June 6, 2016

Certified Mail – Return Receipt Requested
Article Number: 7011 0470 0002 8961 9887

Ms. Dawn Norton
Heritage Building and Development
4350 Executive Drive, Suite 305
San Diego, CA 92121

In reply refer to / attn:
R9-2014-0096:808206:amonji

Subject: Clean Water Act Section 401 Water Quality Certification No. R9-2014-0096; for the Meadowlark Canyon Project

Ms. Norton:

Enclosed find Clean Water Act Section 401 Water Quality Certification No. R9-2014-0096 (Certification) issued by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) in response to the application submitted by Heritage Building and Development for the Meadowlark Canyon Project (Project). A description of the Project and Project location can be found in the Certification and site maps which are included as attachments to the Certification.

Heritage Building and Development is enrolled under State Water Resources Control Board Order No. 2003-017-DWQ as a condition of the Certification and is required to implement and comply with all terms and conditions of the Certification in order to ensure that water quality standards are met for the protection of wetlands and other aquatic resources. Failure to comply with this Certification may subject Heritage Building and Development to enforcement actions by the San Diego Water Board including administrative enforcement orders requiring Heritage Building and Development to cease and desist from violations or to clean-up waste and abate existing or threatened conditions of pollution or nuisance; administrative civil liability in amounts of up to $10,000 per day per violation; referral to the State Attorney General for injunctive relief; and, referral to the District Attorney for criminal prosecution.

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

Diego Water Board must include the following identification numbers in the header or subject line: Certification No. R9-2014-0096:808206:amonji.

For questions or comments regarding the Certification, please contact Alan Monji by telephone at (619) 521-3968 or by email at Alan.Monji@waterboards.ca.gov.

Respectfully,

DAVID W. GIBSON
Executive Officer

DWG:jgs:db:eb:atm

Enclosure:

Clean Water Act Section 401 Water Quality Certification No. R9-2014-0096 for the Meadowlark Canyon Project

Mr. Mike Jefferson
Blue Consulting Group
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Mr. Winston Zack
U.S. Army Corps of Engineers
Regulatory Division
Winston.S.Zack@usace.army.mil

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

U.S. EPA, OWOW, Region 9
Wetlands Regulatory Office
R9-WTR8-Mailbox@epa.gov

Mr. Eric Becker
San Diego Water Board
Eric.Becker@waterboards.ca.gov

Mr. David Barker
San Diego Water Board
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Tech Staff Info & Use	
File No.	R9-2014-0096
WDID	9 000002746
Reg. Measure ID	397572
Place ID	808206
Party ID	547961
Person ID	547962

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

2375 Northside Drive, Suite.100, San Diego, CA 92108
Phone (619) 516-1990 • Fax (619) 516-1994
http://www.waterboards.ca.gov/sandiego/

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

PROJECT: **Meadowlark Canyon**
Certification Number R9-2014-0096
WDID: 9000002746

Reg. Meas. ID: 397572
Place ID: 808206
Party ID: 547961
Person ID: 547962

APPLICANT: **Heritage Building and Development**
4350 Executive Drive, Suite 305
San Diego, California 92121

ACTION:

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

PROJECT DESCRIPTION

An application dated July 28, 2014 was submitted by Heritage Building and Development (hereinafter Applicant), for Water Quality Certification pursuant to section 401 of the Clean Water Act (United States Code (USC) Title 33, section 1341) for the proposed Meadowlark Canyon Project (Project). The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) deemed the application to be complete on August 26, 2014. The Applicant proposes to discharge dredged or fill material to waters of the United States and/or State associated with construction activity at the Project site. The Applicant has also applied for a Clean Water Act section 404 permit from the United States Army Corps of Engineers for the Project (USACE File No. SPL-2014-00467-WJZ).

The Project is located within the City of San Marcos, San Diego County, California on the south side of San Marcos Blvd between White Sand Drive and Acacia Drive. The Project center reading is located at latitude 33.132251 and longitude -117.218514. The Applicant has paid all required application fees for this Certification in the amount of $3,051.00. On an annual basis, the Applicant must also pay all active discharge fees and post discharge monitoring fees, as appropriate[1]. On August 5, 2014, the San Diego Water Board provided

[1] The Applicant must pay an annual active discharge fee each fiscal year or portion of a fiscal year during which discharges occur until the San Diego Water Board or the State Water Resources Control Board (State Water Board) issues a Notice of Completion of Discharges Letter to the Applicant. The Applicant must also pay an annual post-discharge monitoring fee each fiscal year or portion of a fiscal year commencing with the first fiscal year following the fiscal year in which the San Diego Water Board or the State Water Board issued a Notice of Completion of Discharges Letter to the Applicant, but continued

(footnote continued on next page)

public notice of the Project application pursuant to California Code of Regulations, title 23, section 3858 by posting information describing the Project on the San Diego Water Board's web site and providing a period of twenty-one days for public review and comment. No comments were received.

The Meadowlark Canyon Project (Project) will construct 33 single family residences and the infrastructure improvements associated with a new development on an 18 acre site. Improvements include, but are not limited to: road improvements, water and sewer mains, streetlights, storm drains, and a detention pond.

The Project will convert approximately 3.05 acres of pervious ground cover to impervious surfaces. Runoff leaving the developed Project area would be significantly greater in volume, velocity, peak flow rate, and duration than pre-development runoff from the same area without mitigation. Post-construction best management practices (BMPs) to manage and control the effects of these runoff increases will consist of porous pavement, storm drain inserts, and a bioretention pond. These BMPs will be designed, constructed, and maintained to meet City of San Marcos Low Impact Development (LID) Capture Volume and hydromodification treatment requirements.

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

Project construction will permanently impact 0.007 acre (154 linear feet) of ephemeral non-wetland waters of the United States and/or State. The Applicant reports that the Project purpose cannot be practically accomplished in a manner which would avoid or result in less adverse impacts to aquatic resources considering all potential practicable alternatives, such as the potential for alternate available locations, designs, reductions in size, configuration or density. The Project construction is limited to upland areas adjacent to San Marcos Boulevard. No construction is proposed in the drainage that is tributary to San Marcos Creek.

The Applicant reports that compensatory mitigation for the permanent loss of 0.007 acre of jurisdictional waters will be achieved through the rehabilitation and enhancement of 0.15 acres of waters of the United States and/or State. All waters of the United States and/or State receiving temporary discharges of fill material will be restored upon removal of the fill. Mitigation for discharges of fill material to waters of the United States and/or State will be

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(footnote continued from previous page)
water quality monitoring or compensatory mitigation monitoring is required. The Applicant must pay the annual post-discharge monitoring fee each fiscal year until the San Diego Water Board or the State Water Board issues a Notice of Project Complete Letter to the Applicant. Additional information regarding fees can be found electronically at the following location: http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/dredgefillcalculator.xlsx

completed by the Applicant at an onsite located in the Carlsbad hydrologic sub-area (HSA 904.5) at a minimum compensation ratio of 21.4:1 (area mitigated:area impacted).

Detailed written specifications and work descriptions for the compensatory mitigation project including, but not limited to, the geographic boundaries of the project, timing, sequence, monitoring, maintenance, ecological success performance standards and provisions for long-term management and protection of the mitigation areas are described in the *Meadowlark Canyon Wetland Mitigation and Monitoring Plan* (Mitigation Plan), dated May 12, 2016. San Diego Water Board acceptance of the 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. The Mitigation Plan is incorporated in this Certification by reference as if set forth herein. The Mitigation Plan provides for implementation of compensatory mitigation which offsets adverse water quality impacts attributed to the Project in a manner that protects and restores the abundance, types and conditions of aquatic resources and supports their beneficial uses. Implementation of the Mitigation Plan will reduce significant environmental impacts to resources within the San Diego Water Board's purview to a less than significant level. Based on all of these considerations, the Mitigation Plan will adequately compensate for the loss of beneficial uses and habitat within waters of the United States and/or State attributable to the Project.

Additional Project details are provided in Attachments 1 through 5 of this Certification.

TABLE OF CONTENTS

Attachments:

1. **Definitions**
2. **Project Location Maps**
3. **Project Site Plans**
4. **Mitigation Figures**
5. **CEQA Mitigation Monitoring and Reporting Program**

I. STANDARD CONDITIONS

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

A. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the Water Code and chapter 28, article 6 (commencing with title 23, section 3867), of the California Code of Regulations.

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

C. This Certification action is conditioned upon total payment of any fee required under title 23, chapter 28 (commencing with section 3830) of California Code of Regulations and owed by the applicant.

II. GENERAL CONDITIONS

A. **Term of Certification**. Water Quality Certification No. R9-2014-0096 (Certification) shall expire upon a) the expiration or retraction of the Clean Water Act section 404 (33 USC Title 33, section 1344) permit issued by the U.S. Army Corps of Engineers for this Project, or b) five (5) years from the date of issuance of this Certification, whichever occurs first.

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

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

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

D. **Project Conformance with Application.** All water quality protection measures and BMPs described in the application and supplemental information for water quality

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

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

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

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

G. **Certification Distribution Posting**. During Project construction, the Applicant must maintain a copy of this Certification at the Project site. This Certification must be available at all times to site personnel and agencies. A copy of this Certification shall also be provided to any contractor or subcontractor performing construction work, and the copy shall remain in their possession at the Project site.

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

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

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

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

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

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

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

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

2. Monitoring results indicate that continued Project activities could violate water quality objectives or impair the beneficial uses of the unnamed tributary to San Marcos Creek or its tributaries;

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

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

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

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

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

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

M. **Petitions**. Any person aggrieved by this action of the San Diego Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with the California Code of Regulations, title 23, sections 3867 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Certification. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

III. CONSTRUCTION BEST MANAGEMENT PRACTICES

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

B. **Personnel Education.** Prior to the start of the Project, and annually thereafter, the Applicant must educate all personnel on the requirements in this Certification, pollution prevention measures, spill response measures, and BMP implementation and maintenance measures.

C. **Spill Containment Materials.** The Applicant must, at all times, maintain appropriate types and sufficient quantities of materials on-site to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the United States and/or State.

D. **General Construction Storm Water Permit.** Prior to start of Project construction, the Applicant must, as applicable, obtain coverage under, and comply with, the requirements of State Water Resources Control Board Water Quality Order No. 2009-0009-DWQ, the *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activity*, (General Construction Storm Water Permit) and any reissuance. If Project construction activities do not require coverage under the General Construction Storm Water Permit, the Applicant must develop and implement a runoff management plan (or equivalent construction BMP plan) to prevent the discharge of sediment and other pollutants during construction activities.

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

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

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

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

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

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

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

L. **Hazardous Materials.** Except as authorized by this Certification, substances hazardous to aquatic life including, but not limited to, petroleum products, unused cement/concrete, asphalt, and coating materials, must be prevented from contaminating the soil and/or entering waters of the United States and/or State. BMPs must be implemented to prevent such discharges during each Project activity involving hazardous materials.

M. **Vegetation Removal.** Removal of vegetation must occur by hand, mechanically, or through application of United States Environmental Protection Agency (USEPA) approved herbicides deployed using applicable BMPs to minimize adverse effects to beneficial uses of waters of the United States and/or State. Discharges related to the application of aquatic pesticides within waters of the United States must be done in compliance with State Water Resources Control Board Water Quality Order No. 2004-0009-DWQ, the *Statewide General National Pollution Discharge Elimination System Permit for the Discharge of Aquatic Weed Control in Waters of the United States,* and any subsequent reissuance as applicable.

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

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

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

IV. POST-CONSTRUCTION BEST MANAGEMENT PRACTICES

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

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

C. **Post-Construction BMP Design.** The Project must be designed to comply with the most current Standard Storm Water Mitigation and Hydromodification Plans for City of San Marcos.

D. **Post-Construction BMP Implementation.** All post-construction BMPs must be constructed, functional, and implemented prior to completion of Project construction, occupancy, and/or planned use, and maintained in perpetuity. The post construction BMPs must include those described in the *Water Quality Improvement Plan* (WQIP), dated July 25, 2014, prepared on behalf of the Applicant by Excel Engineering; or any subsequent version of the WQIP approved by the City of San Marcos.

E. **Post-Construction BMP Maintenance.** The post construction BMPs must be designed, constructed, and maintained in accordance with the most recent California Storm Water Quality Association (CASQA) [2] guidance. The Applicant shall:

1. No less than two times per year, assess the performance of the BMPs to ensure protection of the receiving waters and identify any necessary corrective measures;

2. Perform inspections of BMPs, at the beginning of the wet season no later than October 1 and the end of the wet season no later than April 1, for standing water, slope stability, sediment accumulation, trash and debris, and presence of burrows;

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

4. Identify and promptly repair damage to BMPs; and

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

V. PROJECT IMPACTS AND COMPENSATORY MITIGATION

A. **Project Impact Avoidance and Minimization**. The Project must avoid and minimize adverse impacts to waters of the United States and/or State to the maximum extent practicable. The Project has avoided and minimized impacts to onsite aquatic resources by limiting the development to the uplands areas adjacent to San Marcos Boulevard. The drainage feature impacted is a small drainage originating on the north side of San Marcos Boulevard, through a pipe underneath San Marcos Boulevard, and outlets on the south side of San Marcos Boulevard.

B. **Project Impacts and Compensatory Mitigation.** Unavoidable Project impacts to San Marcos Creek and its unnamed tributaries within the Carlsbad Watershed must not exceed the type and magnitude of impacts described in the table below. At a minimum, compensatory mitigation required to offset unavoidable temporary and permanent Project impacts to waters of the United States and/or State must be achieved as described in the table below:

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

	Impacts (acres)	Impacts (linear ft.)	Mitigation for Impacts (acres)	Mitigation Ratio (area mitigated :area impacted)	Mitigation for Impacts (linear ft.)	Mitigation Ratio (linear feet mitigated :linear feet impacted)
Permanent Impacts						
Stream Channel	0.007	154	0.08 Enhancement[1] 0.07[1] Rehabilitation	21.4:1	1,642 Enhancement and Rehabilitation	10.7:1

1. Streambed rehabilitation and enhancement mitigation will be conducted on-site.
2. All areas of temporary impacts must be restored to pre-project contours and re-vegetated with native species.

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

D. **Performance Standards.** Compensatory mitigation required under this Certification shall be considered achieved once it has met the ecological success performance standards contained in the Mitigation Plan (Section 6, Table 6) to the satisfaction of the San Diego Water Board.

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

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

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

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

F. **Temporary Project Impact Areas.** The Applicant must restore all areas of temporary impacts and all other areas of temporary disturbance which could result in a discharge or a threatened discharge of pollutants to waters of the United States and/or State. Restoration must include grading of disturbed areas to pre-project contours and re-

vegetation with native species. The Applicant must implement all necessary BMPs to control erosion and runoff from areas associated with the Project.

G. **Long Term Management and Maintenance.** The compensatory mitigation site(s), must be managed, protected, and maintained, in perpetuity, in conformance with the long term management plan and the final ecological success performance standards identified in the Mitigation Plan. The aquatic habitats, riparian areas, buffers and uplands that comprise the mitigation site(s) must be protected in perpetuity from land-use and maintenance activities that may threaten water quality or beneficial uses within the mitigation area(s) in a manner consistent with the following requirements:

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

2. Maintenance activities must be limited to the removal of trash and debris, removal of exotic plant species, replacement of dead native plant species, and remedial measures deemed necessary for the success of the compensatory mitigation project;

3. The Mitigation site(s) must be maintained, in perpetuity, free of perennial exotic plant species including, but not limited to, pampas grass, giant reed, tamarisk, sweet fennel, tree tobacco, castor bean, and pepper tree. Annual exotic plant species must not occupy more than 5 percent of the mitigation site(s); and

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

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

I. **Mitigation Site(s) Preservation Mechanism. Within 90 days from the issuance of this Certification**, the Applicant 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 start of Project construction**, the Applicant 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 United States and/ or State that it supports. The legal limitation must prohibit, without exception, all residential, commercial, industrial, institutional, and transportation development, and any other infrastructure development that would not maintain or enhance the wetland and streambed functions and values of the sites. The preservation mechanism must clearly prohibit activities that would result in soil disturbance or vegetation removal, other than the removal of non-native vegetation. Other infrastructure development to be prohibited includes, but is not limited to, additional utility lines, maintenance roads, and areas of maintained landscaping for recreation.

VI. MONITORING AND REPORTING REQUIREMENTS

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

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

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

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

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

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

3. The date(s) analyses were performed;

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

5. The analytical techniques or methods used; and

6. The results of such analyses.

E. **California Rapid Assessment Method.** California Rapid Assessment Method (CRAM)[3] monitoring must be performed to assess the current and potential ecological conditions (ecological integrity) of the impact site and proposed compensatory mitigation site(s). These conditions reflect the overall level of ecological function of an aquatic resource. Prior to initiating Project construction, the Applicant shall develop a monitoring plan to implement California Rapid Assessment Method (CRAM) monitoring. The Applicant must conduct a quantitative function-based assessment of the health of

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

streambed habitat to establish pre-project baseline conditions, set CRAM success criteria, and assess the mitigation site(s) progress towards meeting the success criteria. CRAM monitoring must be conducted prior to the start of Project construction authorized under this Certification and, at a minimum, years 3 and 5 following construction completion. The CRAM monitoring results shall be submitted with the respective Annual Project Progress Report. An evaluation, interpretation, and tabulation of all CRAM assessment data shall be submitted with the Final Project Completion Report. If mitigation monitoring is required to continue past five years, CRAM monitoring will also continue every other year until all success criteria are met.

F. **Annual Project Progress Reports.** The Applicant must submit annual Project progress reports describing status of BMP implementation, compensatory mitigation, and compliance with all requirements of this Certification to the San Diego Water Board prior to **March 1** of each year following the issuance of this Certification, until the Project has reached completion. The Annual Project Progress Reports must contain compensatory mitigation monitoring information sufficient to demonstrate how the compensatory mitigation project is progressing towards accomplishing its objectives and meeting its performance standards. Annual Project Progress Reports must be submitted even if Project construction has not begun. The monitoring period for each Annual Project Progress Report shall be January 1st through December 31st of each year. Annual Project Progress Reports must include, at a minimum, the following:

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

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

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

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

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

2. **Compensatory Mitigation Monitoring Reporting.** Mitigation monitoring information must be submitted as part of the Annual Project Progress Report for a period of not less than five years, sufficient to demonstrate that the compensatory mitigation project has accomplished its objectives and met ecological success performance standards contained in the Mitigation Plan. Following Project implementation the San Diego Water Board may reduce or waive compensatory

mitigation monitoring requirements upon a determination that performance standards have been achieved. Conversely the San Diego Water Board may extend the monitoring period beyond five years upon a determination that the performance standards have not been met or the compensatory mitigation project is not on track to meet them. The Annual Project Progress Report must include the following compensatory mitigation monitoring information:

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

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

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

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

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

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

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

g. Stream photo documentation, including all areas of permanent and temporary impact, prior to and after mitigation site construction. Photo documentation must be conducted in accordance with guidelines posted at http://www.waterboards.ca.gov/sandiego/water_issues/programs/401_certification/docs/StreamPhotoDocSOP.pdf. In addition, photo documentation must include Geographic Positioning System (GPS) coordinates for each of the photo points referenced;

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

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

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

G. **Final Project Completion Report.** The Applicant must submit a Final Project Completion Report to the San Diego Water Board **within 30 days of completion of the Project.** The final report must include the following information:

1. Date of construction initiation;

2. Date of construction completion;

3. BMP installation and operational status for the Project;

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

5. Photo documentation of implemented post-construction BMPs and all areas of permanent and temporary impacts, prior to and after project construction. Photo documentation must be conducted in accordance with guidelines posted at http://www.waterboards.ca.gov/sandiego/water_issues/programs/401_certification/docs/StreamPhotoDocSOP.pdf. In addition, photo documentation must include Global Positioning System (GPS) coordinates for each of the photo points referenced; and

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

H. **Reporting Authority.** The submittal of information required under this Certification, or in response to a suspected violation of any condition of this Certification, is required pursuant to Water Code section 13267 and 13383. Civil liability may be administratively imposed by the San Diego Water Board for failure to submit information pursuant to Water Code sections 13268 or 13385.

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

California Regional Water Quality Control Board
San Diego Region
Attn: 401 Certification No. R9-2014-0096:808206:amonji
2375 Northside Drive, Suite 100
San Diego, California 92108

Each electronic document must be submitted as a single file, in Portable Document Format (PDF) format, and converted to text searchable format using Optical Character Recognition (OCR). All electronic documents must include scanned copies of all signature pages; electronic signatures will not be accepted. Electronic documents submitted to the San Diego Water Board must include the following identification numbers in the header or subject line: Certification No. R9-2014-0096:808206:amonji.

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

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

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

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

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

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

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

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

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

K. **Document Certification Requirements**. All applications, reports, or information submitted to the San Diego Water Board must be certified as follows:

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

VII. NOTIFICATION REQUIREMENTS

A. **Twenty Four Hour Non-Compliance Reporting.** The Applicant shall report any noncompliance which may endanger health or the environment. Any such information shall be provided orally to the San Diego Water Board within **24 hours** from the time the Applicant becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Applicant becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken

or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The San Diego Water Board, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

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

C. **Oil or Petroleum Product Discharge.** Except as provided in Water Code section 13272(b), any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Government Code Title 2, Division 1, Chapter 7, Article 3.7 (commencing with section 8574.1). This requirement does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Clean Water Act section 311, or the discharge is in violation of a Basin Plan prohibition.

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

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

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

1. **Transfer of Property Ownership:** The Applicant must notify the San Diego Water Board of any change in ownership of the Project area. Notification of change in ownership must include, but not be limited to, a statement that the Applicant has

provided the purchaser with a copy of the Section 401 Water Quality Certification and that the purchaser understands and accepts the certification requirements and the obligation to implement them or be subject to liability for failure to do so; the seller and purchaser must sign and date the notification and provide such notification to the San Diego Water Board **within 10 days of the transfer of ownership.**

2. **Transfer of Mitigation Responsibility:** Any notification of transfer of responsibilities to satisfy the mitigation requirements set forth in this Certification must include a signed statement from an authorized representative of the new party (transferee) demonstrating acceptance and understanding of the responsibility to comply with and fully satisfy the mitigation conditions and agreement that failure to comply with the mitigation conditions and associated requirements may subject the transferee to enforcement by the San Diego Water Board under Water Code section 13385, subdivision (a). Notification of transfer of responsibilities meeting the above conditions must be provided to the San Diego Water Board **within 10 days of the transfer date.**

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

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

VIII. CALIFORNIA ENVIRONMENTAL QUALITY ACT COMPLIANCE

A. The City of San Marcos is the Lead Agency under the California Environmental Quality Act (CEQA) (Public Resources Code section 21000, et seq.) section 21067, and CEQA Guidelines (California Code of Regulations, title 14, section 15000 et seq.) section 15367, and has filed a Notice of Determination dated March 2, 2005 for the Final Mitigated Negative Declaration (FMND) titled Meadowlark Canyon Subdivision (State Clearing House Number 2005039011). The Lead Agency has determined the Project will have a significant effect on the environment and mitigation measures were made a condition of the Project.

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

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

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

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

IX. SAN DIEGO WATER BOARD CONTACT PERSON

Alan Monji, Environmental Scientist
Telephone: 619-521-3968
Email: Alan.Monji@waterboards.ca.gov

X. WATER QUALITY CERTIFICATION

I hereby certify that the proposed discharge from the **Meadowlark Canyon Project** (Certification No. R9-2014-0096) will comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Board Order No. 2003-0017-DWQ, "*Statewide General Waste Discharge Requirements for Dredged or Fill Discharges that have Received State Water Quality Certification (General WDRs)*," which requires compliance with all conditions of this Water Quality Certification. Please note that enrollment under Order No. 2003-017-DWQ is conditional and, should new information come to our attention that indicates a water quality problem, the San Diego Water Board may issue individual waste discharge requirements at that time.

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited to, and all proposed mitigation being completed in strict compliance with, the applicants' Project description and/or the description in this Certification, and (b) compliance with all applicable requirements of the Basin Plan.

I, David W. Gibson, Executive Officer, do hereby certify the forgoing is a full, true, and correct copy of Certification No. R9-2014-0096 issued on June 6, 2016.

David W. G

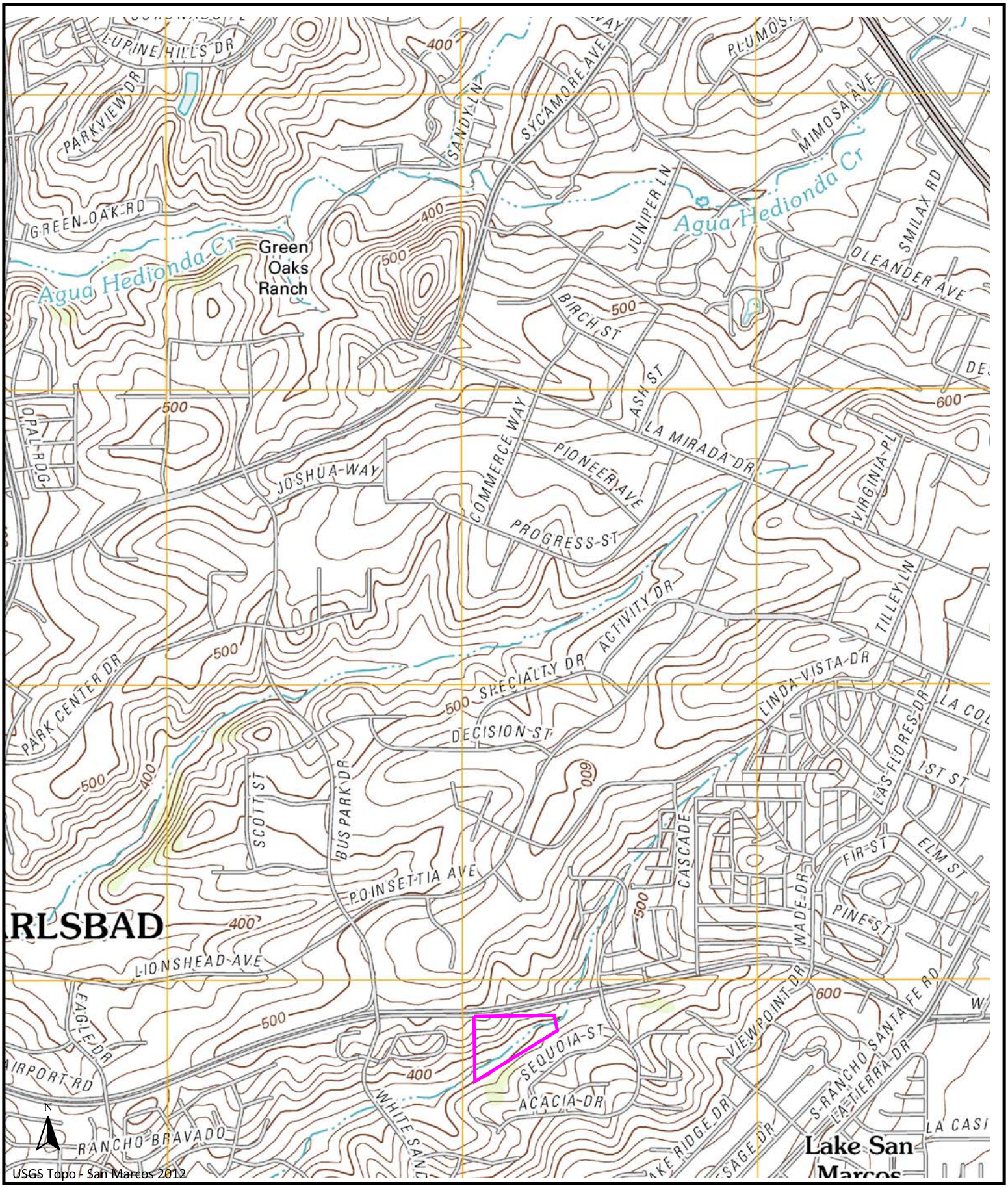
DAVID W. GIBSON
Executive Officer
San Diego Water Board

6 June 2016
Date

ATTACHMENT 2

LOCATION MAPS AND FIGURES

1. AES, Figure 1, Property Location Map
2. AES, Figure 3, Project Aerial Map

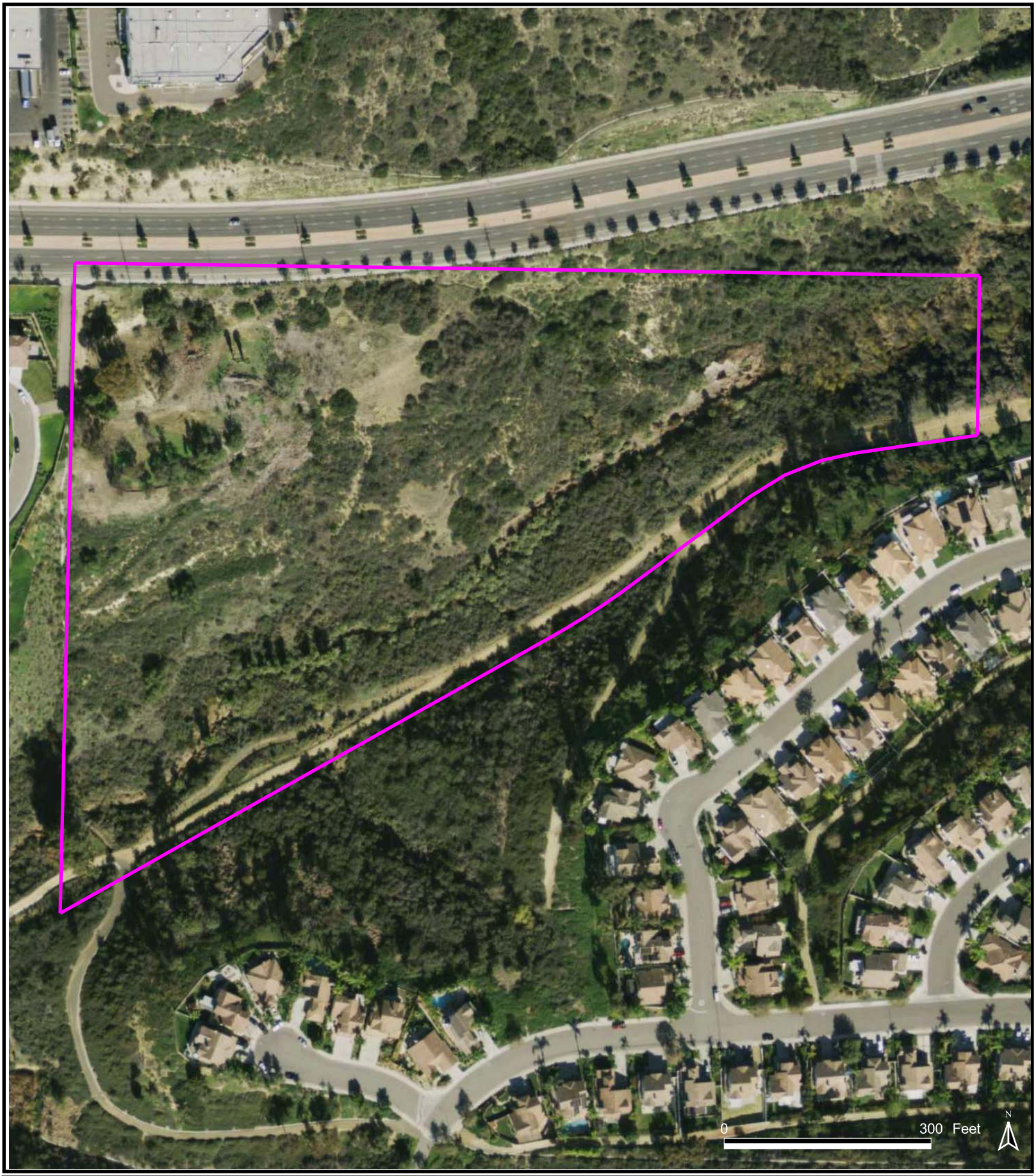


USGS Topo - San Marcos 2012

Property

FIGURE 2

Property Location
USGS Topo Map



Meadowlark Canyon Property

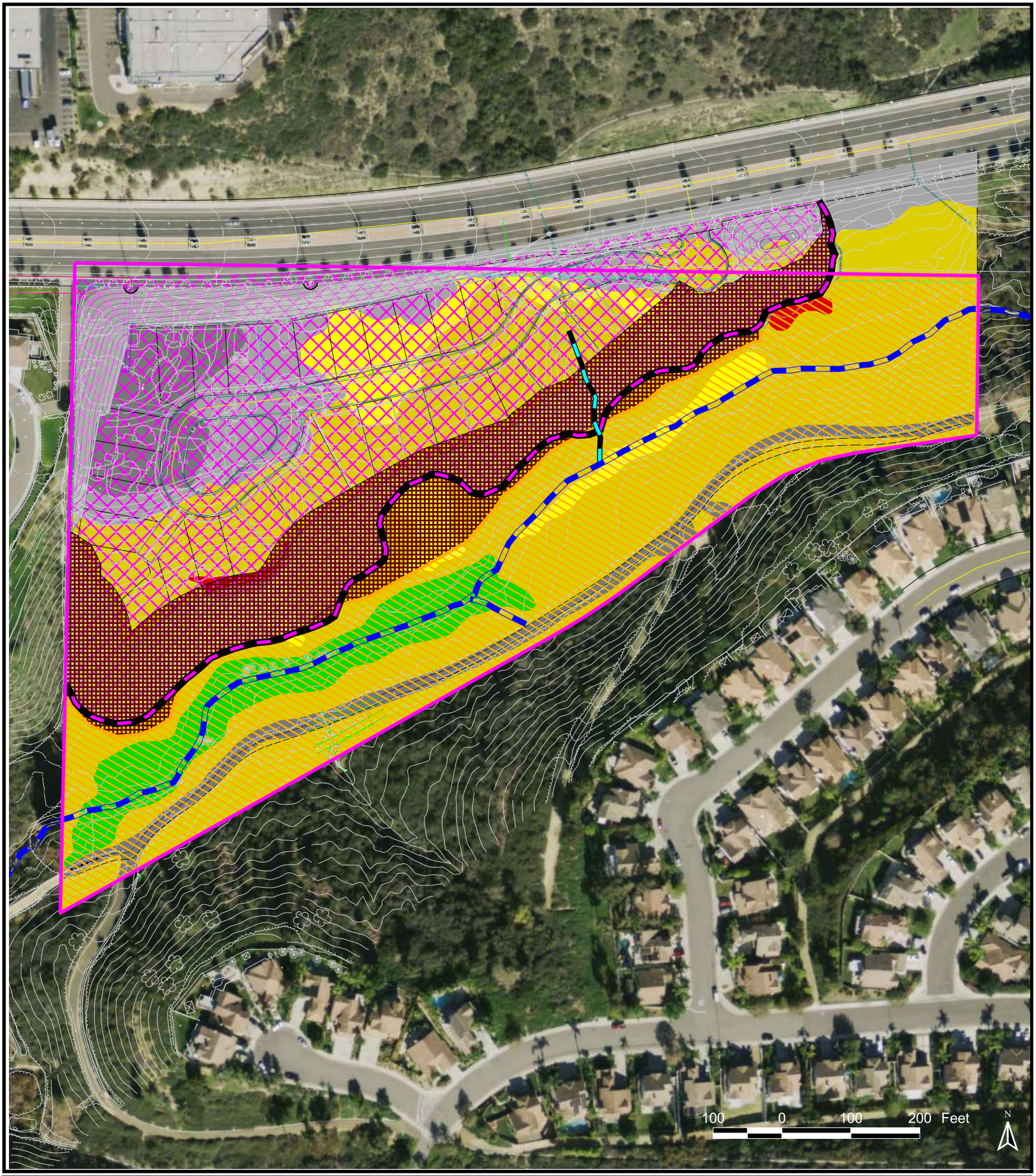
FIGURE 3
Project Aerial

ATTACHMENT 3

PROJECT FIGURES

1. AES, Figure 4, Delineation Results.

2. Water Quality Improvement Plans, Sheets 14-18, July 15, 2014.



Grading Footprint

Brush Management Zone

Open Space Preserve

Toe of Revised 1.5 :1 Slope

Mixed Chaparral

Baccharis Scrub

Disturbed Coastal Sage Scrub

Annual Grasslands

Developed Area

Disturbed Habitat

Ephemeral Drainage

Disturbed Wetlands

FIGURE 4
Delineation Results

WATER QUALITY IMPROVEMENT PLAN

PROJECT AREA

GROSS AREA WITHIN PROJECT PROPERTY LINE = 16.70 ACRES
AREA OF DEVELOPMENT/ DISTURBED AREA (INCLUDES OFFSITE)= 9.10 ACRES

HYDROLOGIC UNIT CONTRIBUTION (WATERSHED)

WATERSHED	HYDROLOGIC AREA	HYDROLOGIC SUB-AREA	DOWNSTREAM WATERBODIES(AC.)
CARLSBAD	904.50 SAN MARCOS	904.52 RICHLAND	SAN MARCOS CREEK, LAKE SAN MARCOS, BATIQUITOS LAGOON, PACIFIC OCEAN

IMPAIRED WATER BODIES

2010 CALIFORNIA 303(d) LIST OF WATER QUALITY REGION 9 - SAN DIEGO

CALWATER WATERSHED	WATER BODY NAME	WATER BODY TYPE	ESTIMATED SIZE EFFECTED	POLLUTANT	POLLUTANT CATEGORY
90451000	SAN MARCOS CREEK	RIVER & STREAM	19 MILES	DDE, PHOSPHORUS, SEDIMENT TOXICITY, SELENIUM	PESTICIDES, NUTRIENTS, SEDIMENT, METALS/METTALLOIDS
90452000	LAKE SAN MARCOS	LAKE & RESERVOIR	17 ACRES	AMMONIA AS NITROGEN, NUTRIENTS	NUTRIENTS
90451000	BATIQUITOS AND PACIFIC OCEAN	COASTAL & BAYSHORE LINE	0.03 MILES	TOTAL COLIFORM	PATHOGENS

ANTICIPATED POLLUTANTS

PRIORITY PROJECT CATEGORIES	SEDIMENT	NUTRIENTS	HEAVY METALS	ORGANIC COMPOUNDS	TRASH & DEBRIS	OXYGEN DEMANDING SUBSTANCES	OIL & GREASE	BACTERIA & VIRUSES	PESTICIDES
DETACHED RESIDENTIAL DEVELOPMENT	X	X			X	P[2]	P[2]	P	X
PARKING LOT	P[1]	P[1]	X		X	P[1]	X		P[1]
STREETS, HIGHWAY & FREEWAY	X	P[1]	X	X[4]	X	P[3]	X		

NOTES:
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

IMPERVIOUS AREAS

AREA	SURFACE AREA (SQUARE FEET)	SURFACE AREA (ACRES)
STREET & GUTTER	50,195	1.152
ROOF	69,784	1.602
CARPORT	12,711	0.292
TOTAL AREA	132,690	3.046

POLLUTANTS OF CONCERN

CATEGORY	SEDIMENT	NUTRIENTS	HEAVY METALS	ORGANIC COMPOUNDS	TRASH & DEBRIS	OXYGEN DEMANDING SUBSTANCES	OIL & GREASE	BACTERIA & VIRUSES	PESTICIDES
ANTICIPATED	X	X	X	X	X	X	X	X	X
DOWNSTREAM IMPAIREMENT	X	X	X					X	X
PRIMARY POLLUTANT OF CONCERN	X	X	X					X	X
SECONDARY POLLUTANT OF CONCERN				X	X	X	X		

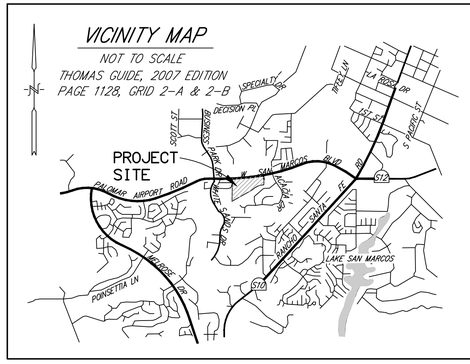
LID DESIGN PROPOSED

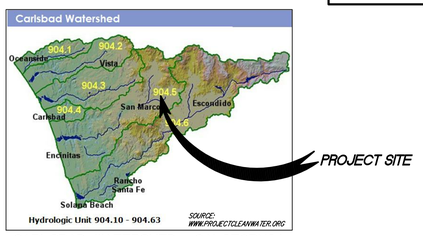
LOW IMPACT DEVELOPMENT (LID) INTEGRATED MANAGEMENT PRACTICES (IMP) AND LID SITE DESIGN WERE CONSIDERED FOR USE BEFORE PROPRIETARY MECHANICAL TREATMENT DEVICES WERE CONSIDERED. BELOW ARE LID IMPs CONSIDERED FOR USE AT THE PROJECT:

LOCATION NODE	LID DESIGN PRINCIPLE CONSIDERED	APPLICABLE	SITE CONSTRAINTS OR OPPORTUNITIES TO USAGE	ALTERNATIVE PROPOSED	PERMIT COMPLIANCE MET	QUANTITY UNITS
1	CONSERVE NATURAL AREAS, SOILS AND VEGETATIONS	YES	N/A	N/A	YES	
2	DETAIN AND RETAIN RUNOFF THROUGH OUT THE SITE	YES	N/A	THE DEVELOPED AREA WILL BE TREATED BY BIO-RETENTION PONDS, POROUS PAVEMENT WITH MEDIA FILTER AND DRAIN INSERT.	YES	
3	USE DRAINAGE AS DESIGN ELEMENT	YES	N/A	SEE ABOVE	YES	
4	USE PERVIOUS SURFACES	YES	THE EXISTING SITE HAS LOW INFILTRATION RATE BASED ON DUE DILIGENCE GEOTECHNICAL INVESTIGATION.	BIO-RETENTION POND IS EQUIPPED WITH UNDERDRAIN.	YES	
5	DISPERSE RUNOFF TO ADJACENT PERVIOUS AREAS	YES	N/A	WHEREVER POSSIBLE, ROOF DRAINS ARE DIRECTED TO LANDSCAPE AREAS OR SELF-RETAINING AREA OR BIO-RETENTION	YES	
6	DIRECT RUNOFF TO INTEGRATED MANAGEMENT PRACTICES (IMP).	YES	N/A	N/A	YES	

NOTE: THIS WATER QUALITY IMPROVEMENT PLAN (WQIP) HAS BEEN PREPARED IN CONJUNCTION WITH A PRECISE GRADING PLAN. THIS WQIP IS INTENDED TO SATISFY REQUIREMENTS OF REGIONAL WATER QUALITY CONTROL BOARD ORDER R9-2007-0001 AND SUBSEQUENT AMENDMENTS.

SITE MAP





CARLSBAD WATERSHED, CALIFORNIA

PROJECT SUMMARY

THE PROJECT PROPOSES TO BUILD THIRTY THREE (33) SINGLE FAMILY RESIDENTIAL BUILDINGS ALONG WITH THE COMMON IMPROVEMENTS ASSOCIATED WITH SUCH A DEVELOPMENT. THE IMPROVEMENT WILL BE, BUT ARE NOT LIMITED TO THE FOLLOWING: ROAD IMPROVEMENTS, WATER AND SEWER MAINS, STREET LIGHTS, STORMDRAIN FACILITIES AND A BIORETENTION POND. BIORETENTION FACILITIES ARE PROPOSED THROUGHOUT THE SITE IN ORDER TO MEET WATER QUALITY & HYDROMODIFICATION REQUIREMENTS.

THERE IS ALSO A FILL SLOPE PROPOSED ALONG THE SOUTHERN PORTION OF THE PROJECT. THIS SLOPE VARIES FROM FIVE FEET (5') TO AROUND SIXTY FEET (60') HIGH. ON THE NORTHERN PART OF THE PROJECT A CUT SLOPE IS PROPOSED WITH A TWO-TIER RETAINING WALL. SAID RETAINING WALLS ARE PROPOSED TO BE THE "BOULDERSCAPE" TYPE. THIS WILL BLEND WITH THE ENVIRONMENT AND WOULD RESEMBLE A BOULDER OUTCROPPING.

THE PROJECT IS LOCATED IN THE SAN MARCOS CREEK WATERSHED OF THE CARLSBAD HYDROLOGIC UNIT. THE SITE INDIRECTLY DRAINS TO SAN MARCOS CREEK. SAN MARCOS CREEK IS A 303(d) LISTED WATER BODY THAT IS IMPACTED BY DDT, PHOSPHORUS AND SEDIMENT TOXICITY.

AN INCREASE IN RUNOFF FROM THE EXISTING SITE CONDITION IS EXPECTED. HOWEVER, THE SITE WILL INCLUDE STORM DRAIN IMPROVEMENTS SUCH AS PIPE SIZING, DETENTION PONDS, ETC. THAT ATTENUATE THE INCREASE PEAK FLOWS FROM 100 YEAR STORM EVENT RETURN PERIOD. BIORETENTION SYSTEM WITH DETENTION SYSTEM ARE UTILIZED IN THIS PROJECT NOT ONLY TO TREAT THE POLLUTANTS GENERATED FROM THIS DEVELOPMENT BUT ALSO TO ATTENUATE PEAK FLOW RUNOFF. HYDROMODIFICATION IS ALSO ANALYZED TO MANAGE RUNOFF SUCH THAT DEVELOPMENT IN THE WATERSHED DOES NOT INCREASE THE FLOW-DURATION CURVE BY MORE THAN A GIVEN PERCENTAGE FOR A SPECIFIED RANGE OF SIGNIFICANT FLOWS.

THE SITE HAS AN EXISTING STREAM THAT FLOW THROUGH THE PROPERTY BOUNDARY IN THE BOTTOM OF THE CANYON. SINCE THIS PROJECT IS NOT GOING TO DIVERT ANY OF THOSE FLOWS AND THE PROJECT DOES NOT CROSS THE CANYON BOTTOM, THE CONSTRUCTION AREA WILL NOT BE RECEIVING ANY RUN-ON FROM THE OFF-SITE AREAS.

NOTES

THE SELECTION, SIZING, AND DESIGN OF STORMWATER TREATMENT LID, SITE DESIGN, AND SOURCE CONTROL IN THIS PLAN MEET THE REQUIREMENTS OF REGIONAL WATER QUALITY CONTROL BOARD ORDER R9-2007-0001. NO REVISIONS TO THIS PLAN SHALL OCCUR WITHOUT REVIEW FROM THE CITY ENGINEER.

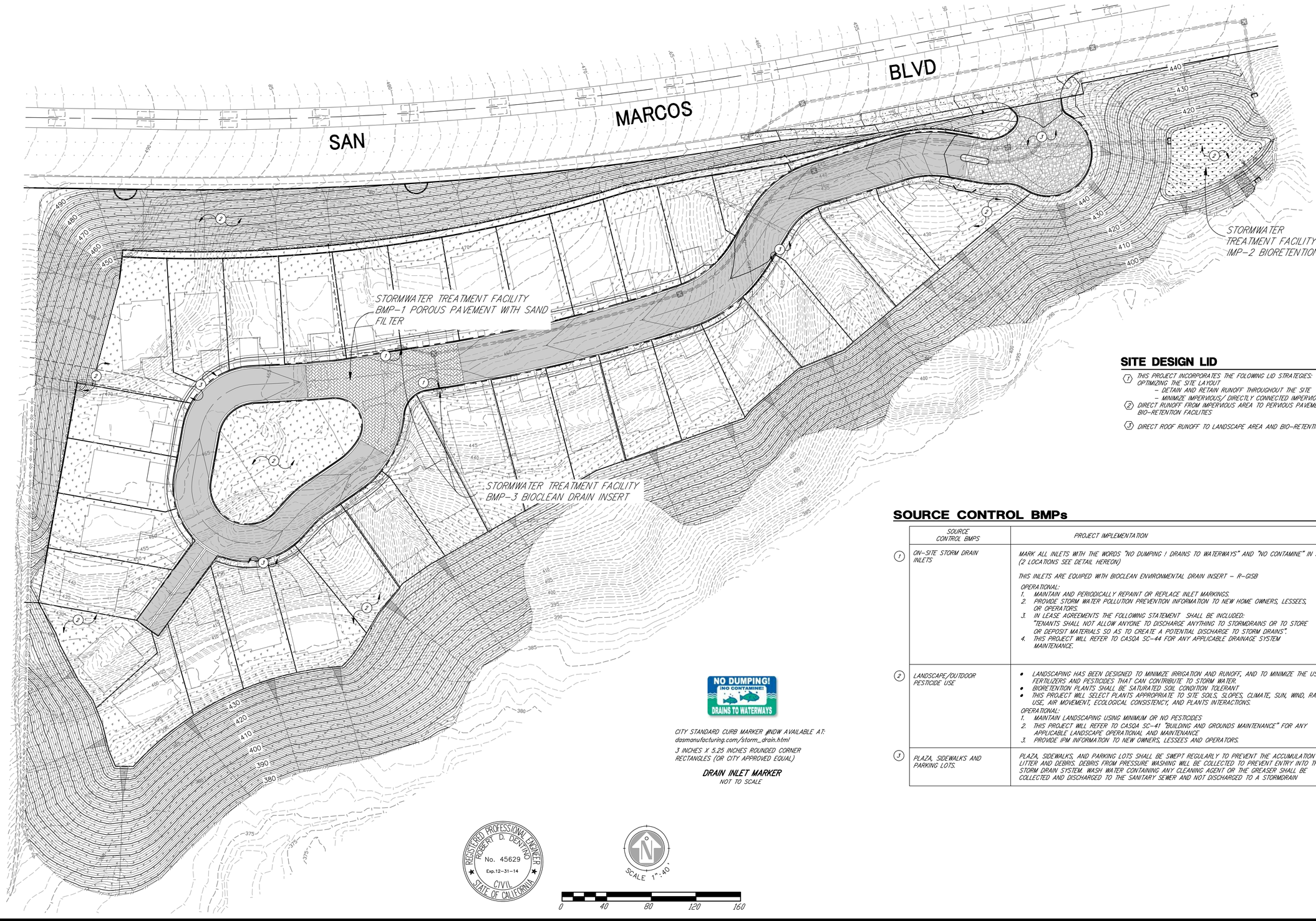
REGISTERED PROFESSIONAL ENGINEER
ROBERT D. DENTINO
No. 45629
Exp.12-31-14
CIVIL
STATE OF CALIFORNIA

PLOT DATE: Jul 15, 2014 - 9:26am

SAN MARCOS FIRE DEPARTMENT	VALLECITOS WATER DISTRICT	ENGINEER OF WORK	CITY APPROVED CHANGES	RECOMMENDED FOR APPROVAL	APPROVED FOR CONSTRUCTION	BENCH MARK
By: ROBERT SCOTT, FIRE MARSHALL	FOR GRADING PERMIT ONLY	BEC Drawn By	No. Description City VWD Date	By: PETER KUEY, DEPUTY CITY ENGINEER	By: MATT LITTLE, DEPUTY CITY ENGINEER	Description: 3" BRASS DISC IN CONCRETE MONUMENT, STAMPED "CITY OF SAN MARCOS, VERTICAL CONTROL, VC 013, 1992"
Date:	By: PRESTON H. LEWIS DATE	Name: ROBERT D. DENTINO Date: Jul 15, 2014		R.C.E.: 44034 exp.: 06-30-2015	R.C.E.: 60569 exp.: 12-31-2014	Location: FROM INTERSECTION OF RANCHO SANTA FE RD AND SAN MARCOS BLVD, WESTERLY POINT OF NORTHWEST CURB RETURN, 7.5 FEET NORTH OF CURB FACE, 2 FEET BEHIND SIDEWALK
	R.C.E. 45927 EXP: 12-31-14	R.C.E.: 45629 exp: 12-31-14		Date:	Date:	Record From: ROS MAP 13928 REC. 10/1/1992, DOC. 92-625379
						Elev.: 515.178 FEET M.S.L. Datum: NAVD 88

CITY OF SAN MARCOS ENGINEERING DIVISION
WATER QUALITY IMPROVEMENT PLAN FOR: SDP-
MEADOWLARK CANYON

City Drawing No. WQIP-01
Sheet 14 of 31
V.W.D. --



SITE DESIGN LID

(1) THIS PROJECT INCORPORATES THE FOLOWING LID STRATEGIES:
OPTIMIZING THE SITE LAYOUT
– DETAIN AND RETAIN RUNOFF THROUGHOUT THE SITE
– MINIMIZE IMPERVIOUS/ DIRECTLY CONNECTED IMPERVIOUS AREAS

(2) DIRECT RUNOFF FROM IMPERVIOUS AREA TO PERVIOUS PAVEMENT AND BIO-RETENTION FACILITIES

(3) DIRECT ROOF RUNOFF TO LANDSCAPE AREA AND BIO-RETENTION FACILITY

SOURCE CONTROL BMPs

	SOURCE CONTROL BMPS	PROJECT IMPLEMENTATION	PERMIT COMPLIANCE MET
(1)	ON-SITE STORM DRAIN INLETS	MARK ALL INLETS WITH THE WORDS "NO DUMPING ! DRAINS TO WATERWAYS" AND "NO CONTAMINE" IN SPANISH. (2 LOCATIONS SEE DETAIL HEREON) THIS INLETS ARE EQUIPED WITH BIOCLEAN ENVIRONMENTAL DRAIN INSERT – R-GISB OPERATIONAL: 1. MAINTAIN AND PERIODICALLY REPAINT OR REPLACE INLET MARKINGS. 2. PROVIDE STORM WATER POLLUTION PREVENTION INFORMATION TO NEW HOME OWNERS, LESSEES, OR OPERATORS. 3. IN LEASE AGREEMENTS THE FOLLOWING STATEMENT SHALL BE INCLUDED: "TENANTS SHALL NOT ALLOW ANYONE TO DISCHARGE ANYTHING TO STORMDRAINS OR TO STORE OR DEPOSIT MATERIALS SO AS TO CREATE A POTENTIAL DISCHARGE TO STORM DRAINS". 4. THIS PROJECT WILL REFER TO CASQA SC-44 FOR ANY APPLICABLE DRAINAGE SYSTEM MAINTENANCE.	YES
(2)	LANDSCAPE/OUTDOOR PESTICIDE USE	• LANDSCAPING HAS BEEN DESIGNED TO MINIMIZE IRRIGATION AND RUNOFF, AND TO MINIMIZE THE USE OF FERTILIZERS AND PESTICIDES THAT CAN CONTRIBUTE TO STORM WATER. • BIORETENTION PLANTS SHALL BE SATURATED SOIL CONDITION TOLERANT • THIS PROJECT WILL SELECT PLANTS APPROPRIATE TO SITE SOILS, SLOPES, CLIMATE, SUN, WIND, RAIN, LAND USE, AIR MOVEMENT, ECOLOGICAL CONSISTENCY, AND PLANTS INTERACTIONS. OPERATIONAL: 1. MAINTAIN LANDSCAPING USING MINIMUM OR NO PESTICIDES 2. THIS PROJECT WILL REFER TO CASQA SC-41 "BUILDING AND GROUNDS MAINTENANCE" FOR ANY APPLICABLE LANDSCAPE OPERATIONAL AND MAINTENANCE 3. PROVIDE IPM INFORMATION TO NEW OWNERS, LESSEES AND OPERATORS.	YES
(3)	PLAZA, SIDEWALKS AND PARKING LOTS.	PLAZA, SIDEWALKS, AND PARKING LOTS SHALL BE SWEPT REGULARLY TO PREVENT THE ACCUMULATION OF LITTER AND DEBRIS. DEBRIS FROM PRESSURE WASHING WILL BE COLLECTED TO PREVENT ENTRY INTO THE STORM DRAIN SYSTEM. WASH WATER CONTAINING ANY CLEANING AGENT OR THE GREASER SHALL BE COLLECTED AND DISCHARGED TO THE SANITARY SEWER AND NOT DISCHARGED TO A STORMDRAIN	YES

CITY STANDARD CURB MARKER #NDW AVAILABLE AT:
dasmanufacturing.com/storm_drain.html
3 INCHES X 5.25 INCHES ROUNDED CORNER RECTANGLES (OR CITY APPROVED EQUAL)

DRAIN INLET MARKER
NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER
ROBERT D. DENTINO
No. 45629
Exp.12-31-14
CIVIL
STATE OF CALIFORNIA

SCALE 1":40'
0 40 80 120 160

PLOT DATE: Jul 15, 2014 - 8:13am

SAN MARCOS FIRE DEPARTMENT	VALLECITOS WATER DISTRICT	ENGINEER OF WORK	CITY APPROVED CHANGES	RECOMMENDED FOR APPROVAL	APPROVED FOR CONSTRUCTION	BENCH MARK	CITY OF SAN MARCOS ENGINEERING DIVISION	City Drawing No.
By: ROBERT SCOTT, FIRE MARSHALL Date:	FOR GRADING PERMIT ONLY By: PRESTON H. LEWIS DATE R.C.E. 45927 EXP: 12-31-14	BEC Drawn By By: Date: Jul 15, 2014 Name: ROBERT D. DENTINO R.C.E.: 45629 exp: 12-31-14	No. Description City VWD Date	By: PETER KUEY, DEPUTY CITY ENGINEER R.C.E.: 44034 exp.: 06-30-2015 Date:	By: MATT LITTLE, DEPUTY CITY ENGINEER R.C.E.: 60569 exp.: 12-31-2014 Date:	Description: 3" BRASS DISC IN CONCRETE MONUMENT, STAMPED "CITY OF SAN MARCOS VERTICAL CONTROL VC OLS 1992" Location: FROM INTERSECTION OF RANCHO SANTA FE RD AND SAN MARCOS BLVD, WESTERLY POINT OF NORTHWEST CURB RETURN, 7.5 FEET NORTH OF CURB FACE, 2 FEET BEHIND SIDEWALK Record From: ROS MAP 13928 REC. 10/1/1992, DOC. 92-625379 Elev.: 515.178 FEET M.S.L. Datum: NAVD 88	WATER QUALITY IMPROVEMENT PLAN FOR: SDP- **MEADOWLARK CANYON**	WQIP-02
								Sheet 15 of 31
								V.W.D. --

POST-PROJECT DMA CALCULATIONS

PROJECT NAME: MEADOW LARK CANYON
PROJECT LOCATION: SAN MARCOS BOULEVARD & ACACIA DRIVE
SAN MARCOS, CA 92069
SOIL TYPE: D (BASED ON COUNTY SOILS MAP)
PERCENTAGE OF IMPERVIOUS AREA: 33.5 % OF THE DISTURBED AREA
TOTAL PROPERTY AREA: 16.70 ACRES
ESTIMATED TOTAL DISTURBED AREA (INCLUDES OFFSITE): 9.10 ACRES

ANTICIPATED POLLUTANTS REMOVAL EFFICIENCY

POLLUTANTS	BIORETENTION	MEDIA FILTER
SEDIMENT	HIGH	HIGH
NUTRIENTS	MEDIUM/HIGH	LOW
TRASH	HIGH	HIGH
METALS	HIGH	HIGH
BACTERIA	MEDIUM	MEDIUM
OIL AND GREASE	HIGH	HIGH
ORGANICS	HIGH	HIGH
OXYGEN DEMANDING	HIGH	HIGH

LEGEND

PROPOSED STORMDRAIN PIPE (PRIVATE)

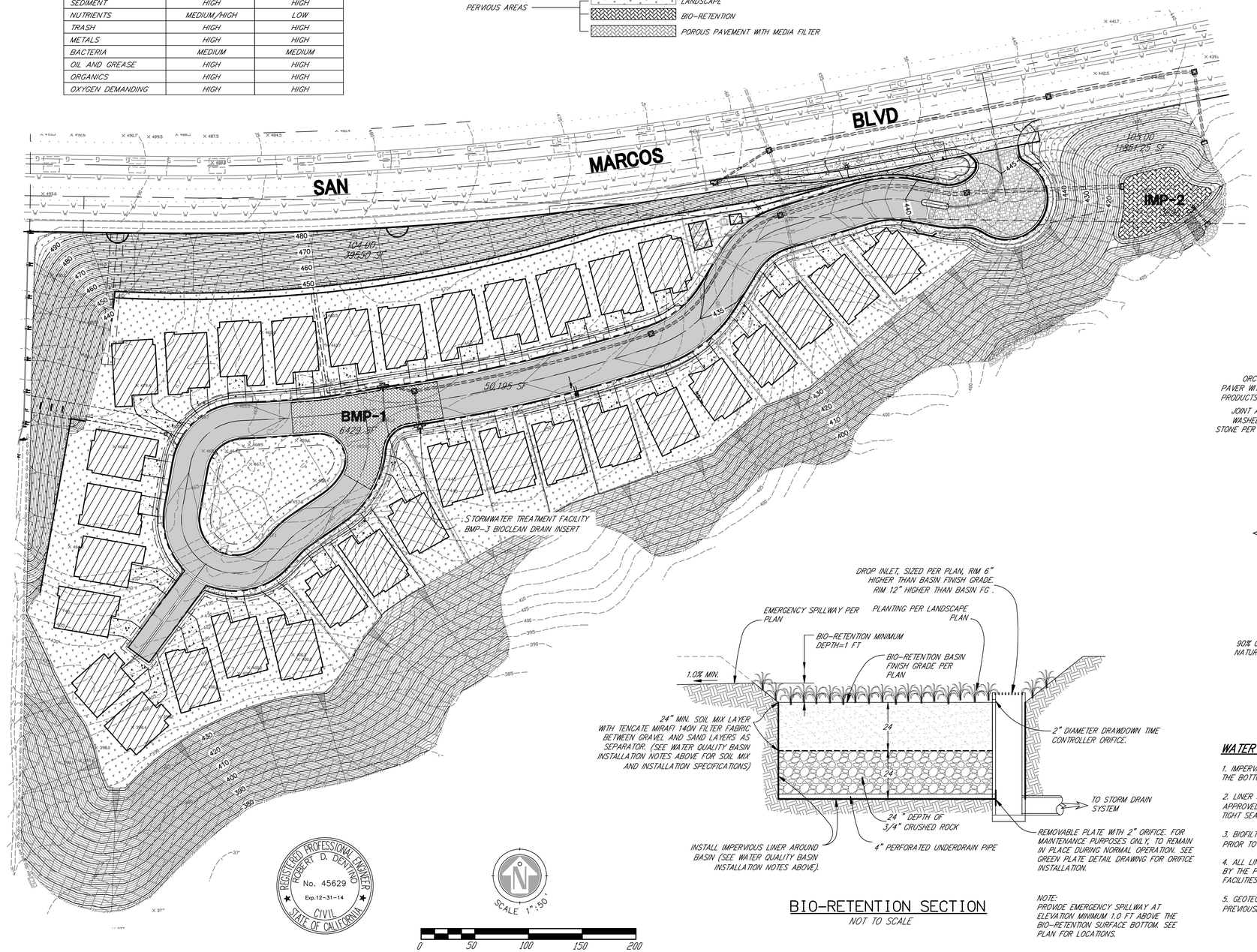
SELF TREATING AREAS

IMPERVIOUS AREAS — A/C PAVEMENT; PCC PAVEMENT; ROOF

PERVIOUS AREAS — LANDSCAPE; BIO-RETENTION; POROUS PAVEMENT WITH MEDIA FILTER

SELF TREATING AREA

DMA HATCH	DMA ID	DMA NAME	DMA (SQFT)
	106.00	SLOPE	99,108



REGISTERED PROFESSIONAL ENGINEER
ROBERT D. DENTINO
No. 45629
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

BIO-RETENTION SECTION
NOT TO SCALE

NOTE:
PROVIDE EMERGENCY SPILLWAY AT ELEVATION MINIMUM 1.0 FT ABOVE THE BIO-RETENTION SURFACE BOTTOM. SEE PLAN FOR LOCATIONS.

DRAINAGE MANAGEMENT AREA CALCULATION

DRAINS TO IMP 1 - POROUS PAVEMENT WITH MEDIA FILTER

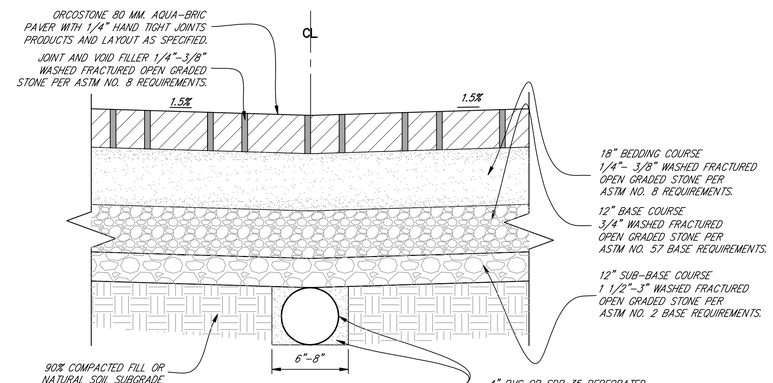
DMA ID	DMA NAME	DMA (SQFT) (a)	SURFACE TYPE	RUNOFF FACTOR (b)	IMP SIZING FACTOR (c)	(a)(b)(c) (SQFT)
100.00	BUILDINGS	69,784	ROOF	1.00	0.04	2791
101.00	STREET	50,195	AC PAVE	1.00	0.04	2008
102.00	CARPORT	12,711	CONCRETE	1.00	0.04	508
103.00	LANDSCAPE	103,114	TURF	0.10	0.04	412
	TOTAL DMA	235,804	AREA REQUIRED			5,719
	IMP	6429	AREA PROVIDED			6,429
	TOTAL AREA	242,233				

DRAINS TO IMP 2 - BIORETENTION WITH UNDERDRAIN PIPE

DMA ID	DMA NAME	DMA (SQFT) (a)	SURFACE TYPE	RUNOFF FACTOR (b)	IMP SIZING FACTOR (c)	(a)(b)(c) (SQFT)
104.00	SLOPE	39,550	TURF	0.10	0.04	158
105.00	SLOPE	11,852	TURF	0.10	0.04	47
	TOTAL DMA	51,402	AREA REQUIRED			205
	IMP	3690	AREA PROVIDED			3,690
	TOTAL AREA	55,092				

SWMM SUBCATCHMENT WIDTH DETERMINATION

DMA HATCH	DMA ID	DMA NAME	DMA (SQFT) (a)	LENGTH OF FLOW (FT)	SUBCATCHMENT WIDTH (FT)
	100.00	BUILDINGS	69,784	40	1745
	101.00	STREET	50,195	23	2182
	102.00	CARPORT	12,711	25	508
	103.00	LANDSCAPE	103,114	40	2579
	104.00	SLOPE	39,550	47	842
	105.00	SLOPE	11,852	52	228
	BMP-1	POROUS PAV	6429	52	124
	IMP-2	BIORETENTION	3690	30	123
		TOTAL	297,325		



NOTE: POROUS PAVEMENT SECTION SHOWN HERE IS FOR PRELIMINARY PURPOSE. FINAL SECTION IS PER SOIL'S ENGINEER RECOMENDATIONS

POROUS PAVEMENT SECTION DETAIL
NOT TO SCALE

WATER QUALITY BASIN INSTALLATION NOTES:

1. IMPERVIOUS LINER SHALL BE A MINIMUM 1mm THICK HIGH DENSITY POLYETHELENE GEOMEMBRANE SHEET CONFIGURED TO ENTIRELY ENCOMPASS THE BOTTOM AND ALL SIDES OF THE WATER QUALITY BASIN.

2. LINER SHALL BE EITHER ONE CONTINUOUS SHEET OR ALL JOINTS BETWEEN SEPARATE SHEETS SHALL BE HOT WEDGE WELDED (OR OTHER APPROVED METHOD BASED ON ACCEPTED LITERATURE AND MANUFACTURER'S SPECIFICATIONS PROVIDED BY THE CONTRACTOR) TO PRODUCE WATER TIGHT SEAMS.

3. BIOFILTRATION LAYER SOIL MIX SHALL BE 65% SAND, 10% SANDY LOAM, AND 20% COMPOST PLACED IN 6" LIFTS AND COMPACTED WITH WATER PRIOR TO THE NEXT LIFT. INITIAL PERMEABILITY SHALL BE 8" PER HOUR (WITH AN ASSUMED STABILIZED PERMEABILITY OF 5" PER HOUR).

4. ALL LINER INSTALLATIONS, FIELD WELDING OF SEAMS, AND OBSERVATION OF SOIL MIX PLACEMENT SHALL BE SUBJECT TO SPECIAL INSPECTION BY THE PROJECT GEOTECHNICAL ENGINEER WITH A CERTIFICATION LETTER PROVIDED TO THE ENGINEER OF RECORD PRIOR TO ACCEPTANCE OF THE FACILITIES.

5. GEOTECHNICAL ENGINEER SHALL BE GIVEN 48 HOURS NOTICE FOR THE INSPECTIONS OF THE WATER QUALITY BASIN INSTALLATION (OR OTHER PREVIOUSLY ARRANGED TIMEFRAME).

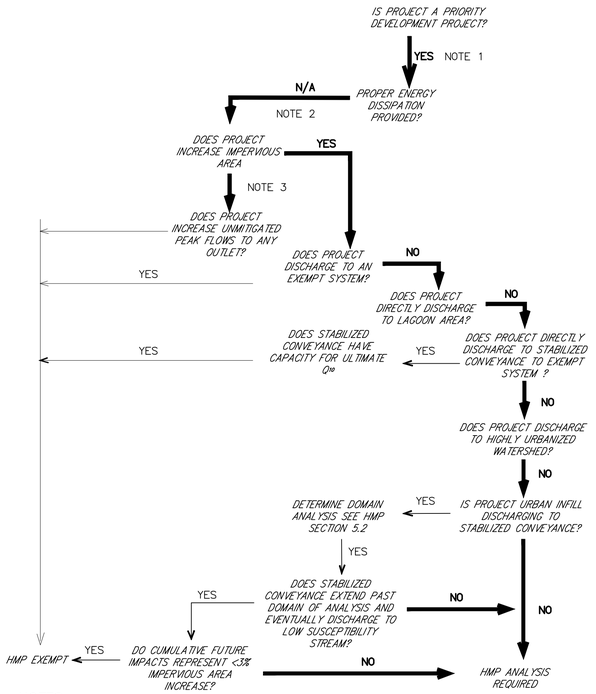
SAN MARCOS FIRE DEPARTMENT	VALLECITOS WATER DISTRICT	ENGINEER OF WORK	CITY APPROVED CHANGES	RECOMMENDED FOR APPROVAL	APPROVED FOR CONSTRUCTION	BENCH MARK
By: ROBERT SCOTT, FIRE MARSHALL	FOR GRADING PERMIT ONLY	BEC	No. Description City VWD Date	By: PETER KUEY, DEPUTY CITY ENGINEER	By: MATT LITTLE, DEPUTY CITY ENGINEER	Description: 3" BRASS DISC IN CONCRETE MONUMENT, STAMPED "CITY OF SAN MARCOS VERTICAL CONTROL VC 013 1990"
Date:	By: PRESTON H. LEWIS DATE	Drawn By		R.C.E.: 44034 exp.: 06-30-2015	R.C.E.: 60569 exp.: 12-31-2014	Location: FROM INTERSECTION OF RANCHO SANTA FE RD. AND SAN MARCOS BLVD. WESTERLY POINT OF NORTHWEST CURB RETURN, 7.5 FEET NORTH OF CURB FACE, 2 FEET BEHIND SIDEWALK
	R.C.E. 45927 EXP: 12-31-14	By: Date: Jul 15, 2014		Date:	Date:	Record From: RDS MAP 13928 REC. 10/7/1992, DOC. 92-625379
		Name: ROBERT D. DENTINO				Elev.: 515.178 FEET M.S.L. Datum: NAVD 88
		R.C.E.: 45629 exp: 12-31-14				

CITY OF SAN MARCOS ENGINEERING DIVISION
WATER QUALITY IMPROVEMENT PLAN FOR: TC-BMP AND DMA SDP-
MEADOWLARK CANYON

City Drawing No. WQIP-03
Sheet 16 of 31
V.W.D. --

PLOT DATE: Jul 15, 2014 - 9:45am

HYDROMODIFICATION APPLICABILITY DETERMINATION FLOW-CHART



NOTES:

1. PROJECT IS A PRIORITY DEVELOPMENT PROJECT (INCREASE IMPERVIOUS AREA AND PEAK FLOW RATE)
2. ALL STORM RUNOFF DRAINS DIRECTLY TO AN EXISTING PUBLIC STORM DRAIN SYSTEM. THERE IS NO ENERGY DISSPATION REQUIRED.
3. THE PROJECT PROPOSES A LAND USE WITH A GREATER IMPERVIOUS AREA.
   PRE-DEVELOPED IMPERVIOUS AREA=0.0 AC (0 SQ. FT.)
   POST DEVELOPED IMPERVIOUS AREA=3.046 AC (132,690 SQ. FT.)

HYDROMODIFICATION PERMIT COMPLIANCE MET

HYDROMODIFICATION CALCULATIONS WERE PERFORMED UTILIZING CONTINUOUS SIMULATION TO SIZE STORM WATER CONTROL FACILITIES. THIS STORM WATER MODELING METHOD IS REQUIRED BY THE CITY OF SAN MARCOS TO MEET SAN DIEGO COUNTY'S HYDROMODIFICATION CRITERIA. SWMM (STORM WATER MANAGEMENT MODEL) VERSION 5.0 DISTRIBUTED BY USEPA WAS USED TO GENERATE COMPUTED PEAK FLOW RECURRENCE AND FLOW DURATION SERIES STATISTICS. CONTINUOUS MODELING USES A LONG TIME SERIES OF ACTUAL RECORDED PRECIPITATION DATA AS INPUT INTO A HYDROLOGIC MODEL. FOR THIS PROJECT WE CHOSE (THE CLOSEST RAIN STATION) OCEANSIDE RAIN GAUGE DATA AS THE TIME SERIES DATA SOURCE FOR THE SIMULATION. OCEANSIDE RAIN DATA HAS APPROXIMATELY 58 YEARS OF HOURLY PRECIPITATION DATA FROM 8/28/1951 THROUGH 5/23/2008 AND GENERATES 58 YEARS OF HOURLY RUNOFF ESTIMATES, WHICH CORRESPONDS TO RUNOFF ESTIMATES FOR EACH OF THE 508,080 TIME STEPS (EACH DATE AND HOUR) OF THE 58 YEAR SIMULATION PERIOD.

LOW FLOW THRESHOLD

- 0.102 CF OR 10% OF 2-YEAR STORM EVENT WAS CHOSEN FOR THIS PROJECT THEREFORE THE DOWN STREAM CHANNEL ASSESSMENT IS NOT NEEDED.

DEVELOPING A MODEL TO REPRESENT THE PRE-AND THE POST-DEVELOPMENT CONDITIONS

THIS PROJECT WILL DEVELOP A 33 RESIDENTIAL LOT SUBDIVISION. RUNOFF IS TREATED BY POROUS PAVEMENT WITH MEDIA FILTER & BIO-RETENTION WITH UNDERDRAIN PIPE BASIN PRIOR TO EXISTING THE PROJECT SITE.

PRE-DEVELOPMENT CONDITION

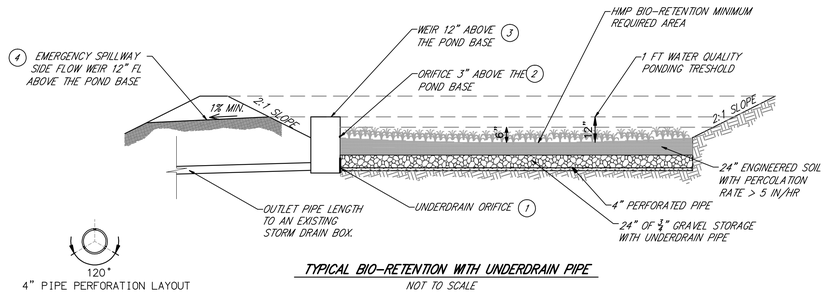
- 0% IMPERVIOUS AREA (MAJORITY)
- SOIL TYPE D WITH LOW PERCOLATION
- SLOPE RANGES FROM 3% TO 50%
- MANNING'S N VALUES ARE 0.025-0.040 FOR EXISTING AREA
- INFILTRATION SATURATED CONDUCTIVITY VALUE: 0.02 IN/HR

MITIGATED POST-DEVELOPMENT CONDITION

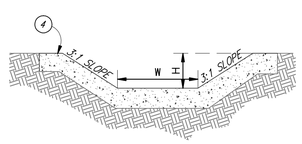
- 25.6% IMPERVIOUS AREA (TOTAL IMPERVIOUS)
- SOIL TYPE D WITH LOW PERCOLATION
- SLOPE RANGES FROM 2% TO 50%
- MANNING'S N VALUES ARE 0.014 FOR IMPERVIOUS AREA
- INFILTRATION SATURATED CONDUCTIVITY VALUE: 0.02 IN/HR FOR PERVIOUS AREA
- BIO-RETENTION TOTAL AREA 3690 SQFT.

UNMITIGATED POST-DEVELOPMENT CONDITION

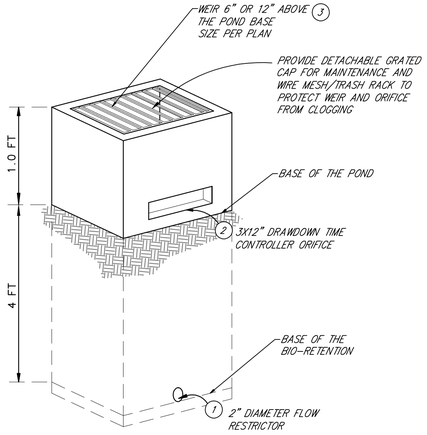
- 25.6% IMPERVIOUS AREA (TOTAL IMPERVIOUS)
- SOIL TYPE D WITH LOW PERCOLATION
- SLOPE RANGES FROM 2% TO 50%
- MANNING'S N VALUES ARE 0.014 FOR IMPERVIOUS AREA
- INFILTRATION SATURATED CONDUCTIVITY VALUE: 0.02 IN/HR FOR PERVIOUS AREA



TYPICAL BIO-RETENTION WITH UNDERDRAIN PIPE
NOT TO SCALE



TYPICAL EMERGENCY SPILLWAY
NOT TO SCALE

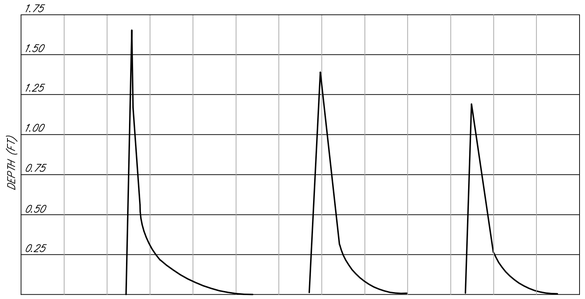


TYPICAL BOX CONTROL
NOT TO SCALE

DRAWDOWN TIME CALCULATION

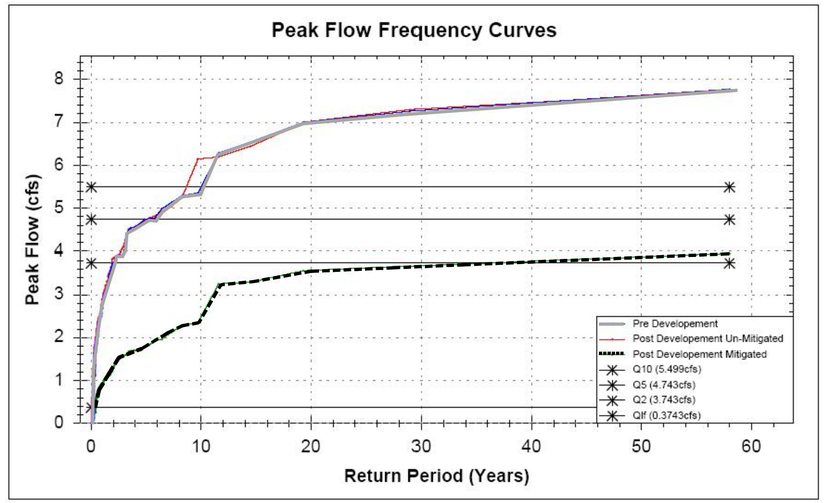
THE INSTRUCTIONS FROM THE COUNTY OF SAN DIEGO'S DEPARTMENT OF ENVIRONMENTAL HEALTH (DEH), LIMIT THE DRAWDOWN TIME IN HYDROMODIFICATION FLOW CONTROL FACILITIES TO 96 HOURS. THIS RESTRICTION WAS IMPLEMENTED AS MITIGATION TO POTENTIAL VECTOR BREEDING ISSUES AND THE SUBSEQUENT RISK TO HUMAN HEALTH. USING A HYDROLOGIC COMPUTER PROGRAM SUCH AS SWMM, THE BASIN DEWATERING TIME IS DETERMINED USING THE BASIN'S STAGE-STORAGE VERSUS DRAINING TIME.

EXCEEDANCE FREQUENCY	RETURN PERIOD (YR)	PONDING DEPTH (FT)	DRAWDOWN TIME (DAYS)	MAX. ALLOWABLE DRAWDOWN TIME(DAYS)	PERMIT COMPLIANCE MET
2%	58	1.71	2.9	4	YES
50%	2	1.31	2.2	4	YES
75%	1	1.20	2.2	4	YES
		AVERAGE	2.4	4	YES



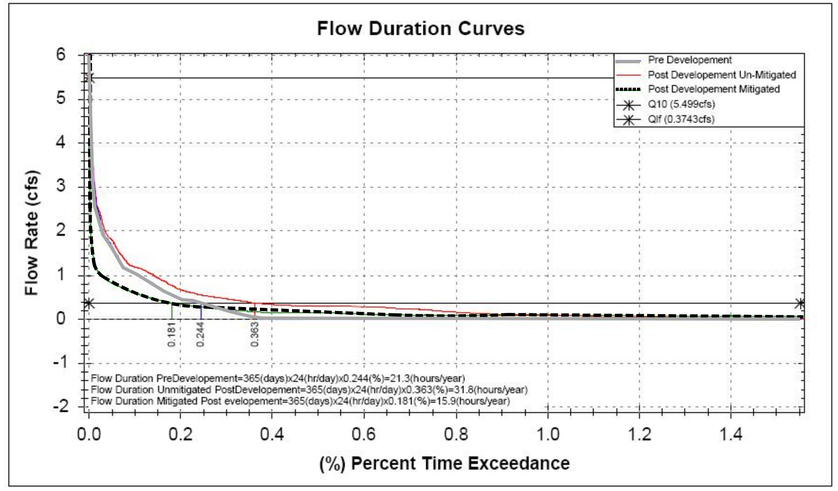
DETERMINING WHEN A STORM WATER CONTROL FACILITY MEETS THE HYDROMODIFICATION PERFORMANCE STANDARD

TYPICAL PEAK FLOW VS. RETURN PERIOD CURVES



THE PEAK FLOW FREQUENCY CURVE ON THE FIGURE ABOVE SHOWS THAT THE MITIGATED POST-DEVELOPMENT PROJECT REMAIN THE SAME AS THAT OF THE PRE-DEVELOPMENT 0.2 YEARS (1.75 HOURS).
THEREFORE, THIS STUDY HAS DEMONSTRATED THAT THE PROPOSED POROUS PAVEMENT AND OPTIMIZED BIO-RETENTION BASIN IS SUFFICIENT TO MEET THE CURRENT HMP AND SUSMP CRITERIA.

FLOW RATE VS. PERCENT TIME EXCEEDANCE



SUMMARY AND CONCLUSION

THE FLOW DURATION CURVE ABOVE SHOWS WITHOUT MITIGATION THIS PROJECT WILL INCREASE THE DURATION OF THE GEOMORPHICALLY SIGNIFICANT FLOW AFTER DEVELOPMENT ABOUT 31.8 HOURS (0.36.3%×365 DAYS×24 HOUR/DAY =31.8 HOURS) VERSUS THE EXISTING CONDITION 21.3 HOURS (0.244%×365DAYS×24 HOUR/DAY = 21.3 HOURS). WITH PROPOSED 6429 SQUARE FEET POROUS PAVEMENT AND 3690 SQUARE FEET BIO-RETENTION AREA WITH 2" ORIFICE CONFIGURED AS SHOWN IN FIGURE 1 THE DURATION OF THE FLOW IS DECREASED TO 15.9 HOURS (0.181%×365DAYS×24 HOUR/DAY =15.9 HOURS). THEREFORE, THIS STUDY HAS DEMONSTRATED THAT THE PROPOSED OPTIMIZED BIO-RETENTION BASIN IS SUFFICIENT TO MEET THE CURRENT HMP AND SUSMP CRITERIA.

Q LOW FLOW = 0.374 CFS	PRE-DEVELOPMENT (HOURS/YR)	UNMITIGATED POST-DEV (HOURS/YR)	MITIGATED POST-DEV (HOURS/YR)	PERMIT COMPLIANCE MET
FLOW DURATION CURVES	21.3	31.8	15.9	YES
PEAK FLOW FREQUENCY CURVES	175	876	175	YES

FOR COMPLETE HYDROMODIFICATION CALCULATION SEE DRAINAGE STUDY – HYDROLOGY/HYDRAULIC REPORT ATTACHMENT H HYDROMODIFICATION ANALYSIS PREPARED BY EXCEL ENGINEERING DATED JULY 18, 2014.

SAN MARCOS FIRE DEPARTMENT	VALLECITOS WATER DISTRICT	ENGINEER OF WORK	CITY APPROVED CHANGES	RECOMMENDED FOR APPROVAL	APPROVED FOR CONSTRUCTION	BENCH MARK
By: ROBERT SCOTT, FIRE MARSHALL	FOR GRADING PERMIT ONLY	BEC	No. Description City VWD Date	By: PETER KUEY, DEPUTY CITY ENGINEER	By: MATT LITTLE, DEPUTY CITY ENGINEER	Description: 1" BRASS DISC IN CONCRETE MONUMENT, STAMPED "CITY OF SAN MARCOS VERTICAL CONTROL VC DLS 1990"
Date:	By: PRESTON H. LEWIS DATE	Drawn By		R.C.E.: 44034 exp.: 06-30-2015	R.C.E.: 60569 exp.: 12-31-2014	Location: FROM INTERSECTION OF RANCHO SANTA FE RD AND SAN MARCOS BLVD, WESTERLY POINT OF NORTHWEST CURB RETURN, 7.5 FEET NORTH OF CURB FACE, 2 FEET BEHIND SIDEWALK
	R.C.E. 45927 EXP: 12-31-14	By: Date: Jul 25, 2014 Name: ROBERT D. DENTINO R.C.E.: 45629 exp: 12-31-14		Date:	Date:	Record From: ROS MAP 13928 REC. 10/7/1992, DOC. 92-625379 Elev.: 515.178 FEET M.S.L. Datum: NAVD 88

CITY OF SAN MARCOS ENGINEERING DIVISION
WATER QUALITY IMPROVEMENT PLAN FOR: SDP-
MEADOWLARK CANYON

City Drawing No. WQIP-04
Sheet 17 of 36
V.W.D. --

PLOT DATE: Jul 25, 2014 - 10:28am

BMP OPERATION AND MAINTENANCE

BMP MAINTENANCE CONDITIONS:
THE PROPERTY OWNER IS REQUIRED PURSUANT TO THE CITY OF SAN MARCOS MUNICIPAL CODE, SECTON 14.15, AND THE CITY'S CURRENT LOCAL STANDARD URBAN STORMWATER MITGATON PLAN (SUSMP) TO ENTER INTO A STORM WATER MANAGEMENT AND DISCHARGE CONTROL CONTROL MAINTENANCE AGREEMENT (MAINTENANCE AGREEMENT), FOR THE INSTALLATION AND MAINTENANCE OF PERMANENT BEST MANAGEMENT PRACTICES (PERMANENT STORMWATER BMP'S), PRIOR TO ISSUANCE OF PERMITS. PERMANENT STORMWATER BMP'S SHALL INCLUDE ALL CONSTRUCTED ELEMENTS DECRIBED IN THE APPROVED PROJECT'S WATER QUALITY TECHNICAL REPORT (WQTR), CONSTRUCTON PLANS, AND THIS EXHIBIT. (eg, LOW IMPACT DEVELOPMENT, SOURCE CONTROL, SITE DESIGN, TREATMENT CONTROL).

FOR MANTENANCE OF TREATMENT CONTROL BMP

APN(S)	TYPE	MAINTENANCE RESPONCIBILITY	INSPECTION	MAINTENANCE
221-021-45	BIORETENTION/ TC-32	RESPONSIBLE PARTY AS LISTED HEREON TABLE 1	– INSPECT SOIL AND REPAIR ERODED AREAS MONTHLY. – INSPECT SEMI-ANNUALLY FOR DAMAGE TO VEGETATION AND PRIOR TO OCTOBER 1 TO SCHEDULE SUMMER MAINTENANCE. – INSPECT BEFORE MAJOR RAINFALL EVENTS TO ENSURE THE STRIPS ARE READY FOR RUNOFF. PERFORM ADDITIONAL INSPECTIONS AFTER PERIODS OF HEAVY RUNOFF. – CHECK FOR DEBRIS AND LITTER, AND AREAS OF SEDIMENT ACCUMULATION SEMI-ANNUALLY.	– WATER PLANTS DAILY FOR 2 WEEKS AT PROJECT COMPLETION – REMOVE SEDIMENT, TRASH, & DEBRIS – REMULCH AREAS AS NECESSARY. – TREAT DISEASED VEGETATION OR REPLACE. – MOW TURF AREAS (6" GRASS HEIGHT OPTIMUM) – REPAIR EROSION AT INFLOW POINTS – REPAIR OUTFLOW STRUCTURES – UNCLOG THE UNDERDRAIN. REFER TO TC-32 CASQA LITERATURE FOR MORE DETAIL
221-021-45	MEDIA FILTER/ TC-40	RESPONSIBLE PARTY AS LISTED HEREON TABLE 1	– ENSURE THAT THE POROUS PAVEMENT SURFACE, INLETS, AND OUTLETS ARE CLEAR OF DEBRIS. – ENSURE THAT THE CONTRIBUTING AREA IS STABILIZED AND MOWED, WITH CLIPPINGS REMOVED. – CHECK TO ENSURE THAT THE FILTER SURFACE IS NOT CLOGGING. – INSPECT THE FACILITY ONCE DURING THE WET SEASON AFTER A LARGE RAIN EVENT TO DETERMINE WHETHER THE FACILITY IS DRAINING COMPLETELY WITHIN 72 HR.	– REMOVE TRASH AND DEBRIS FROM THE SURFACE – PREVENT GRASS CLIPPINGS FROM WASHING INTO THE FILTER. – CLEAN FILTER SEMIANNUALLY – STABILIZED ANY ERODED AREAS.
221-021-45	DRAIN INSERT/ MP-52	RESPONSIBLE PARTY AS LISTED HEREON TABLE 1	– INSPECT FOR SEDIMENT BUILDUP AND PROPER FUNCTIONING AT THE BEGINNING OF THE WET SEASON AND AFTER SIGNIFICANT STORMS. – VERIFY THAT STORMWATER ENTERS THE UNIT AND DOES NOT LEAK AROUND THE PERIMETER AFTER CONSTRUCTION.	– REMOVE SEDIMENT AS NEEDED, ESPECIALLY AT THE BEGINNING OF THE WET SEASON AND AS NECESSARY.

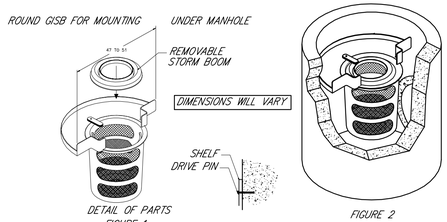
SOURCE CONTROL USED

POTENTIAL SOURCES OF RUNOFF POLLUTANS	PERMANENT CONTROLS	OPERATIONAL BMPs	LOCATION	QUANTITY
ON-SITE STORM DRAIN INLETS	MARK ALL INLETS WITH THE WORDS "NO DUMPING! DRAINS TO WATERWAYS" OR SIMILAR LANGUAGE NO DUMPING! (NO CONTAMINE) DRAINS TO WATERWAYS CITY STANDARD CURB MARKER #NDW AVAILABLE AT: dasmanufacturing.com/storm_drain.html 3 INCHES X 5.25 INCHES ROUNDED CORNER RECTANGLES (OR CITY APPROVED EQUAL)	• MAINTAIN AND PERIODICALLY REPLACE INLET MARKINGS. • PROVIDE COPIES OF WATER QUALITY IMPROVEMENT PLANS TO NEW SITE OWNERS, LESSEES, AND OPERATORS. • SEE APPLICABLE OPERATIONAL BMPs IN FACT SHEET SC-44, "DRAINAGE SYSTEM MAINTENANCE" IN THE CASQA STORM WATER QUALITY HANDBOOKS AT: WWW.CABMPHANDBOOKS.COM. • INCLUDE FOLLOWING IN LEASE AGREEMENTS: "TENANTS SHALL NOT ALLOW ANY MATERIALS TO BE STORED OR DEPOSITED SO AS TO CREATE A POTENTIAL DISCHARGE TO STORM DRAINS."	AT ALL INLETS	2 EA ON-SITE
DRIVEWAY ENTRANCE AND PARKING LOTS		• DRIVEWAY ENTRANCE AND PARKING LOTS SHALL BE SWEPT MONTHLY AND PRIOR TO OCTOBER 1 TO PREVENT THE ACCUMULATION OF LITTER AND DEBRIS. DEBRIS FROM PRESSURE WASHING SHALL BE COLLECTED TO PREVENT ENTRY INTO THE STORM DRAIN SYSTEM. WASH WATER CONTAINING ANY CLEANING AGENT OR DEGREASER SHALL NOT BE DISCHARGED TO A STORM DRAIN.	ON-SITE	138,300 SF

SITE DESIGN CONCEPTS USED

SITE DESIGN AND LID/BMP CONSIDERED	APPLICABLE	SITE/BMP CONSTRAINTS HINDERING USAGE	ALTERNATIVE PROPOSED	PERMIT COMPLIANCE MET	LOCATION
DETAIN AND RETAIN RUNOFF THROUGH OUT THE SITE	YES	NONE	N/A	YES	THROUGHOUT THE POROUS PAVEMENT AND BIORETENTION
MINIMIZE DIRECTLY CONNECTED IMPERVIOUS AREAS	YES	NONE	N/A	YES	THROUGHOUT THE PARKING LOT
USE PERVIOUS SURFACE	YES	SOIL GROUP D, LOW INFILTRATION RATE	DIRECETED INTO BIO-RETENTION POND	YES	POROUS PAVEMENT

ENVIRO-SAFE HIGH CAPACITY ROUND GRATE INLET SKIMMER
THE CURB SHELF BASKET WATER CLEANSING SYSTEM
HIGH CAPACITY CURB INLET BASKET



DETAIL OF PARTS
FIGURE 1

FIGURE 2
DETAIL OF INSTALLATION

ROUND CANISTER IN CYLINDRICAL BASIN

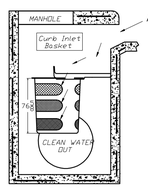


FIGURE 3
DETAIL OF PROCESS

REMOVABLE BASKET CATCHES EVERYTHING AND MAY BE REMOVED THROUGH MANHOLE WITHOUT ENTRY.

5 YEAR MANUFACTURERS WARRANTY
PATENTED
ALL FILTER SCREENS ARE STAINLESS STEEL

WIDTH OF INLET WILL VARY

FLOW RATES per Basket

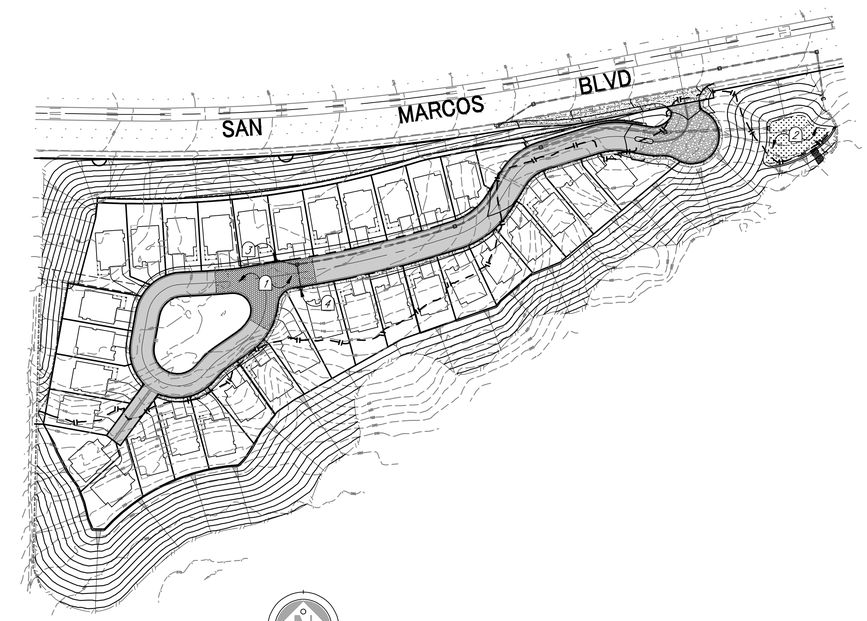
$Q = SD \times c_d \times A \sqrt{2g \times h}$ c_d = Coefficient of Discharge = .67

	SD	A (ft^2)	h (ft)	Q (ft^3/s)
TOP SIDE	.1	135.22	5.50	3.42
CENTER SIDE	.62	130.36	11.5	2.95
BOTTOM SIDE	.56	125.50	17.50	3.17
BOTTOM	.68	63.14	20.81	2.11
TOTAL				11.65
THROAT FLOW RATE				2.4 cfs

NOTES:

1. SHELF SYSTEM PROVIDES FOR ENTIRE COVERAGE OF INLET OPENING SO TO DIVERT ALL FLOW TO BASKET.
2. SHELF SYSTEM MANUFACTURED FROM MARINE GRADE FIBERGLASS,GEL COATED FOR UV PROTECTION.
3. SHELF SYSTEM ATTACHED TO THE CATCH BASIN WITH NON-CORROSIVE HARDWARE.
4. FILTRATION BASKET STRUCTURE MANUFACTURED OF MARINE GRADE FIBERGLASS,GEL COATED FOR UV PROTECTION.
5. FILTRATION BASKET FINE SCREEN AND COARSE CONTAINMENT SCREEN MANUFACTURED FROM STAINLESS STEEL.
6. FILTRATION BASKET HOLDS BOOM OF ABSORBENT MEDIA TO CAPTURE HYDROCARBONS. BOOM IS EASILY REPLACED WITHOUT REMOVING MOUNTING HARDWARE.
7. FILTRATION BASKET LOCATION IS DIRECTLY UNDER MANHOLE FOR EASY MAINTENANCE.

CURB INLET BASKET SYSTEM



SITE MAP

BMP/IMP LOCATIONS

BMP	CITY BMP ID NO.	LATITUDE	LONGITUDE	APN	BMP TYPE*	TRIBUTARY AREA (SF)	REQ SIZE
1		33°07'51.1519"	-117°13'28.201"	221-021-45	POROUS PAVEMENT WITH SAND FILTER (TC-40)	235,804	5719 SF
2		33°07'53.1908"	-117°13'19.558"	221-021-45	BIORETENTION (TC-32)	51,402	205 SF
3		33°07'51.1519"	-117°13'28.201"	221-021-45	DRAIN INSERT (MP-52)**	117,902	0.54 CFS
4		33°07'51.1519"	-117°13'28.201"	221-021-45	DRAIN INSERT (MP-52)**	117,902	0.54 CFS

**= BC-RGISB BY BIOCLEAN ENVIRONMENTAL, 2.4 CFS TREATMENT FLOW
REFERENCE: WWW.BIOCLEANENVIRONMENTAL.COM/CONTENT/PRODUCT/CURB_INLET_BASKETS/BIOCLEAN_ROUNDCURBINLETFILTER_BROCHURE.PDF

TABLE 1
RESPONSIBLE PARTY FOR LONG-TERM MAINTENANCE:

NAME	RON BALDWIN
COMPANY NAME	MEADOWLARK CANYON, LLC
PHONE NUMBER	858-259-2960
STREET ADDRESS	3820 VALLEY CENTER DRIVE
CITY/STATE/ZIP	SAN DIEGO/CALIFORNIA/92130
EMAIL ADDRESS	TBD

FUNDING SOURCE(S):
FUNDING SOURCE(S) FOR LONG-TERM OPERATION AND MAINTENANCE OF EACH BMP IS/ARE PROVIDED BY:
MEADOWLARK CANYON, LLC

IF THE CURRENT OWNER TRANSFERS ITS INTEREST IN THE SUBJECT PROPERTY/PROJECT, THE CURRENT OWNER SHALL NOTIFY THE SUCCESSOR IN INTEREST IN WRITING OF ITS RESPONSIBILITY TO IMPLEMENT THIS WATER QUALITY IMPROVEMENT PLAN AND MAINTAIN POST-CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPs) IN PERPETUITY. THE CURRENT OWNER SHALL PROVIDE THE DEPARTMENT OF PUBLIC WORKS, WATERSHED PROTECTION PROGRAM WITH A COPY OF THE SIGNED NOTIFICATION, INCLUDING THE NAME, ADDRESS, AND CONTACT INFORMATION OF THE SUCCESSOR.

REGISTERED PROFESSIONAL ENGINEER
ROBERT D. DENTINO
No. 45629
Exp.12-31-14
CIVIL
STATE OF CALIFORNIA

SAN MARCOS FIRE DEPARTMENT	VALLECITOS WATER DISTRICT	ENGINEER OF WORK	CITY APPROVED CHANGES	RECOMMENDED FOR APPROVAL	APPROVED FOR CONSTRUCTION	BENCH MARK
By: ROBERT SCOTT, FIRE MARSHALL Date:	FOR GRADING PERMIT ONLY By: PRESTON H. LEWIS DATE R.C.E. 45927 EXP: 12-31-14	BEC Drawn By By: Date: Name: ROBERT D. DENTINO R.C.E.: 45629 exp: 12-31-14	No. Description City VWD Date	By: PETER KUEY, DEPUTY CITY ENGINEER R.C.E.: 44034 exp.: 06-30-2015 Date:	By: MATT LITTLE, DEPUTY CITY ENGINEER R.C.E.: 60569 exp.: 12-31-2014 Date:	Description: 3" BRASS DISC IN CONCRETE MONUMENT, STAMPED "CITY OF SAN MARCOS VERTICAL CONTROL VC 013 1990" Location: FROM INTERSECTION OF RANCHO SANTA FE RD AND SAN MARCOS BLVD, WESTERLY POINT OF NORTHWEST CURB RETURN, 7.5 FEET NORTH OF CURB FACE, 2 FEET BEHIND SIDEWALK Record From: RGS MAP 13928 REC. 10/1/1992, DOC. 92-625379 Elev.: 515.178 FEET M.S.L. Datum: NAVD 88

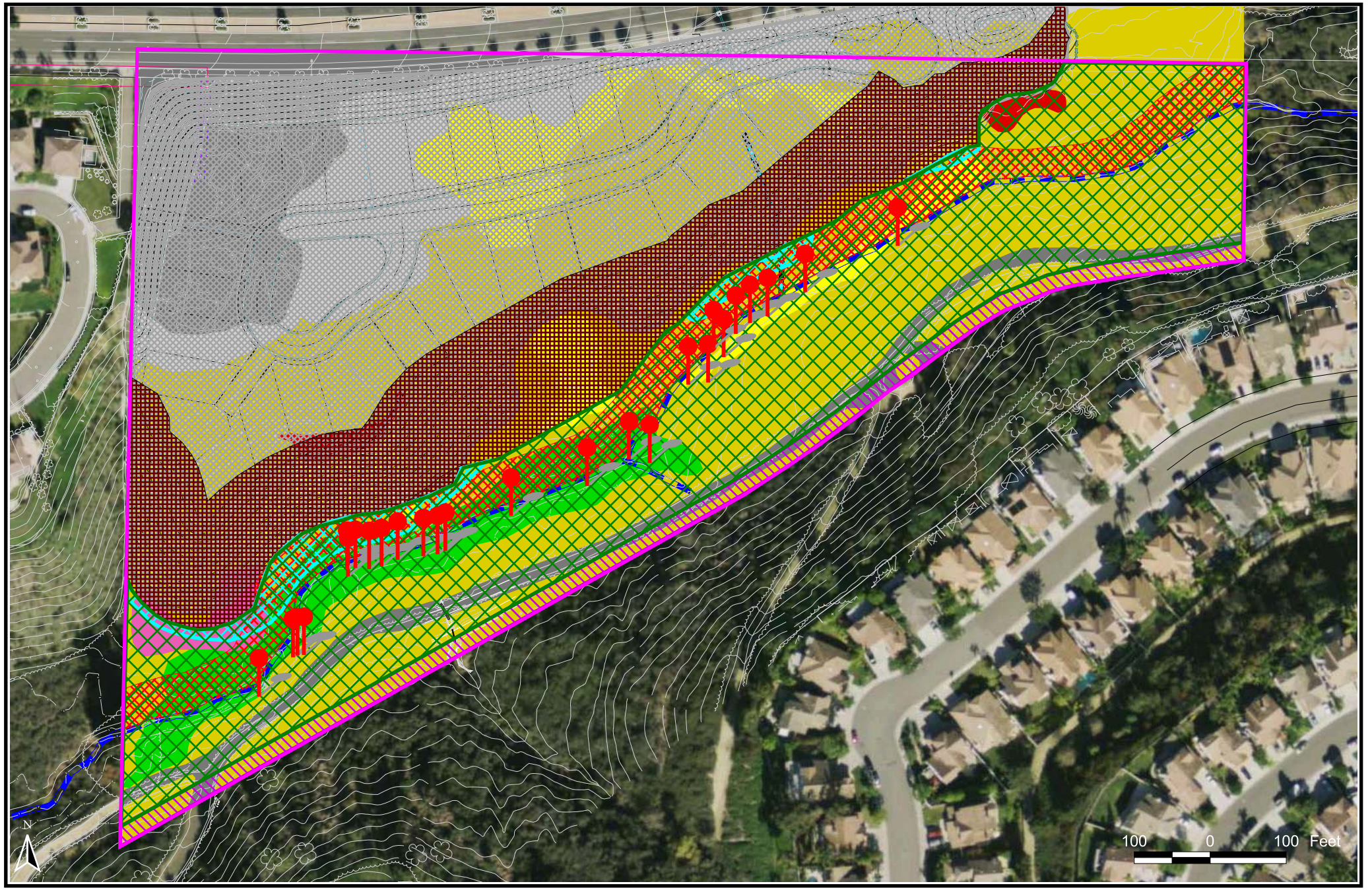
CITY OF SAN MARCOS ENGINEERING DIVISION
WATER QUALITY IMPROVEMENT PLAN FOR: SDP-
MEADOWLARK CANYON

City Drawing No.
WQIP-05
Sheet 18 of 31
V.W.D. --

ATTACHMENT 4

MITIGATION FIGURES

1. Blue Consulting, Figure 5, Enhancement and Restoration Locations



Property
Mixed Chaparral
Baccharis Scrub(BS)/CSS
Coastal Sage Scrub (CSS)
Annual Grasslands
Developed Area
Disturbed Habitat
Ephemeral Drainage
Vallecitos Easement
Grading Impact
Brush Management
Temp. Impact
Wetland Buffer
CE Area - Habitat Preserve
Restored CSS/BS (0.30 acres)
Enhanced Wetlands (0.15 acres)
Palm Trees (to be eliminated)
Bike Track (Restored CSS/BS)

FIGURE 5

Enhancement and Restoration Locations

ATTACHMENT 5

CEQA MITIGATION REQUIREMENTS

1. Mitigation Monitoring and Reporting Program for Negative Declaration ND 04-700 Meadowlark Canyon, LLC

MITIGATION MONITORING AND REPORTING PROGRAM
FOR NEGATIVE DECLARATION ND 04-700
MEADOWLARK CANYON, LLC

Issue and Proposed Mitigation Measures	Monitoring Effort	Timing	Responsibility of Mitigation
Elevations of future residential development shall be submitted to the Planning Division Director for review and approval prior to issuance of any grading permit.	Developer/subdivider shall submit architectural elevations to the Planning Division	Prior to grading permits	Applicant/developer and City Planning Division
The Planning Director shall determine at the time of submittal of elevations whether architectural enhancements will be required for specific lots due to location	Planning Division to review architectural elevations of proposed subdivision	Subdivider/developer shall submit architectural elevations prior to grading permit	Subdivider/ developer
The subdivider/developer shall submit a fencing plan to the Planning Division for review and approval prior to the issuance of building permits	Developer/subdivider shall submit fencing plan to the Planning Division	Prior to issuance of building permits	Subdivider/developer
This project shall implement a fugitive dust emissions control plan during construction. This plan shall include the watering of the site for dust control, isolating excavated soil on-site until it is hauled away and street sweeping of adjacent streets to removed accumulated materials.	Subdivider/developer	During construction	Subdivder/developer and Public Works, Engineering Division
If blasting is required, conduct blasting operations in accordance with City of San Marcos codes and standards.	Public Works inspector	During construction	Developer/City
An updated Geotechnical Report and hyrdrology report shall be prepared and submitted to the Engineering Division. Recommendations of the Geotechnical and/or Civil Engineer, City Engineer and Building Official shall be implemented at the time of development of the proposed	Subdivider/developer shall submit updated report to the Engineering Division prior with grading plan	Prior to construction	Applicant

subdivision.			
A comprehensive grading plan shall be submitted and approved by the City Engineer and Planning Director	Developer to submit grading plan to the City	Engineering Division to verify submittal prior to construction	Developer/City
All slopes shall be designed and graded in accordance with the City's Grading Ordinance, particularly with respect to terraces, drainage, access, erosion control and setbacks. A comprehensive grading plan shall be submitted and approved by the City Engineer and Planning Director prior to the issuance of a building permit	Grading plan to be submitted to the City	Prior to construction	Developer/City
Erosion control and/or sediment control details shall be submitted with/on the grading plans to the City's Engineering Division for review and approval. The details shall conform to the City's standards, codes, and ordinances. The details shall include landscaping and temporary irrigation systems on exposed slopes to be approved by the City's Engineering and Planning Divisions	Applicant to submit details/plan to Engineering Division	Prior to construction	Developer/City
A hydrology report (calculations) shall be prepared for the proposed project. Storm drains and drainage structures shall be sized according to the approved hydrology report. All surface runoff originating within the project and all surface waters that may flow onto the project from adjacent properties shall be accommodated by the drainage system. The report shall also determine the buildout runoff into existing off-site natural drainage swales and storm drain systems, and shall address any need for off-site	Developer shall submit report to the City Engineering Division with Grading plan	With submittal of grading permit application/prior to issuance of grading permit	Developer and City

improvement requirements. Blocking, concentrating, lowering or diverting of natural drainage from or onto adjacent property shall not be allowed without written approval of the affected property owner. This report shall be subject to approval of the City Engineer			
All manufactured slopes 5 feet or more shall be landscaped and provided with an irrigation system and slopes less than 5 feet with be planted with a non-irrigated hydroseed mix.	Subdivider/City Engineering Division to verify during plan review	Prior to occupancy	Applicant
Installation of Jones 3775 Fire Hydrants on site at locations the meet the satisfaction of the San Marcos Fire Department	Public works inspector to verify installation	Prior to occupancy	Developer and City
Fire Sprinklers shall be required as determined by Fire Marshal.	Fire Division to verify during plan check review, building inspectors to verify during inspection of homes	Prior to occupancy	Applicant/City
Annexation into the City-wide Police and Fire/Lighting and Landscaping Community Facility Districts	Annexation forms shall be completed and submitted to the Engineering and Building Divisions	Prior to issuance of a building permit	Developer
The applicant/developer shall pay school impact mitigation as required by law	Developer shall submit a letter to the Building Division showing proof of payment	Prior to issuance of a building permit	Developer/city
Issue and Proposed Mitigation Measures	**Monitoring Effort**	**Timing**	**Responsibility of Mitigation**
No structure shall be removed or torn down prior to obtaining a building permit.	Applicant shall obtain and have available at site demo. permit	Prior to removal of structure	Obtain demo. Permit from Bldg. Division.
All exterior lighting shall consist of low pressure sodium.	Inspector verify during construction	Prior to occupancy	Developer/City installs
Design and construction of ten (10) foot DG trail system per City of San Marcos' Master Trails Plan and to the satisfaction of the appropriate City Departments.	During development of site	Prior to final occupancy	Developer/City

Establish a joint use agreement with the Vallecitos Water District.	Developer submit copy of agreement to City	Prior to issuance grading permit	Developer
Submit a recreational amenity package to the City for review and approval for the private park.	Submit plans for review and approval	Prior to issuance of building permit	Developer
Obtain "will serve" letters from all affected public and utility agencies	Developer shall submit written proof to the City	Prior to issuance of building permit	Developer/city