woodward Street mitigation sites: Enhancement of 0.59 acres (100 linear feet), establishment of 2.00 acres (1,076 linear feet), and Preservation of 2.91 acres (600 linear feet) Fry's Vernal Pool Mitigation Site: Enhancement of 4.8 acres and, Establishment of three vernal pools (0.03 acres).
Mitigation Location:	There are three mitigation site locations for this project, Woodward Street North, Woodward Street South Parcel, and the Fry's Vernal Pool Preserve. Woodward Street North Parcel Latitude: 33.09'07.44°N Longitude: -117.09'36.20°W Woodward Street South Parcel Latitude: 33.08'51.57°N Longitude: -117.09'37.75°W Fry's Vernal Pool Preserve Latitude: 33.08'20.36°N Longitude: -117.11'03.92°W
Best Management Practices (BMPs):	**Construction:** In accordance with the *Storm Water Pollution Prevention Plan for Palomar Station, February 14, 2011*, Risk Level 2 projects, prepared by Lundstrom Engineering and Surveying, Inc. Proposed BMPs include: Gravel Bags Fiber Rolls Silt Fences Stabilized Construction Entrance Desiltation Basins Street Sweeping Storm drain Inlet Protection **Post Construction:** Post construction BMPs will be in accordance with the *Water Quality Improvement Plan for Palomar Station, July 27, 2011,* prepared by Lundstrom Engineering and Surveying, Inc. BMPs include: Bioretention facilities

	Stenciling Inlets Pervious surfaces Porous Pavers Minimize irrigation and runoff Minimize use of pesticides and fertilizers
Public Notice:	On March 2, 2011, receipt of the project application was posted on the San Diego Water Board web site to serve as appropriate notification to the public. No public comments were received.
Inspection:	NA
Fees:	Total Due:$0 Total Paid:$7,290 (check No. 12 and 39)
CIWQS:	Regulatory Measure ID: 377850 Place ID: 764050 Party ID: 526150

Integral Communities
Palomar Station Planned Smart Growth
File No. 11C-015

September 28, 2012

ATTACHMENT 2
DISTRIBUTION LIST

Lanika Cervantes
U.S. Army Corps of Engineers, Regulatory Branch
Lanika.L.Cervantes@usace.army.mil

Marilyn Fluharty
California Department of Fish and Game
MFluharty@dfg.ca.gov

U.S. Department of the Interior
Fish and Wildlife Service
6010 Hidden Valley Road
Carlsbad, CA 92011

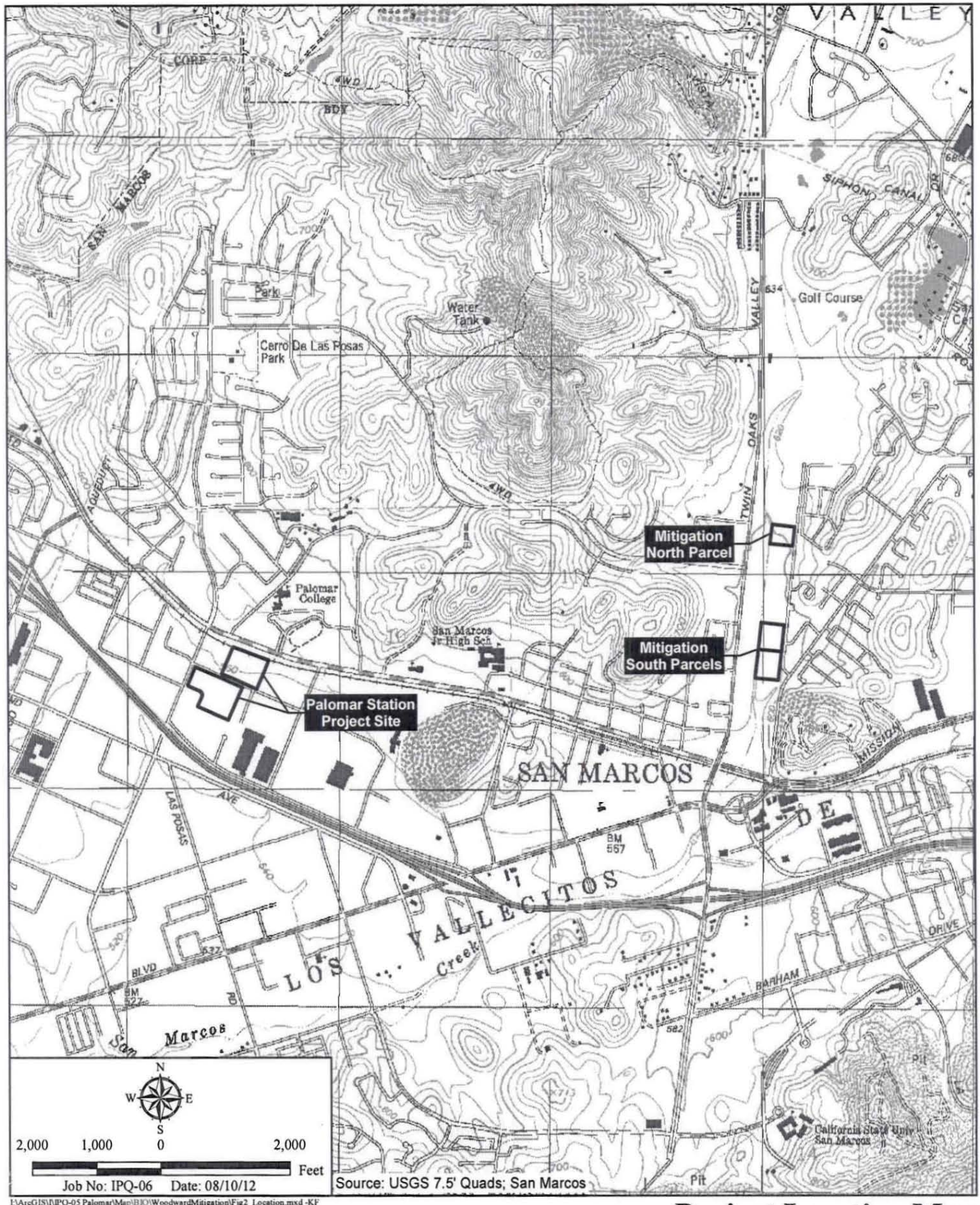
U.S. EPA, OWOW, Region 9
75 Hawthorne St.,
San Francisco, CA 94105
R9-WTR8-Mailbox@epa.gov

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

Stephen Neudecker
Helix Environmental Planning
SteveN@helixepi.com

ATTACHMENT 3

LOCATION MAPS



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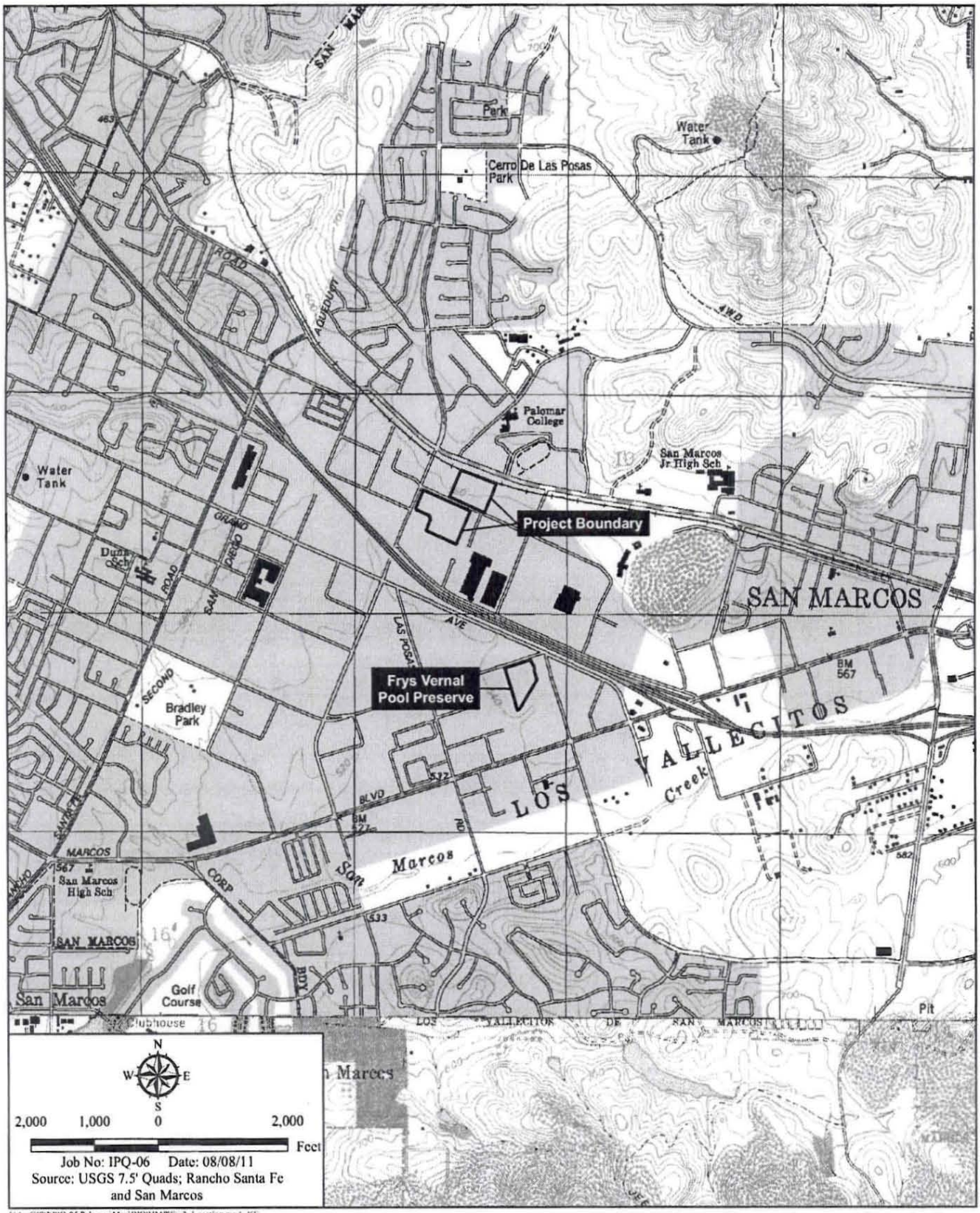
Project Location Map

PALOMAR STATION MITIGATION PLAN

HELIX Environmental Planning

Figure 2



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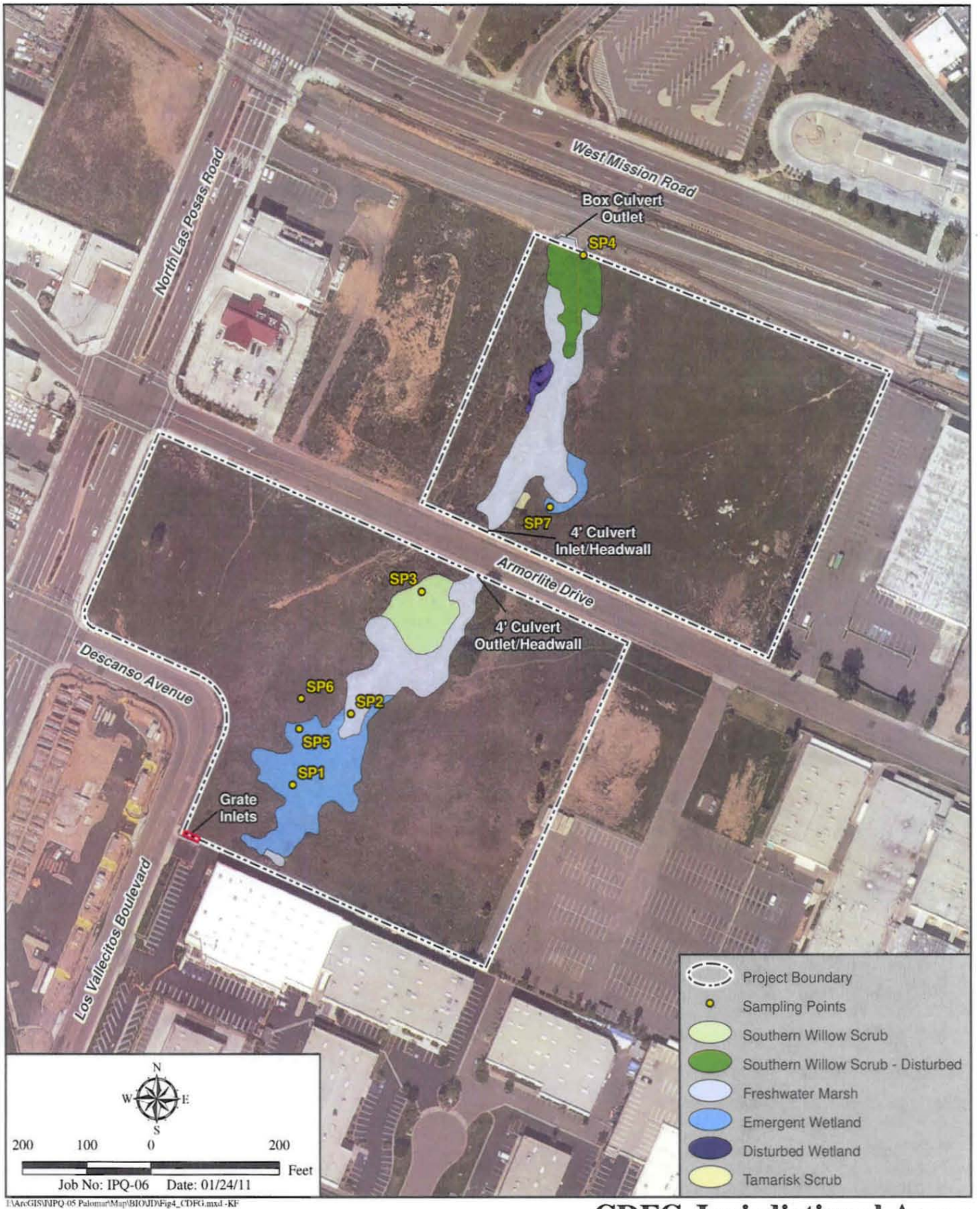
Project Location Map

FRYS VERNAL POOL PRESERVE

HELIX Environmental Planning

Figure 2



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CDFG Jurisdictional Areas

PALOMAR STATION

HELIX Environmental Planning

Figure 4

ATTACHMENT 4

SITE PLANS and MITIGATION MAP

WATER QUALITY IMPROVEMENT PLAN

PROJECT INFORMATION:

PROJECT NAME:	PALOMAR STATION
PROJECT LOCATION:	ARMORLITE DRIVE E/O LAS POSAS ROAD
APPLICANT:	INTEGRAL PARTNERS FUNDING, LLC.
PLAN PREPARED BY:	LUNDSTROM ENGINEERING & SURVEYING 5333 MISSION CENTER ROAD, SUITE 390 SAN DIEGO, CA 92108 TEL. (619) 814-1220 EMAIL: BILL@LUNDSTROM-ENGINEERING.COM
PREPARED DATE:	OCTOBER 24, 2011

PROJECT DESCRIPTION:

THE 14.3-ACRE PROJECT SITE IS CURRENTLY SITUATED ON RELATIVELY FLAT NATURAL GROUND. ELEVATIONS ACROSS THE SITE RANGE FROM APPROXIMATELY 568 FEET ABOVE MEAN SEA LEVEL (MSL) ALONG THE NORTHERN PROPERTY LINE TO APPROXIMATELY 551 FEET ABOVE MSL ALONG THE SOUTHERLY PROPERTY LINE.

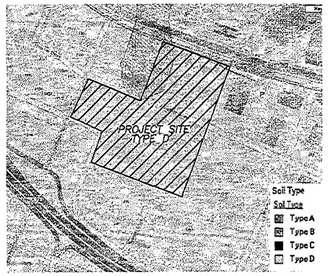
DRAINAGE RUN-ON FROM THE NORTH CROSSES UNDER MISSION ROAD AND THE SPRINTER LINE THROUGH A SERIES OF SMALL DIAMETER CULVERTS AND FLOWS SOUTHERLY THROUGH THE SITE IN A 72" RCP STORM DRAIN TO THE SOUTHWEST CORNER OF THE SITE. PER THE CITY'S MASTER DRAINAGE PLAN APPROXIMATELY 450-CFS OF RUN-ON IS GENERATED FROM THE OFF-SITE NORTHERN BASIN, DURING THE 100-YEAR STORM EVENT.

THE PROJECT IS A TRANSIT ORIENTED DEVELOPMENT WHICH PROPOSES THE DEVELOPMENT OF MIXED RESIDENTIAL APARTMENTS, RESTAURANTS, AND GENERAL COMMERCIAL BUILDINGS. A 72-INCH RCP STORM DRAIN SYSTEM IS PROPOSED TO CONVEY RUN-ON FROM THE OFF-SITE NORTHERN BASIN THROUGH THE SITE AND TIE INTO THE EXISTING BOX CULVERT AT THE SOUTHWEST CORNER.

TO COMPLY WITH 1/14/11 & 3/25/11 STORM WATER REGULATIONS, ON-SITE LOW IMPACT DESIGN (LID) AND INTEGRATED MANAGEMENT PRACTICES (IMP) SHALL BE IMPLEMENTED TO MITIGATED ANTICIPATED INCREASE IN POLLUTANT LOADS AND PEAK RUN-OFF FROM THE PROPOSED DEVELOPMENT. A SERIES OF BIORETENTION BASINS, SAND FILTERS/BIOSWALES, AND UNDERGROUND DETENTION STRUCTURES ARE PROPOSED TO MEET 1/14/11 & 3/25/11 STORM WATER REQUIREMENTS.

GEOTECHNICAL SUMMARY:

STUDY PREPARED BY:	ALTA CALIFORNIA GEOTECHNICAL INC. DAVID MURPHY, CEG 1818 SCOTT GRAY, RGE 2857
PREPARED DATE:	MAY 18, 2012
PERMEABILITY TEST:	N/A - NO INFILTRATION PROPOSED



SOIL HYDROLOGIC GROUP MAP
(SAN DIEGO BMP SIZING CALCULATOR)

ANTICIPATED AND POTENTIAL POLLUTANTS GENERATED BY LAND USE TYPE

PDP Categories	General Pollutant Categories								
	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Attached Residential Development	X	X			X	P(1)	P(2)	P	X
Commercial Developments 1 acre or greater	P(1)	P(1)		P(2)	X	P(3)	X	P(3)	P(3)
Restaurants					X	X	X	X	
Parking Lots	P(1)	P(1)	X		X	P(1)	X		P(1)
Streets, Highways & Freeways	X	P(1)	X	X(4)	X	P(5)	X		

X = anticipated
P = potential
(1) A potential pollutant if landscaping exists on-site.
(2) A potential pollutant if the project includes uncovered parking areas.
(3) A potential pollutant if land use involves food or animal waste products.
(4) Including petroleum hydrocarbons.
(5) Including solvents.

PROJECT POLLUTANTS OF CONCERN

Pollutant Category	Anticipated (X)	Potential (P)	Surface Water Impairments
Sediments	X		X
Nutrients	X		X
Heavy Metals	X		
Organic Compounds	X(4)		
Trash & Debris	X		
Oxygen Demanding Substances	X		
Oil & Grease	X		X
Bacteria & Viruses	X		X
Pesticides	X		

VICINITY & CHANNEL SUSCEPTIBILITY OVERVIEW MAP

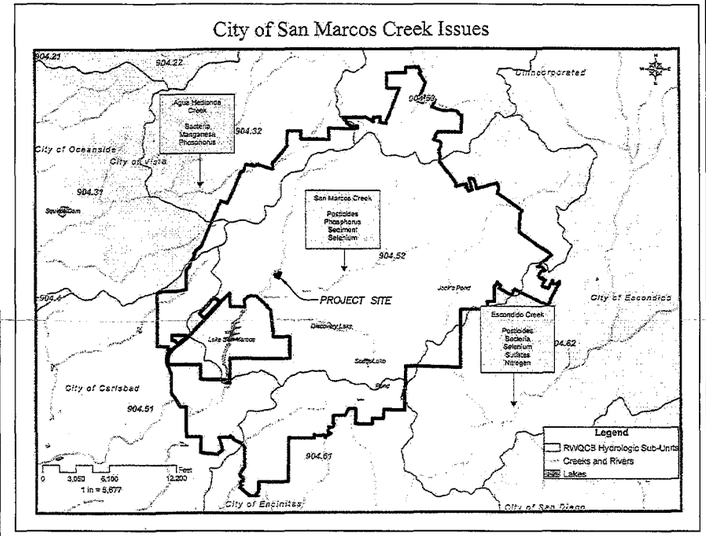
SURFACE WATERS

SURFACE WATERS (river, creek, stream, etc.)	Hydrologic Unit Basin Number	Impairment(s) listed [303(d) listed waters or waters with established TMDLs]	Distance to Project
San Marcos Creek	HSA 904.52	DDE, Phosphorus, Selenium & Sediment Toxicity	1 mile
San Marcos Lake	904.52	Ammonia as Nitrogen, Nutrients & Phosphorus	1.5 mile
Pacific Ocean Shoreline, San Marcos HA	904.51	Bacteria	10 mile

2010 303(d) list

TMDLs

EACT 1	904.52	BACTERIA - SAN MARCOS HA
UPPER SAN MARCOS CREEK	904.52	NUTRIENTS, 904.52, 904.53 LAKE SAN MARCOS



RICHLAND HSA 904.52 MAP

REFERENCE DRAWINGS

GRADING PLANS: GP-2448
ARMORLITE DRIVE IMPROVEMENT PLANS: IP-4861
LANDSCAPE PLANS: LP 12-984
BUILDING PLANS: PC 1237

LANDSCAPE ARCHITECT CERTIFICATION

THE SELECTION, SIZING, AND DESIGN OF STORMWATER TREATMENT AND OTHER CONTROL MEASURES IN THIS WATER QUALITY IMPROVEMENT PLAN COMPLY WITH THE GRADING PLAN #2448.

JOHN PATTERSON — DATE

CERTIFICATION

THE SELECTION, SIZING, AND DESIGN OF STORMWATER TREATMENT LID, AND SOURCE CONTROL IN THIS PLAN MEET THE REQUIREMENTS OF THE REGIONAL WATER QUALITY CONTROL BOARD ORDER R9-2007-0001 AND SUBSEQUENT AMENDMENTS. NO REVISIONS TO THESE PLANS ARE ALLOWED WITHOUT REVIEW AND APPROVAL FROM THE CITY ENGINEER.

WILLIAM LUNDSTROM
R.C.E. 61630
EXPIRES ON 6/30/13

7-27-12
DATE

REGISTERED PROFESSIONAL ENGINEER — WILLIAM M. LUNDSTROM — No. 061630 — Expires 6/30/13 — CIVIL — STATE OF CALIFORNIA

SOURCE CONTROL BMPs

SOURCE CONTROL BMPS	PROJECT IMPLEMENTATION	PERMIT COMPLIANCE
STORM DRAIN INLETS	MARK ALL INLETS WITH THE WORDS "NO DUMPING! DRAINS TO WATERWAYS" IN ENGLISH AND "NO CONTAMINE" IN SPANISH. MAINTAIN AND PERIODICALLY REPLACE INLET MARKINGS. SEE CITY STANDARD INLET MARKING DAS #NDW. SEE APPLICABLE OPERATIONAL BMPS IN CASQA FACT SHEET SC-44, "DRAINAGE SYSTEM MAINTENANCE."	YES
INTERIOR FLOOR DRAINS AND ELEVATOR SHAFT SUMP PUMPS	INTERIOR FLOOR DRAINS WILL BE PLUMBED TO SANITARY SEWER. ELEVATOR SHAFT SUMPS WILL BE PUMPED OUT AS NEEDED WITH PORTABLE PUMP. PUMP DISCHARGE WILL BE COLLECTED FOR PROPER DISPOSAL AND WILL NOT BE DISCHARGED TO THE STORM DRAIN SYSTEM. SEE BUILDING PLAN DRAWING NO. PC 1237 SHEETS PA2.2, PB2.2, PC2.2, PD2.2, PE2.2, & PF2.2, FOR FLOOR DRAIN LOCATIONS.	YES
INTERIOR PARKING GARAGES	PARKING GARAGE FLOOR DRAINS WILL BE PLUMBED TO THE SANITARY SEWER. SEE BUILDING PLAN DRAWING NO. PC 1237 SHEETS PA2.2, PB2.2, PC2.2, PD2.2, PE2.2, & PF2.2, FOR FLOOR DRAIN LOCATIONS.	YES
LANDSCAPE/OUTDOOR PESTICIDE USE	LANDSCAPE HAS BEEN DESIGNED PER CITY OF SAN MARCOS LANDSCAPE STANDARDS TO MINIMIZE IRRIGATION AND RUNOFF, AND TO MINIMIZE THE USE OF FERTILIZERS AND PESTICIDES THAT CAN CONTRIBUTE TO STORMWATER POLLUTION. SEE APPLICABLE BMPS IN CASQA FACT SHEETS SC-41, "BUILDING AND GROUNDS MAINTENANCE." FOR PLANTING AND IRRIGATION DETAILS SEE LANDSCAPE DRAWING NO. LP 12-894 SHEETS 1-8.	YES
POOL/SPA/FOUNTAINS	POOL/SPA/FOUNTIN WILL BE PLUMBED TO SANITARY SEWER. SEE APPLICABLE OPERATIONAL BMPS FACT SHEET SC-72, "FOUNTAIN AND POOL MAINTENANCE." FOR POOL/SPA/FOUNTAINS DETAILS SEE LANDSCAPE DRAWING NO. LP 12-894 SHEETS 1-8.	YES
FOOD SERVICE	AREA DRAINS WITHIN FOOD SERVICE ESTABLISHMENTS WILL BE CONNECTED TO A GREASE INTERCEPTOR BEFORE DISCHARGING TO THE SANITARY SEWER. SEE BUILDING PLAN DRAWING NO. PC 1237 SHEETS PA2.2, PB2.2, PC2.2, PD2.2, PE2.2, & PF2.2, FOR GREASE INTERCEPTOR & FLOOR DRAIN LOCATIONS.	YES
TRASH ENCLOSURES	STORAGE AREA IS PAVED WITH CONCRETE AND DESIGN NOT TO ALLOW RUN-ON FROM ADJOINING AREAS, WALLED AND CONTAINS A ROOF. SIGNS ON DUMPSTER WITH THE WORDS "DO NOT DUMP HAZARDOUS MATERIAL HERE" OR SIMILAR APPROVED BY CITY. SEE CASQA FACT SHEET SC-34, "WASTE HANDLING AND DISPOSAL."	YES
FIRE SPRINKLER TEST WATER	SEE CASQA FACT SHEET SC-41, "BUILDING AND GROUNDS MAINTENANCE." SEE BUILDING PLAN DRAWING NO. PC 1237 SHEETS PA2.2, PB2.2, PC2.2, PD2.2, PE2.2, & PF2.2, FOR FIRE SPRINKLER LOCATIONS.	YES
ROOFING, GUTTERS, AND TRIM	ROOFING, GUTTERS, AND TRIM WILL NOT BE CONSTRUCTED OF COPPER OR OTHER UNPROTECTED METALS THAT MAY LEACH INTO RUNOFF. ROOF WILL BE A THERMOPLASTIC MEMBRANE SYSTEM.	YES
PLAZAS, SIDEWALKS, AND PARKING LOTS	PLAZAS, SIDEWALKS, AND PARKING LOTS SHALL BE SWEPT REGULARLY AND ONCE PRIOR TO OCTOBER 1ST TO PREVENT THE ACCUMULATION OF LITTER AND DEBRIS. SEE CASQA FACT SHEET SC-41, "BUILDING AND GROUNDS MAINTENANCE."	YES

LID STRATEGIES

STRATEGIES CONSIDERED	SITE/BMP CONTRAINTS HINDERING USAGE	ALTERNATIVE PROPOSED	PERMIT COMPLIANCE
PRESERVATION OF SIGNIFICANT NATURAL RESOURCES	PRESERVATION OF SIGNIFICANT NATURAL RESOURCES	PRESERVATION OF SIGNIFICANT NATURAL RESOURCES	YES
INFILTRATION	PER THE "PRELIMINARY GEOTECHNICAL INVESTIGATION AND GRADING REVIEW FOR PALOMAR STATION" BY ALTA GEOTECHNICAL INC., INFILTRATION SYSTEMS WILL NOT BE PARTICULARLY EFFECTIVE AT THE SITE DUE TO THE PRESENCE OF TYPE D SOILS. INFILTRATION WOULD SATURATE SOILS ADJACENT TO BUILDING FOUNDATIONS.	ALL RUNOFF GENERATED FROM THE PROJECT WILL BE TREATED PRIOR TO DISCHARGING TO PUBLIC STORM DRAIN SYSTEMS. BIORETENTION AREAS, MEDIA FILTERS, AND STORMTECH DETENTION SYSTEMS WILL HAVE IMPERVIOUS LINERS TO PREVENT INFILTRATION.	YES
SELF-RETAINING AREAS	DUE TO THE PRESENCE OF TYPE D SOILS AT THE SITE, SELF-TREATING AREAS WOULD SATURATE SOILS ADJACENT TO BUILDING FOUNDATIONS.	ALL RUNOFF GENERATED FROM THE PROJECT WILL BE TREATED PRIOR TO DISCHARGING TO PUBLIC STORM DRAIN SYSTEMS. BIORETENTION AREAS, MEDIA FILTERS, AND STORMTECH DETENTION SYSTEMS WILL HAVE IMPERVIOUS LINERS TO PREVENT INFILTRATION.	YES
BIORETENTION FACILITY	100% OF THE RUNOFF GENERATED FROM THE PROJECT WILL BE TREATED BY BIORETENTION FACILITIES.	SECONDARY TREATMENT IN THESE AREAS WILL OCCUR IN THE ISOLATOR ROW OF THE STORMTECH DETENTIONS SYSTEMS.	YES
VEGETATED ROOFS	ROOFS WILL HAVE HEATING AND COOLING MECHANICAL EQUIPMENT.	ALL ROOF RUNOFF WILL BE CONVEYED TO ADJACENT BIORETENTION FACILITIES VIA DOWN SPOUTS AND AREA DRAIN SYSTEMS.	YES

Lundstrom
Engineering and Surveying, Inc.
5333 Mission Center Road, Suite 390
San Diego, CA 92108
Phone (619) 86-1220 • Fax (619) 641-5910

SAN MARCOS FIRE DEPARTMENT	VALLECITOS WATER DISTRICT
FIRE FLOW REQUIREMENT 1,500 GPM	PRESSURE ZONE: 855 PUMP ZONE: N/A

SAN MARCOS FIRE PROTECTION DIST.	VALLECITOS WATER DISTRICT	ENGINEER OF WORK
BY: _____ MATTHEW ERNAU, FIRE MARSHAL DATE: _____	BY: _____ DATE: _____ NAME: KEN GERDES, P.E., DIR. ENG & OPER. R.C.E.: 39307 EXP: 12/31/2013	BY: WILLIAM LUNDSTROM R.C.E. 61630 EXP. 6-30-13 DATE: _____

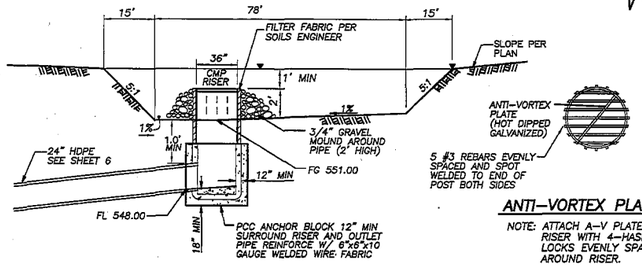
NO	APPROVED CHANGES	CITY	VWD	DATE

RECOMMENDED FOR APPROVAL	APPROVED FOR CONSTRUCTION	BENCHMARK
BY: _____ PETER KUEY, PRINCIPAL CIVIL ENGINEER R.C.E.: 44034 EXP.: 06/30/13 DATE: 7/27/12	BY: _____ MICHAEL D. EDWARDS, CITY ENGINEER R.C.E.: 32977 EXP.: 06/30/2014 DATE: _____	DESCRIPTION: 3" BRASS DISK IN WELL MONUMENT MARKED "C.E." LOCATION: 200' EASTERLY OF THE INTERSECTION OF BINGHAM DRIVE AND MISSION ROAD AT THE CENTERLINE E.C. RECORD FROM: CITY OF SM BENCH MARK NO. 1033 PER RDS 13928 ELEVATION: 567.53 DATUM: M.S.L.

CITY OF SAN MARCOS ENGINEERING DIVISION		Drawing No.
WATER QUALITY IMPROVEMENT PLAN (1 OF 5)	T.S.M. 464 SDP 05-310 MFSDP 05-46 MF 1392	GP-2448
PALOMAR STATION	IP-4861 IP-4862 IP-4863	Sheet 22 of 26

J.N.860-02

WATER QUALITY IMPROVEMENT PLAN



INTERIM WATER QUALITY BASIN (PRIVATE)

N.T.S.

ANTI-VORTEX PLATE

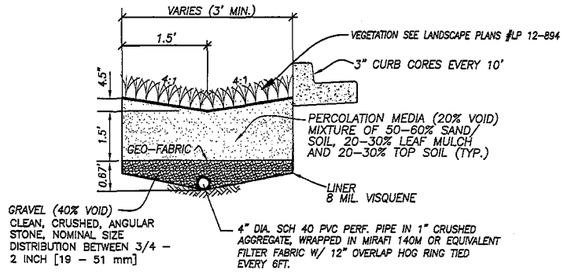
NOTE: ATTACH A-V PLATE TO RISER WITH 4-HASPS & LOCKS EVENLY SPACED AROUND RISER.

RISER

C.M.P. RISER SHALL BE HOT DIPPED GALVANIZED 12 GAUGE 2 -2/3" X 1/2" CORRUGATIONS AND DIAMETER PER PLANS. 3-0.75" HOLES EQUALLY SPACED AROUND CIRCUMFERENCE. WRAP RISER WITH TREVIRA S1115 FILTER FABRIC OR EQUAL.
CLEANOUT LEVEL TO MARKED ON RISER AT ELEVATION 551.67 (6" ABOVE FINSH GRADE)

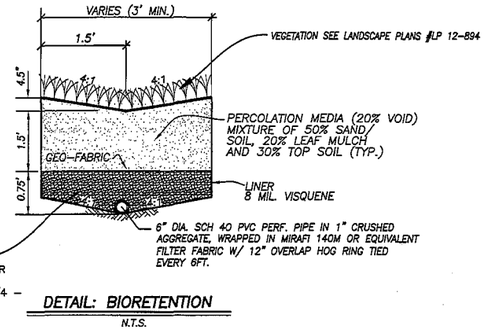
INTERIM WATER QUALITY BASIN OPERATION & MAINTENANCE REQUIREMENTS

MANUFACTURER	MANUFACTURER'S TELEPHONE NUMBER	MINIMUM MAINTENANCE FREQUENCY	MAINTENANCE ACTIVITIES
N/A	N/A	SEDIMENT SHALL BE REMOVED AFTER EVERY STORM EVENT OR AS NEEDED. ONCE PRIOR TO OCTOBER 1ST (RAINY SEASON)	SEDIMENT SHALL BE REMOVED WHEN SEDIMENT REACHES THE PAINTED STRIPE (2' BELLOW THE LIP OF STANDPIPE), AND DISPOSED OF IN SUCH A MANNER THAT WILL PREVENT ITS RETURN TO THE DESILTING BASIN OR MOVEMENT INTO DOWNSTEAM AREAS DURING SUBSEQUENT RUNOFF. THE DESILTING BASIN IS A PRIVATE FACILITY AND THE CITY WILL NOT BE RESPONSIBLE FOR IT'S MAINTENANCE. FILTER FABRIC AROUND STANDPIPE SHALL BE REPLACED IF DAMAGED DURING CLEANING OR AS REQUIRED BY THE CITY ENGINEER. DESILTING BASIN SHALL BE DEWATERED WITHIN 3 TO 7 DAYS FOLLOWING A STORM EVENT.



DETAIL: BIORETENTION (BMP: #3, #29, #31)

N.T.S.



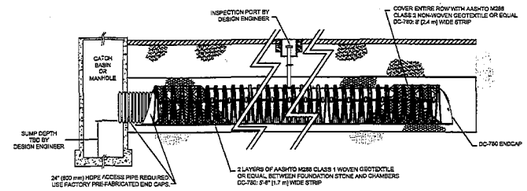
DETAIL: BIORETENTION

N.T.S.

BIORETENTION OPERATION & MAINTENANCE REQUIREMENTS

MANUFACTURER	MANUFACTURER'S TELEPHONE NUMBER	MINIMUM MAINTENANCE FREQUENCY	MAINTENANCE ACTIVITIES
N/A	N/A	MONTHLY OR AS NEEDED ONCE PRIOR TO OCTOBER 1ST (RAINY SEASON)	TRASH REMOVAL, NORMAL LANDSCAPE MAINTENANCE (PRUNING, WEEDING, PLANT REPLACEMENT, ETC.)[1]

1. ALL COLLECTED DEBRIS, TRASH, ORGANICS, AND SEDIMENT SHALL BE TRANSPORTED AND DISPOSED OF AT AN APPROVED LOCATION FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.



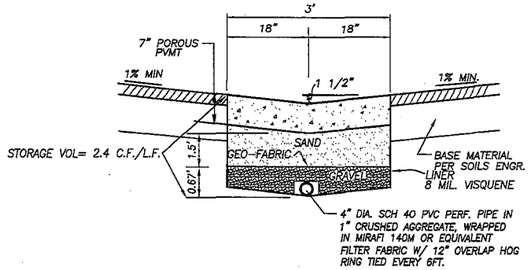
DETAIL: STORMTECH SC-740 ISOLATOR ROW DETAIL

N.T.S.

STORMTECH SC-740 OPERATION & MAINTENANCE REQUIREMENTS

MANUFACTURER	MANUFACTURER'S TELEPHONE NUMBER	MINIMUM MAINTENANCE FREQUENCY	MAINTENANCE ACTIVITIES
STORMTECH	(888) 892-2694	TWICE A YEAR, WITH ONE OCCURRENCE PRIOR TO OCTOBER 1ST (RAINY SEASON)	INSPECT ISOLATOR ROW AND SYSTEM COMPONENTS, REMOVE TRASH/DEBRIS FROM INLETS STRUCTURES, JET CLEAN ISOLATOR ROW WHEN AVERAGE DEPTH OF SEDIMENT EXCEEDS 3 INCHES.[1]

1. ALL COLLECTED DEBRIS, TRASH, ORGANICS, AND SEDIMENT SHALL BE TRANSPORTED AND DISPOSED OF AT AN APPROVED LOCATION FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.



POROUS CONCRETE SWALE/BIORETENTION

N.T.S.

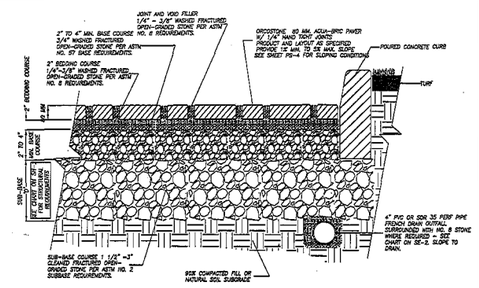
POROUS CONCRETE SWALE/BIORETENTION OPERATION & MAINTENANCE REQUIREMENTS

MANUFACTURER	MANUFACTURER'S TELEPHONE NUMBER	MINIMUM MAINTENANCE FREQUENCY	MAINTENANCE ACTIVITIES
N/A	N/A	4 TIMES A YEAR	VACUUM CLEAN SURFACE USING COMMERCIALLY AVAILABLE SWEEPING MACHINES AT: • END OF WINTER (APRIL) • MID-SUMMER (JULY/AUGUST) • PRIOR TO OCTOBER 1ST • AFTER AUTUMN[1] LEAF-FALL (NOVEMEMBER)

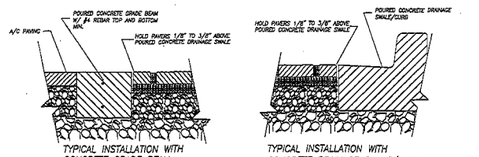
1. ALL COLLECTED DEBRIS, TRASH, ORGANICS, AND SEDIMENT SHALL BE TRANSPORTED AND DISPOSED OF AT AN APPROVED LOCATION FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.

ORCO AQUA-BRIC PERMEABLE INTERLOCKING PAVERS

STANDARD COMMERCIAL PARKING LOT/DRIVEWAY LOADINGS
AQUA-BRIC INSTALLATION FOR REQUIRED WATER DETENTION



STANDARD INSTALLATION WITH CONCRETE CURB EDGE RESTRAINT



JOINTS CONDITIONS VARY, EACH PERMEABLE PAVEMENT DESIGN AND INSTALLATION MUST BE APPROVED BY THE RESPONSIBLE DESIGN PROFESSIONAL - SEE COMPLETE DISCLAIMER ON BACK OF THIS CHART.

ORCO PAVINGSTONES
4545 RUTILE ST. RIVERSIDE, CA. 92509
PH. NO. (951) 685-8498 (951) 685-5974 FAX

SHEET NO. COM-1
AQUA-BRIC COMM. DRIVEWAY

ORCO AQUA-BRIC OPERATION & MAINTENANCE REQUIREMENTS

MANUFACTURER	MANUFACTURER'S TELEPHONE NUMBER	MINIMUM MAINTENANCE FREQUENCY	MAINTENANCE ACTIVITIES
OROC PAVINGSTONES	(951) 685-8498	4 TIMES A YEAR	VACUUM CLEAN SURFACE USING COMMERCIALLY AVAILABLE SWEEPING MACHINES AT: • END OF WINTER (APRIL) • MID-SUMMER (JULY/AUGUST) • PRIOR TO OCTOBER 1ST • AFTER AUTUMN[1] LEAF-FALL (NOVEMEMBER)

1. ALL COLLECTED DEBRIS, TRASH, ORGANICS, AND SEDIMENT SHALL BE TRANSPORTED AND DISPOSED OF AT AN APPROVED LOCATION FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.

Lundstrom
Engineering and Surveying, Inc.
5333 Mission Center Road, Suite 390
San Diego, CA 92108
Phone (619) 84-1220 • Fax (619) 641-5910

SAN MARCOS FIRE DEPARTMENT	VALLECITOS WATER DISTRICT
FIRE FLOW REQUIREMENT 1,500 GPM	PRESSURE ZONE: 855 PUMP ZONE: N/A

SAN MARCOS FIRE PROTECTION DIST.	VALLECITOS WATER DISTRICT	ENGINEER OF WORK
BY: MATTHEW ERNAU, FIRE MARSHAL DATE:	BY: DATE: NAME: KEN GERDES, P.E., DIR. ENG & OPER. R.C.E.: 39307 EXP: 12/31/2013	BY: WILLIAM LUNDSTROM R.C.E. 61636 EXP. 6-30-13 DATE:

NO	APPROVED CHANGES	CITY	VWD	DATE

RECOMMENDED FOR APPROVAL	APPROVED FOR CONSTRUCTION	BENCHMARK
BY: PETER KUEY, PRINCIPAL CIVIL ENGINEER R.C.E.: 44034 EXP.: 06/30/13 DATE: 1-27-12	BY: MICHAEL D. EDWARDS, CITY ENGINEER R.C.E.: 32977 EXP.: 06/30/2014 DATE:	DESCRIPTION: 3" BRASS DISK IN WELL MONUMENT MARKED "C.E." LOCATION: 200' EASTERLY OF THE INTERSECTION OF BINGHAM DRIVE AND MISSION ROAD AT THE CENTERLINE P.C. RECORD FROM: CITY OF SM BENCH MARK NO. 1033 PER ROS 13929 ELEVATION: 567.53 DATUM: M.S.L.

CITY OF SAN MARCOS ENGINEERING DIVISION		Drawing No.
WATER QUALITY IMPROVEMENT PLAN (2 OF 5)	T.S.M. 464	GP-2448
IP-4861 IP-4862 IP-4863 PALOMAR STATION	SDP 05-310 MFSDP 05-46 MF 1392	Sheet 23 of 26

J.N.860-02

WATER QUALITY IMPROVEMENT PLAN

SEE SHEET 23 FOR BMP OPERATION & MAINTENANCE REQUIREMENTS

BMP DATA TABLE

(#) DMA #	(△) BMP #	City BMP ID #	Latitude	Longitude	Financially Responsible Party	Maintenance Assurance	BMP Type	Pollutants of Concern Removal Efficiency	DMA Area (ac.)	Percent Impervious	"C" DMA Runoff Factor	Post Construction Water Quality Flow Rate (cfs) (Iwq = 0.2in/hr)	0.5Q2 Area Sizing Factor (WQ & Hydro Mod) **	0.5Q2 Volume Sizing Factor (WQ & Hydro Mod) **	BMP Area Required (WQ & Hydro Mod) (sf)	BMP Volume Required (WQ & Hydro Mod) (cf)	BMP Area Provided (sf)	BMP Volume Provided (cf)	Total BMP Volume Provided (cf)	Permit Compliance Met (Y/N)
1	N/A	N/A	N/A -	N/A	N/A	N/A	Self Treating (Landscape)	N/A	0.27	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*2	1	2742	33-08-48.9590	117-11-11.5128	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Porous Pvmt Swale + Vault	M-H	0.68	90	0.85	0.11	0.04	0.14	1001	3504	1170	936	4936	Y
	2	2743	33-08-47.6791	117-11-10.0151	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Stormtech SC-740	M										4000		
*3	3	2744	33-08-46.6002	117-11-10.3427	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention + Vault	M-H	0.83	90	0.85	0.14	0.04	0.14	1222	4277	1300	780	4280	Y
	4	2745	33-08-45.3236	117-11-11.1939	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Stormtech SC-740	M										3500		
*4	5	2746	33-08-49.3873	117-11-16.3298	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Porous Pvmt Swale + Vault	M-H	0.84	90	0.85	0.14	0.04	0.14	1237	4329	1240	992	4342	Y
	6	2747	33-08-48.5191	117-11-17.0999	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Stormtech SC-740	M										3350		
*5	7	2748	33-08-49.3430	117-11-13.3369	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention + Vault	M-H	0.16	85	0.82	0.03	0.04	0.14	228	798	230	138	4138	Y
	2	2743	33-08-47.6791	117-11-10.0151	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Stormtech SC-740	M										4000		
*6	8	2750	33-08-48.5478	117-11-11.1281	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention + Vault	M-H	0.16	85	0.82	0.03	0.04	0.14	228	798	230	138	4138	Y
	2	2743	33-08-47.6791	117-11-10.0151	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Stormtech SC-740	M										4000		
7	9	2752	33-08-48.4810	117-11-15.8573	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.14	85	0.82	0.02	0.065	0.0932	324	465	330	528	528	Y
8a	10a	2753	33-08-47.9310	117-11-14.7345	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.07	100	0.90	0.01	0.065	0.0932	178	256	195	312	312	Y
8b	10b	2754	33-08-47.8871	117-11-14.3892	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.05	100	0.90	0.01	0.065	0.0932	127	183	130	208	208	Y
9	11	2755	33-08-47.8158	117-11-13.5206	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.13	100	0.90	0.02	0.065	0.0932	331	475	350	560	560	Y
10	12	2756	33-08-47.8158	117-11-13.3651	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.13	100	0.90	0.02	0.065	0.0932	331	475	350	560	560	Y
11a	13a	2757	33-08-47.1187	117-11-12.4288	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.07	100	0.90	0.01	0.065	0.0932	178	256	190	304	304	Y
11b	13b	2758	33-08-46.9503	117-11-12.8330	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.05	100	0.90	0.01	0.065	0.0932	127	183	140	224	224	Y
12	14	2759	33-08-46.8517	117-11-11.2200	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.14	85	0.82	0.02	0.065	0.0932	324	465	330	528	528	Y
13	15	2760	33-08-48.1988	117-11-15.8536	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.03	100	0.90	0.01	0.065	0.0932	76	110	80	128	128	Y
14	16	2761	33-08-47.6057	117-11-14.9828	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.03	100	0.90	0.01	0.065	0.0932	76	110	80	128	128	Y
15	17	2762	33-08-47.3973	117-11-14.9611	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.05	100	0.90	0.01	0.065	0.0932	115	164	120	192	192	Y
16	18	2763	33-08-46.9659	117-11-14.9417	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.05	100	0.90	0.01	0.065	0.0932	115	164	120	192	192	Y
17	19	2764	33-08-46.9147	117-11-13.8036	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.05	100	0.90	0.01	0.065	0.0932	115	164	120	192	192	Y
18	20	2765	33-08-46.5310	117-11-12.7999	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.05	100	0.90	0.01	0.065	0.0932	115	164	120	192	192	Y
19	21	2766	33-08-46.7213	117-11-12.5861	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.03	100	0.90	0.01	0.065	0.0932	76	110	80	128	128	Y
20	22	2767	33-08-45.3375	117-11-14.4335	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.03	100	0.90	0.01	0.065	0.0932	76	110	80	128	128	Y
21	23	2768	33-08-46.6645	117-11-16.7961	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.13	100	0.90	0.02	0.065	0.0932	331	475	335	536	536	Y
22a	24a	2769	33-08-46.8751	117-11-14.5324	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.17	100	0.90	0.03	0.065	0.0932	433	621	435	696	696	Y
22b	24b	2770	33-08-46.5039	117-11-13.5489	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.17	100	0.90	0.03	0.065	0.0932	433	621	435	696	696	Y
23a	25a	2771	33-08-45.9667	117-11-15.1086	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.14	100	0.90	0.03	0.065	0.0932	357	512	360	576	576	Y
23b	25b	2772	33-08-45.0756	117-11-12.5016	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.14	100	0.90	0.03	0.065	0.0932	357	512	360	576	576	Y
24	26	2773	33-08-45.1028	117-11-12.0892	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.13	100	0.90	0.02	0.065	0.0932	331	475	335	536	536	Y
25	27	2774	33-08-46.6195	117-11-19.2009	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.14	100	0.90	0.03	0.065	0.0932	357	512	360	576	576	Y
26	28	2775	33-08-45.0526	117-11-14.7654	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.17	100	0.90	0.03	0.065	0.0932	433	621	435	696	696	Y
*27	29	2776	33-08-43.6776	117-11-14.7513	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention + Vault	M-H	0.80	90	0.85	0.14	0.04	0.14	1178	4123	1260	1008	4128	Y
	30	2777	33-08-40.4322	117-11-16.5735	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Stormtech SC-740	M										3120		
*28	31	2778	33-08-40.8844	117-11-18.9433	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention + Vault	M-H	0.80	90	0.85	0.14	0.04	0.14	1178	4123	1180	944	4134	Y
	32	2779	33-08-41.9300	117-11-21.5353	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Stormtech SC-740	M										3190		
*29	33	2780	33-08-45.5188	117-11-20.6088	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Porous Pvmt Swale	M-H	0.47	90	0.85	0.08	0.04	0.14	692	2422	1050	840	2440	Y
	34	2781	33-08-44.3574	117-11-21.3135	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Stormtech SC-740	M										1600		
30a	35a	2782	33-08-44.7402	117-11-20.2692	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.24	100	0.90	0.04	0.065	0.0932	612	877	620	992	992	Y
30b	35b	2783	33-08-44.3224	117-11-20.4908	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.03	100	0.90	0.01	0.065	0.0932	76	110	80	128	128	Y
31	36	2784	33-08-44.5072	117-11-19.4124	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.12	100	0.90	0.02	0.065	0.0932	306	438	310	496	496	Y
32	37	2785	33-08-44.5786	117-11-18.8891	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.05	100	0.90	0.01	0.065	0.0932	115	164	120	192	192	Y
33	38	2786	33-08-44.3180	117-11-17.8923	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.11	100	0.90	0.02	0.065	0.0932	280	402	280	448	448	Y
34	39	2787	33-08-44.0188	117-11-17.4648	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.13	100	0.90	0.02	0.065	0.0932	331	475	340	544	544	Y
35	40	2788	33-08-43.8859	117-11-16.5223	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.05	100	0.90	0.01	0.065	0.0932	127	183	130	208	208	Y
36	41	2789	33-08-43.4835	117-11-16.8493	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.13	100	0.90	0.02	0.065	0.0932	331	475	335	536	536	Y
37	42	2790	33-08-43.1758	117-11-15.9577	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.14	100	0.90	0.03	0.065	0.0932	357	512	360	576	576	Y
38	43	2791	33-08-44.2691	117-11-19.5975	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.03	100	0.90	0.01	0.065	0.0932	76	110	80	128	128	Y
39	44	2792	33-08-43.5062	117-11-19.5062	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.09	100	0.90	0.02	0.065	0.0932	229	328	230	368	368	Y
40	45	2793	33-08-43.1466	117-11-18.4000	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.18	100	0.90	0.03	0.065	0.0932	459	658	460	736	736	Y
41	46	2794	33-08-42.7590	117-11-17.3233	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.09	100	0.90	0.02	0.065	0.0932	229	328	230	368	368	Y
42	47	2795	33-08-43.3603	117-11-16.8974	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.03	100	0.90	0.01	0.065	0.0932	76	110	80	128	128	Y
43	48	2796	33-08-43.0514	117-11-18.0392	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.03	100	0.90	0.01	0.065	0.0932	76	110	80	128	128	Y
44	49	2797	33-08-42.6463	117-11-21.4103	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.18	100	0.90	0.03	0.065	0.0932	459	658	460	736	736	Y
45	50	2798	33-08-42.5788	117-11-18.9878	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.18	100	0.90	0.03	0.065	0.0932	459	658	460	736	736	Y
46	51	2799	33-08-42.4469	117-11-18.5227	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.19	100	0.90	0.03	0.065	0.0932	484	694	485	776	776	Y
47	52	2800	33-08-41.4650	117-11-18.7328	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.13	100	0.90	0.02	0.065	0.0932	331	475	335	536	536	Y
48	53	2801	33-08-41.6292	117-11-18.8949	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.14	100	0.90	0.03	0.065	0.0932	357	512	360	576	576	Y
49	54	2802	33-08-42.4359	117-11-21.1338	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.15	100	0.90	0.03	0.065	0.0932	382	548	385	616	616	Y
50	55	2803	33-08-44.4261	117-11-18.8959	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.03	100	0.90	0.01	0.065	0.0932	76	110	80	128	128	Y
51	56	2804	33-08-43.8557	117-11-17.3359	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.04	100	0.90	0.01	0.065	0.0932	102	146	105	168	168	Y
52	57	2805	33-08-47.3507	117-11-13.5543	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Bioretention	M-H	0.02	100	0.90	0.00	0.065	0.0932	51	73	55	82.5	82.5	Y
53	N/A	N/A	N/A	N/A	N/A	N/A	Self Treating (Landscape)	N/A	1.31	15	0.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
54	N/A	N/A	N/A	N/A	N/A	N/A	Self Treating (Landscape)	N/A	1.61	15	0.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
							Self Treating W/ Interim WQ													
55	58	2808	33-08-46.1269	117-11-21.7429	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Basin	M-H	1.56	0	0.35	0.11	N/A	N/A	N/A	N/A	5800	12375	12375	Y
56	59	2809	33-08-47.8401	117-11-22.1436	City of San Marcos	Community Facility Maintenance District	Bioretention	M-H	0.09	100	0.90	0.02	0.065	0.0932	229	328	230	368	368	Y
57	60	2810	33-08-46.8262	117-11-19.2934	City of San Marcos	Community Facility Maintenance District	Bioretention	M-H	0.05	100	0.90	0.01	0.065	0.0932	127	183	130	208	208	Y
58	61	2811	33-08-45.2153	117-11-14.7304	City of San Marcos	Community Facility Maintenance District	Bioretention	M-H	0.08	100	0.90	0.01	0.065	0.0932	204	292	205	328	328	Y
59	62	2812	33-08-44.4035	117-11-12.2972	City of San Marcos	Community Facility Maintenance District	Bioretention	M-H	0.07	100	0.90	0.01	0.065	0.0932	178	256	180	288	288	Y
N/A	63	2749	33-08-47.5698	117-11-13.6188	The Palomar Station Owner, L.L.C.	Maintenance Agreement Tied to Land	Porous Pavers	M-H	0.20	0	0.35	0.01	N/A	N/A	N/A	N/A	8910	N/A	N/A	Y

ROOF DRAIN DATA TABLE

(#) DOWN SPOUT #	(△) DMA #	Drains to BMP #	Building No.	Bldg. Dwg. No. PC 1237 Sheet
1 thru 5	5	7	E	A-BE-4
6 thru 10	6	8	E-R	A-BE-4
11 thru 15	7	9	E	A-BE-4
16 thru 18	8a	10a	E	A-BE-4
19 thru 21	8b	10b	G5	A-BG-1
22 & 23	9	11	E	A-BE-4
30 & 31	10	12	E-R	A-BE-4
32 thru 34	11a	13a	E-R	A-BE-4
35 thru 37	11b	13b	G6	A-BG-1
38 thru 43	12	14	E-R	A-BE-4
44	13	15	F	A-BF-4
45	14	16	F	A-BF-4
46 thru 48	15	17	G3	A-BG-1
49 thru 51	16	18	G3	A-BG-1
52 thru 54	17	19	G4	A-BG-1
55 thru 57	18	20	G4	A-BG-1
58	19	21	F-R	A-BF-4
59	20	22	F-R	A-BF-4
60 thru 62	21	23	F	A-BF-4
63 thru 66	22a	24a	F	A-BF-4
67 thru 70	22b	24b	F-R	A-BF-4
71 thru 75	23a	25a	F	A-BF-4
76 thru 80	23b	25b	F-R	A-BF-4
81 thru 83	24	26	F-R	A-BF-4
84 thru 87	25	27	A	A-BA-4
88 thru 93	26	28	B	A-BB-4
94 thru 97	30	35	A	A-BA-4
98 & 100	31b	36b	A	A-BA-4
101 thru 103	32	37	G1	A-BG-1
104 thru 106	33	38	G1	A-BG-1
111 thru 113	34	39	G2	A-BG-1
114 thru 116	35	40	G2	A-BG-1
117 thru 120	36	41	B	A-BB-4
121 thru 127	37	42	B	A-BB-4
128	38	43	D	A-BD-4
129 thru 134	39	44	H1	A-BH-1
135 thru 139	40	45	H1	A-BH-1
140 thru 144	40	45	H2	A-BH-1
145 thru 149	41	46	H2	A-BH-1
150	42	47	C	A-BC-4
151	43	48	C	A-BC-4
152 thru 154	44	49	D	A-BD-4
155 thru 158	45	50	D	A-BD-4
159 thru 165	46	51	C	A-BC-4
166 thru 171	47	52	C	A-BC-4
172 thru 176	48	53	C	A-BC-4
177 thru 182	49	54	D	A-BD-4

TOTAL AREA = 14.52 ACRES (INCLUDES OFF-SITE PARKING STALLS ON ARMORLITE DRIVE)

*STROMTECH SC-740 (UNDERGROUND DETENTION CELLS) ARE SECONDARY TREATMENT BMPs IN "TREATMENT TRAIN SYSTEM". STORM WATER RUNOFF FLOWS THROUGH PRIMARY TREATMENT BMPs (IE BIORETENTION) BEFORE ENTERING UNDERGROUND DETENTION.

** SIZING FACTORS ARE FROM FINAL HYDROMODIFICATION MANAGEMENT PLAN DATED MARCH 25, 2011 (SOIL GROUP 'D', FLAT SLOPE, OCEANSIDE RAIN GAUGE)

SAN MARCOS FIRE DEPARTMENT	VALLECITOS WATER DISTRICT
FIRE FLOW REQUIREMENT	PRESSURE ZONE: 855
1,500 GPM	PUMP ZONE: N/A

SAN MARCOS FIRE PROTECTION DIST.	VALLECITOS WATER DISTRICT	ENGINEER OF WORK
BY: MATTHEW ERNAU, FIRE MARSHAL	BY: DATE:	BY: WILLIAM LUNDSTROM
DATE:	NAME: KEN GERDES, P.E., DIR. ENG & OPER.	R.C.E. 61630
	R.C.E.: 39307 EXP: 12/31/2013	EXP. 6-30-13 DATE:

NO	APPROVED CHANGES	CITY	VWD	DATE

RECOMMENDED FOR APPROVAL
BY: PETER KUEY, PRINCIPAL CIVIL ENGINEER
R.C.E.: 44034 EXP.: 06/30/13
DATE: 7-27-17

APPROVED FOR CONSTRUCTION
BY: MICHAEL D. EDWARDS, CITY ENGINEER
R.C.E.: 32977 EXP.: 06/30/2014
DATE:

BENCHMARK
DESCRIPTION: 3" BRASS DISK IN WELL MONUMENT MARKED "C.S."
LOCATION: 200' EASTERLY OF THE INTERSECTION OF BINGHAM DRIVE AND MISSION ROAD AT THE CENTERLINE E.C.
RECORD FROM: CITY OF SM BENCH MARK NO. 1033 PER RGS 13928
ELEVATION: 587.53 DATUM: M.S.L.

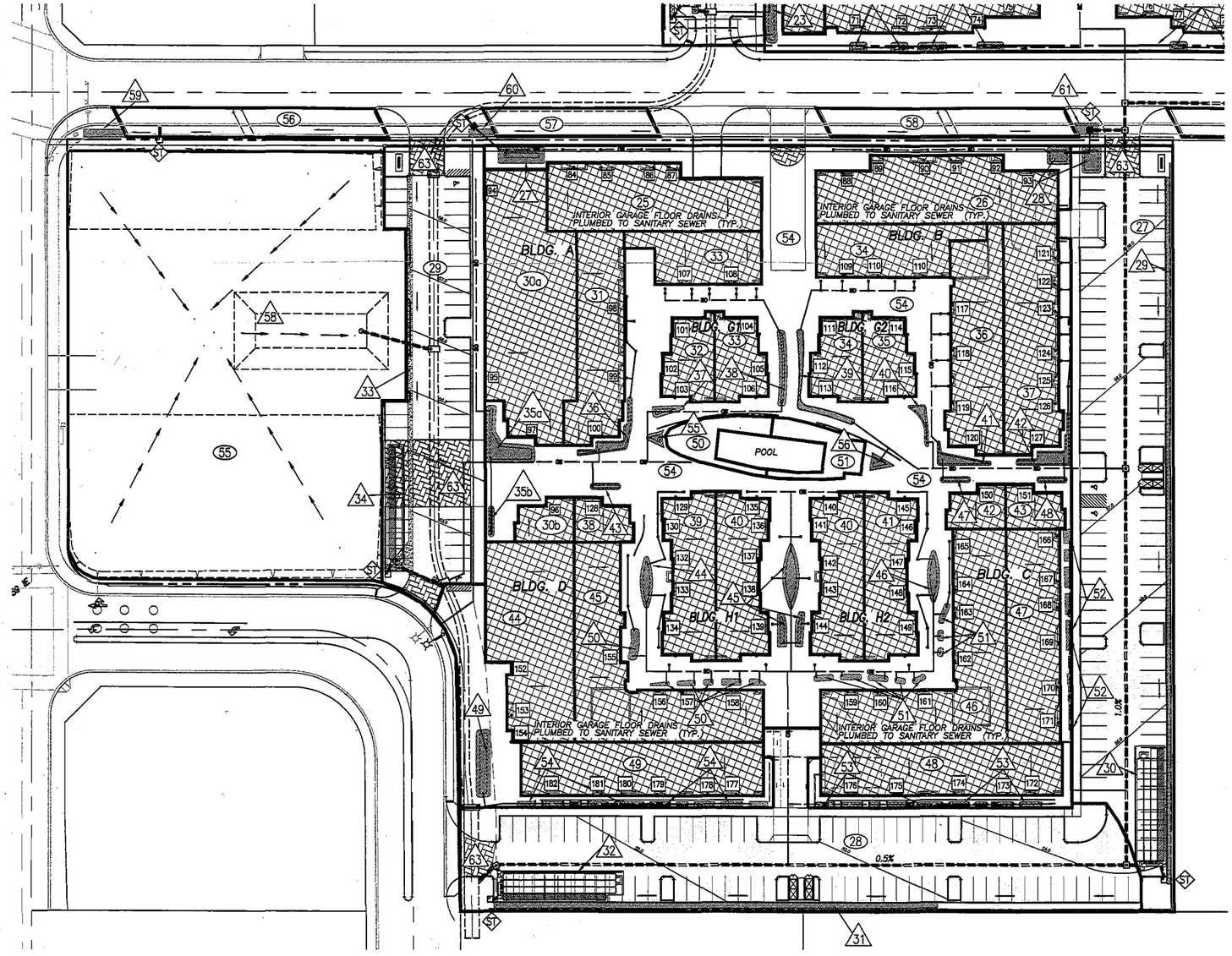
CITY OF SAN MARCOS ENGINEERING DIVISION
WATER QUALITY IMPROVEMENT PLAN (3 OF 5)
PALOMAR STATION
IP-4861
IP-4862
IP-4863
T.S.M. 464
SDP 05-310
MFSDP 05-46
MF 1392

Drawing No. GP-2448
Sheet 24 of 26

J.N. 860-02

Lundstrom
Engineering and Surveying, Inc.
5333 Mission Center Road, Suite 390
San Diego, CA 92108
Phone (619) 84-1220 • Fax (619) 641-5910

WATER QUALITY IMPROVEMENT PLAN



LEGEND

		QUANTITY
1 THRU 54	DMA NUMBER	
1 THRU 63	BMP NUMBER (SEE BMP DATA TABLE ON SHEET 24 FOR CITY BMP I.D. #'s)	
	DMA LIMITS	
1	ROOF DRAIN DOWNSPOUT NUMBER	
	DIRECTION OF FLOW	
	BIORETENTION (PRIMARY BMP)	9,370 S.F.
	PERVIOUS CONCRETE SWALE W/BIORETENTION (PRIMARY BMP)	1,050 S.F.
	PROPOSED STORM DRAIN	
	STORMTECH UNDERGROUND (SECONDARY BMP) DETENTION SYSTEM WITH ISOLATOR ROW	7,910 C.F.
ST	STORM DRAIN W/INLET STENCILING & SIGNAGE (DAS #NDW OR APPROVED EQUAL)	6 EA
	TRASH ENCLOSURE (PER BUILDING PERMIT)	2 EA
	BUILDING ROOF AREA (RUNOFF DRAINS TO BIORETENTION)	119,760 S.F.
	AC PAVEMENT	64,300 S.F.
	POROUS PAVERS	4,860 S.F.
	LANDSCAPE	155,300 S.F.

40 0 40 80 120
SCALE: 1"=40'

SAN MARCOS FIRE DEPARTMENT	VALLECITOS WATER DISTRICT
FIRE FLOW REQUIREMENT 1,500 GPM	PRESSURE ZONE: 855 PUMP ZONE: N/A

SAN MARCOS FIRE PROTECTION DIST.	VALLECITOS WATER DISTRICT	ENGINEER OF WORK
BY: MATTHEW ERNAU, FIRE MARSHAL DATE:	BY: DATE: NAME: KEN GERDES, P.E., DIR. ENG & OPER. R.C.E.: 39307 EXP: 12/31/2013	BY: WILLIAM LUNDSTROM R.C.E. 61630 EXP. 6-30-13 DATE:

NO	APPROVED CHANGES	CITY	VWD	DATE

RECOMMENDED FOR APPROVAL
BY: PETER KUEY, PRINCIPAL CIVIL ENGINEER
R.C.E.: 44034 EXP.: 06/30/13
DATE:

APPROVED FOR CONSTRUCTION
BY: MICHAEL D. EDWARDS, CITY ENGINEER
R.C.E.: 32977 EXP.: 06/30/2014
DATE:

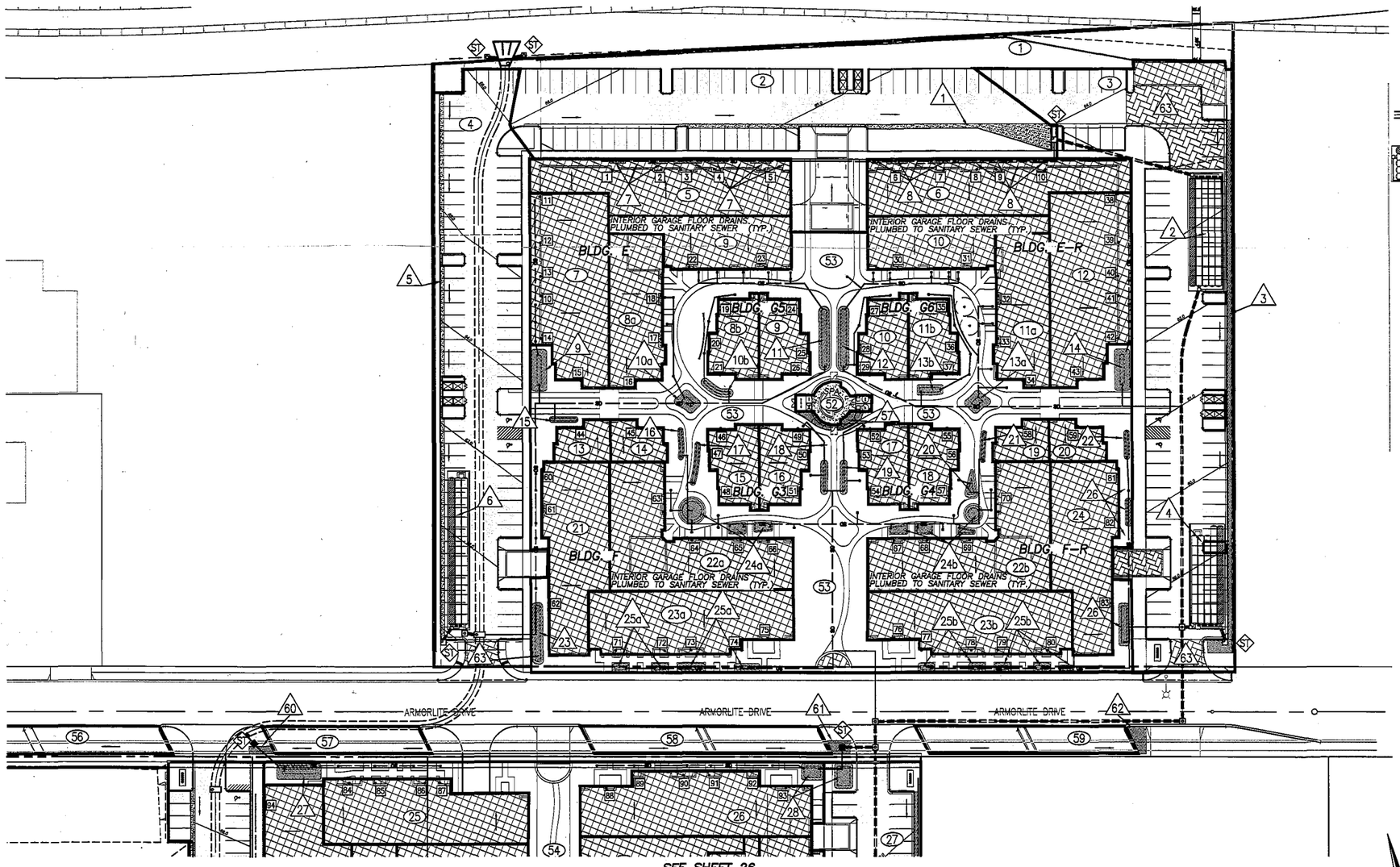
BENCHMARK
DESCRIPTION: 3" BRASS DISK IN WELL MONUMENT MARKED "C.E."
LOCATION: 200' EASTERLY OF THE INTERSECTION OF BINGHAM DRIVE AND MISSION ROAD AT THE CENTERLINE E.C.
RECORD FROM: CITY OF SM BENCH MARK NO. 1033 PER RDS 13929
ELEVATION: 587.53 DATUM: M.S.L.

CITY OF SAN MARCOS ENGINEERING DIVISION
WATER QUALITY IMPROVEMENT PLAN (4 OF 5)
PALOMAR STATION
IP-4861 IP-4862 IP-4863
T.S.M. 464
SDP 05-310
MFSDP 05-46
MF 1392

Drawing No. GP-2448
Sheet 26 of 26

J.N.860-02

WATER QUALITY IMPROVEMENT PLAN



SEE SHEET 26

LEGEND		QUANTITY
① THRU ⑤④	DMA NUMBER	
△1 THRU △63	BMP NUMBER (SEE BMP DATA TABLE ON SHEET 24 FOR CITY BMP I.D. #'s)	
	DMA LIMITS	
1	ROOF DRAIN DOWN SPOUT NUMBER	
	DIRECTION OF FLOW	
	BIORETENTION (PRIMARY BMP)	7,620 S.F.
	PERVIOUS CONCRETE SWALE W/BIORETENTION (PRIMARY BMP)	2,410 S.F.
	PROPOSED STORM DRAIN	
	STORMTECH UNDERGROUND (SECONDARY BMP) DETENTION SYSTEM WITH ISOLATOR ROW	10,850 C.F.
NO DUMPING! DRAINS TO WATERWAY #NDW — ST	STORM DRAIN W/INLET STENCILING & SIGNAGE (DAS #NDW OR APPROVED EQUAL)	5 EA
	TRASH ENCLOSURE (PER BUILDING PERMIT)	3 EA
	BUILDING ROOF AREA (RUNOFF DRAINS TO BIORETENTION)	94,995 S.F.
	AC PAVEMENT	65,440 S.F.
	POROUS PAVERS	4,050 S.F.
	LANDSCAPE	93,800 S.F.

40 0 40 80 120
SCALE: 1"=40'

SAN MARCOS FIRE DEPARTMENT	VALLECITOS WATER DISTRICT
FIRE FLOW REQUIREMENT 1,500 GPM	PRESSURE ZONE: 855 PUMP ZONE: N/A

SAN MARCOS FIRE PROTECTION DIST.	VALLECITOS WATER DISTRICT	ENGINEER OF WORK
BY: MATTHEW ERNAU, FIRE MARSHAL DATE:	BY: DATE: NAME: KEN GERDES, P.E., DIR. ENG & OPER. R.C.E.: 39307 EXP: 12/31/2013	BY: WILLIAM LUNDSTROM R.C.E. 61630 EXP. 6-30-13 DATE:

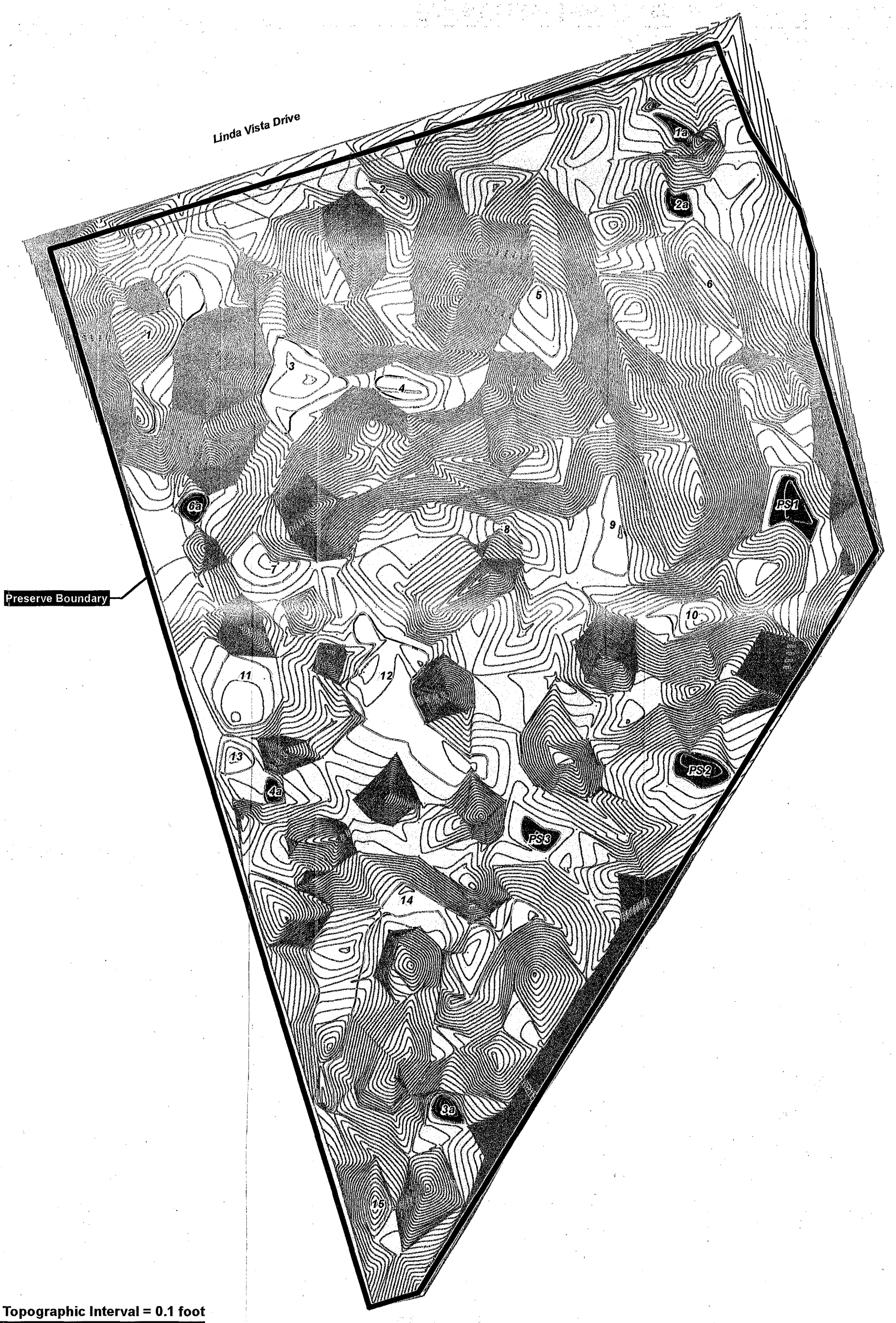
NO	APPROVED CHANGES	CITY	VWD	DATE

RECOMMENDED FOR APPROVAL	APPROVED FOR CONSTRUCTION
BY: PETER KUEY, PRINCIPAL CIVIL ENGINEER R.C.E.: 44034 EXP.: 06/30/13 DATE:	BY: MICHAEL D. EDWARDS, CITY ENGINEER R.C.E.: 32977 EXP.: 06/30/2014 DATE:

BENCHMARK
DESCRIPTION: 3" BRASS DISK IN WELL MONUMENT MARKED "C.E."
LOCATION: 200' EASTERLY OF THE INTERSECTION OF BINGHAM DRIVE AND MISSION ROAD AT THE CENTERLINE E.C.
RECORD FROM: CITY OF SM BENCH MARK NO. 1033 PER RDS 13929
ELEVATION: 567.53 DATUM: M.S.L.

CITY OF SAN MARCOS ENGINEERING DIVISION		Drawing No.
WATER QUALITY IMPROVEMENT PLAN (4 OF 5)	T.S.M. 464	GP-2448
PALOMAR STATION	SDP 05-310 MFSDP 05-46 MF 1392	Sheet 25of 26
IP-4861 IP-4862 IP-4863		

J.N.860-02



Note: Topographic Interval = 0.1 foot

60 30 0 60 Feet

Job No: IPQ-06 Date: 08/29/12

I:\ArcGIS\I\IPQ-05 Paloma\Map\BIO\HMP\Fig5_VernalPool_Restoration.mxd - JP

- Vernal Pool (0.40 acre)
- Vernal Pool - San Marcos School District (0.02 acre)
- Created Vernal Pool (0.03 acre)
- Upland Enhancement Area (4.42 acres)

Fry's Vernal Pool Preserve Vernal Pool Restoration

FRY'S VERNAL POOL PRESERVE

HELIX Environmental Planning

Figure 5

Palomar Station Compensatory Mitigation

PALOMAR STATION MITIGATION PLAN

HELIX Environmental Planning

Figure 6