# Major Stormwater Management Plan
# (Major SWMP)
# For
# *Lake Jennings Park Road*
# *TM*

**Preparation/Revision Date:**

**March 24, 2013 / June 23, 2014**

**Prepared for:**

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The selection, sizing, and preliminary design of stormwater treatment and other control measures in this plan have been prepared under the direction of the following Registered Civil Engineer and meet the requirements of Regional Water Quality Control Board Order R9-2007-0001 and subsequent amendments.

Bruce A. Robertson, RCE # 48529

6/6/14
Date

**SDC PDS RCVD 06-18-15**
**TM5578**

The Major Stormwater Management Plan (Major SWMP) must be completed in its entirety and accompany applications to the County for a permit or approval associated with certain types of development projects. To determine whether your project is required to submit a Major or Minor SWMP, please reference the County's Stormwater Intake Form for Development Projects.

| | |
|---|---|
| Project Name: | Lake Jennings Park Road |
| Project Location: | Lakeside, San Diego, CA |
| Permit Number (Land Development Projects): | TM |
| Work Authorization Number (**CIP only**): | |
| Applicant: | REC Consultants, Inc. |
| Applicant's Address: | 2442 Second Ave. San Diego CA.92101 |
| Plan Prepared By (*Leave blank if same as applicant*): | |
| Preparer's Address: | |
| Date: | November, 2013 |

The County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance (WPO) (Ordinance No. 9926) requires all applications for a permit or approval associated with a Land Disturbance Activity to be accompanied by a Storm Water Management Plan (SWMP) (section 67.806.b). The purpose of the SWMP is to describe how the project will minimize the short and long-term impacts on receiving water quality. Projects that meet the criteria for a priority development project are required to prepare a Major SWMP.

Since the SWMP is a living document, revisions may be necessary during various stages of approval by the County. Please provide the approval information requested below.

| Project Stages | Does the SWMP need revisions? | | If YES, Provide Revision Date |
|---|---|---|---|
| | YES | NO | |
| | | | |
| | | | |
| | | | |

Instructions for a Major SWMP can be downloaded at
http://www.sdcounty.ca.gov/dpw/watersheds/susmp/susmp.html

Completion of the following checklists and attachments will fulfill the requirements of a Major SWMP for the project listed above.

## STEP 1

## PRIORITY DEVELOPMENT PROJECT DETERMINATION

### TABLE 1: IS THE PROJECT IN ANY OF THESE CATEGORIES?

| | | | |
|---|---|---|---|
| Yes ☒ | No ☐ | **A** | **Housing subdivisions of 10 or more dwelling units.** Examples: single-family homes, multi-family homes, condominiums, and apartments. |
| Yes ☐ | No ☒ | **B** | **Commercial—greater than one acre.** Any development other than heavy industry or residential. Examples: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities. |
| Yes ☐ | No ☒ | **C** | **Heavy industry—greater than one acre.** Examples: manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.). |
| Yes ☐ | No ☒ | **D** | **Automotive repair shops.** A facility categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539. |
| Yes ☐ | No ☒ | **E** | **Restaurants.** Any facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirements and hydromodification requirements. |
| Yes ☐ | No ☒ | **F** | **Hillside development greater than 5,000 square feet.** Any development that creates 5,000 square feet of impervious surface and is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater. |
| Yes ☒ | No ☐ | **G** | **Environmentally Sensitive Areas (ESAs).** All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands. |
| Yes ☐ | No ☒ | **H** | **Parking lots 5,000 square feet or more** or with 15 or more parking spaces and potentially exposed to urban runoff. |
| Yes ☒ | No ☐ | **I** | **Street, roads, highways, and freeways.** Any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles. |
| Yes ☐ | No ☒ | **J** | **Retail Gasoline Outlets (RGOs)** that are: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. |

To use the table, review each definition A through K. If any of the definitions match, the project is a Priority Development Project. Note some thresholds are defined by square footage of impervious area created; others by the total area of the development. Please see special requirements for previously developed sites and project exemptions on page 6 of the County SUSMP.

## STEP 2

## PROJECT STORMWATER QUALITY DETERMINATION

Total Project Site Area 5.17 (Acres or $ft^2$)

Estimated amount of disturbed acreage: 4.39 (Acres or $ft^2$)
(If >1 acre, you must also provide a WDID number from the SWRCB)WDID:

Complete A through C and the calculations below to determine the amount of impervious surface on your project before and after construction.

A. Total size of project site: 5.17 (Acres or $ft^2$)

B. Total impervious area (including roof tops) before construction 0 (Acres or $ft^2$)

C. Total impervious area (including roof tops) after construction 2.11 (Acres or $ft^2$)

Calculate percent impervious before construction: B/A = 0 %
Calculate percent impervious after construction: C/A = 41 %

Please provide detailed descriptions regarding the following questions:

**TABLE 2: PROJECT SPECIFIC STORMWATER ANALYSIS**

| | |
|---|---|
| 1. | Please provide a brief description of the project. |
| The scope of this SWMP for Lake Jennings Park Road Project, a 5.17-Acre Parcel located at the Northeast side of Lake Jennings Parkway and North of Blossom Valley Rd., in the community of Lakeside, San Diego County, CA. Once developed, the site will consist of 18 residential units, within an average lot size of approximately 8,000 square feet, including 1 lot for bioretention, private paved roads and underground utilities. | |
| | |
| 2. | Describe the current and proposed zoning and land use designation. |
| Land Use: Regional Category-- CUDA<br>Land Use Designation: R S 4 | |
| 3. | Describe the pre-project and post-project topography of the project. (Show on Plan) |
| The site is not developed and no buildings or construction are located in the area; the parcel is limited at the easterly boundary by a series of back yard slopes from the subdivision named "Lake Jennings Vista" TM 3639. A natural slope is located at the southern portion of the property with an average grade of 25-30% running from east to the west.; in the site center portion a series of trees and grass are thriving following the local drainage path as a the result from the storm drain pipe discharge located at the east side of the parcel. The rest of the site has soft graded areas towards the west side of the site. | |
| 4. | Describe the soil classification, permeability, erodibility, and depth to groundwater for LID and Treatment BMP consideration. (Show on Plan) If infiltration BMPs are proposed, a Geotechnical Engineer must certify infiltration BMPs in Attachment E. |
| SOIL TYPE: C. This soil is generally not that erosive, under normal rainfall conditions. | |
| 5. | Describe if contaminated or hazardous soils are within the project area. (Show on Plan) |
| N/A | |
| 6. | Describe the existing site drainage and natural hydrologic features. (Show on Plan). |
| The development is located within the San Diego Hydrologic Unit Watershed (907.0) and the Los Coches Hydrologic Subarea (907.14). On site runoff goes from the mid area to the west side, dumping flows to the low southern open earthen channel to continue over an existing off-site CMP pipe; This pipe will catch all flows from the developed areas located at the North and East from our study site. Ultimate point for runoff discharge is Los Coches Creek. | |
| 7. | Describe site features and conditions that constrain, or provide opportunities for stormwater control, such as LID features. |
| The project proposes to implement the use of a bioretention pond to treat approximately 100% of new soil disturbance. With the proposed on-site BMP measure, the project will not contribute additional pollutants to downstream. The water quality will remain the same as the pre-development conditions. | |
| 8. | Is this project within the environmentally sensitive areas as defined on the maps in Appendix A of the *County of San Diego Standard Urban Storm Water Mitigation Plan for Land Development and Public Improvement Projects?* |
| Yes | ☒No |
| 9. | Is this an emergency project? |
| Yes | ☒No |

## CHANNELS & DRAINAGES

Complete the following checklist to determine if the project includes work in channels.

**TABLE 3: PROJECT SPECIFIC STORMWATER ANALYSIS**

| No. | CRITERIA | YES | NO | N/A | COMMENTS |
|---|---|---|---|---|---|
| 1. | Will the project include work in channels? | | × | | If YES go to 2<br>If NO go to 13. |
| 2. | Will the project increase velocity or volume of downstream flow? | | | | If YES go to 6. |
| 3. | Will the project discharge to unlined channels? | | | | If YES go to. 6. |
| 4. | Will the project increase potential sediment load of downstream flow? | | | | If YES go to 6. |
| 5. | Will the project encroach, cross, realign, or cause other hydraulic changes to a stream that may affect downstream channel stability? | | | | If YES go to 8. |
| 6. | Review channel lining materials and design for stream bank erosion. | | | | Continue to 7. |
| 7. | Consider channel erosion control measures within the project limits as well as downstream. Consider scour velocity. | | | | Continue to 8. |
| 8. | Include, where appropriate, energy dissipation devices at culverts. | | | | Continue to 9. |
| 9. | Ensure all transitions between culvert outlets/headwalls/wingwalls and channels are smooth to reduce turbulence and scour. | | | | Continue to 10. |
| 10. | Include, if appropriate, detention facilities to reduce peak discharges. | | | | Continue to 11. |
| 11. | "Hardening" natural downstream areas to prevent erosion is not an acceptable technique for protecting channel slopes, unless pre-development conditions are determined to be so erosive that hardening would be required even in the absence of the proposed development. | | | | Continue to 12. |
| 12. | Provide other design principles that are comparable and equally effective. | | | | Continue to 13. |
| 13. | End | × | | | |

**TEMPORARY CONSTRUCTION BMPS**

Please check the construction BMPs that may be implemented during construction of the project. The applicant will be responsible for the placement and maintenance of the BMPs incorporated into the final project design.

- ☒ Silt Fence
- ☒ Fiber Rolls
- ☒ Street Sweeping and Vacuuming
- ☒ Storm Drain Inlet Protection
- ☒ Stockpile Management
- ☒ Solid Waste Management
- ☒ Stabilized Construction Entrance/Exit
- ☒ Dewatering Operations
- ☒ Vehicle and Equipment Maintenance
- ☒ Desilting Basin
- ☒ Gravel Bag Berm
- ☒ Sandbag Barrier
- ☒ Material Delivery and Storage
- ☒ Spill Prevention and Control
- ☒ Concrete Waste Management
- Water Conservation Practices
- ☒ Paving and Grinding Operations

☒ Any minor slopes created incidental to construction and not subject to a major or minor grading permit shall be protected by covering with plastic or tarp prior to a rain event, and shall have vegetative cover reestablished within 180 days of completion of the slope and prior to final building approval.

## EXCEPTIONAL THREAT TO WATER QUALITY DETERMINATION

Complete the checklist below to determine if a proposed project will pose an "exceptional threat to water quality," and therefore require Advanced Treatment Best Management Practices during the construction phase.

### TABLE 4: EXCEPTIONAL THREAT TO WATER QUALITY DETERMINATION

| No. | CRITERIA | YES | NO | INFORMATION |
|---|---|---|---|---|
| 1. | Is all or part of the proposed project site within 200 feet of waters named on the Clean Water Act (CWA) Section 303(d) list of Water Quality Limited Segments as impaired for sedimentation and/or turbidity? Current 303d list may be obtained from the following site: http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/category5_report.shtml | | ☒ | If YES, continue to 2.<br>If NO, go to 5. |
| 2. | Will the project disturb more than 5 acres, including all phases of the development? | | | If YES, continue to 3.<br>If NO, go to 5. |
| 3. | Will the project disturb slopes that are steeper than 4:1 (horizontal: vertical) with at least 10 feet of relief, and that drain toward the 303(d) listed receiving water for sedimentation and/or turbidity? | | | If YES, continue to 4.<br>If NO, go to 5. |
| 4. | Will the project disturb soils with a predominance of USDA-NRCS Erosion factors $k_f$ greater than or equal to 0.4? http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm | | | If YES, continue to 6.<br>If NO, go to 5. |
| 5. | Project is not required to use Advanced Treatment BMPs. | ☒ | | Document for Project Files by referencing this checklist. |
| 6. | Project poses an "exceptional threat to water quality" and is required to use Advanced Treatment BMPs. | | | Advanced Treatment BMPs must be consistent with WPO section 67.811(b)(20)(D) performance criteria |

**Exemption potentially available for projects that require advanced treatment:** Project proponent may perform a Revised Universal Soil Loss Equation, Version 2 (RUSLE 2), Modified Universal Soil Loss Equation (MUSLE), or similar analysis that demonstrates (to the County official's satisfaction) that advanced treatment is not required.

## STEP 3

## HYDROMODIFICATION DETERMINATION

The following questions provide a guide to collecting information relevant to hydromodification management plan (HMP) issues. If the project is exempt from the HMP criteria, please provide the supporting documentation in Attachment H. Please reference the full descriptions of the HMP exemptions located in Figure 1-1 of the County SUSMP.

**TABLE 5: HYDROMODIFICATION DETERMINATION**

| | QUESTIONS | YES | NO | Information |
|---|---|---|---|---|
| 1. | Will the project reduce the pre-project impervious area and are the unmitigated post-project outflows (outflows without detention routing) to each outlet location less as compared to the pre-project condition? | | ☒ | If NO, continue to 2. If YES, go to 7. |
| 2. | Would the project site discharge runoff directly to an exempt receiving water, such as the Pacific Ocean, San Diego Bay, an exempt reservoir, or a tidally-influenced area? | | ☒ | If NO, continue to 3. If YES, go to 7. |
| 3. | Would the project site discharge to a stabilized conveyance system, which has the capacity for the ultimate $Q_{10}$, and extends to the Pacific Ocean, San Diego Bay, a tidally-influenced area, an exempt river reach or reservoir? | | ☒ | If NO, continue to 4. If YES, go to 7. |
| 4. | Does the contributing watershed area to which the project discharges have an impervious area percentage greater than 70 percent? | | ☒ | If NO, continue to 5. If YES, go to 7. |
| 5. | Is this an urban infill project which discharges to an existing hardened or rehabilitated conveyance system that extends beyond the "domain of analysis," where the potential for cumulative impacts in the watershed are low, and the ultimate receiving channel has a "Low" susceptibility to erosion as defined in the SCCWRP channel assessment tool? | | ☒ | If NO, continue to 6. If YES, go to 7. |
| 6. | Project is required to manage hydromodification impacts | ☒ | | Reference Appendix G "Hydromodification Management Plan" of the County SUSMP. |
| 7. | Project is not required to manage hydromodification impacts. | | | Hydromodification Exempt. Keep on file. |

## STEP 4

## POLLUTANTS OF CONCERN DETERMINATION

### WATERSHED

Please check the watershed(s) for the project.

| | | | |
|---|---|---|---|
| San Juan 901 | Santa Margarita 902 | San Luis Rey 903 | Carlsbad 904 |
| San Dieguito 905 | Penasquitos 906 | ☒San Diego 907 | Sweetwater 909 |
| Otay 910 | Tijuana 911 | Whitewater 719 | Clark 720 |
| West Salton 721 | Anza Borrego 722 | Imperial 723 | |

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

*Projects located fully within these watersheds require only a Minor SWMP.

### HYDROLOGIC SUB-AREA NAME AND BASIN NUMBER(S)

| Basin Number | Sub-Area Name |
|---|---|
| 907.0 | San Diego Hydrologic Unit Watershed |
| 907.14 | Los Coches Hydrologic Subarea |

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

**RECEIVING WATERS** that each project discharge point proposes to discharge to.

| SURFACE WATERS (river, creek, stream, etc.) | Hydrologic Unit Basin Number | Impairment(s) listed [303(d) listed waters or waters with established TMDLs ]. List the impairments identified in **Table 7.** | Distance to Project |
|---|---|---|---|
| **San Diego River** | 907.11 | Fecal Coliform, Low Dissolved Oxygen, Phosphorus, Total Dissolved Solids | 4 miles |
| **Pacific Ocean Shoreline** | 907.11 | Indicator Bacteria | 25 miles |
| | | | |

http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r9_06_303d_reqtmdls.pdf

### GROUND WATERS

| Ground Waters | Hydrologic Unit Basin Number | MUN | AGR | IND | PROC | GWR | FRESH | POW | REC1 | REC2 | BIOL | WARM | COLD | WILD | RARE | SPWN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Coches HSA** | 7.14 | ● | ● | ● | ○ | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

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

+ Excepted from Municipal ● Existing Beneficial Use ○ Potential Beneficial Use

PROJECT ANTICIPATED AND POTENTIAL POLLUTANTS

Using Table 6, identify pollutants that are anticipated to be generated from the proposed priority project categories. Pollutants associated with any hazardous material sites that have been remediated or are not threatened by the proposed project are not considered a pollutant of concern.

**TABLE 6: ANTICIPATED AND POTENTIAL POLLUTANTS GENERATED BY LAND USE TYPE**

| | *General Pollutant Categories* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ***PDP Categories*** | Sediments | Nutrients | Heavy Metals | Organic Compounds | Trash & Debris | Oxygen Demanding Substances | Oil & Grease | Bacteria & Viruses | Pesticides |
| **Detached Residential Development** | **X** | **X** | | | **X** | **X** | **X** | **X** | **X** |
| Attached Residential Development | X | X | | | X | P(1) | P(2) | P | X |
| Commercial Development 1 acre or greater | P(1) | P(1) | | P(2) | X | P(5) | X | P(3) | P(5) |
| Heavy industry /industrial development | X | | X | X | X | X | X | | |
| Automotive Repair Shops | | | X | X(4)(5) | X | | X | | |
| Restaurants | | | | | X | X | X | X | |
| Hillside Development >5,000 ft$^2$ | X | X | | | X | X | X | | X |
| Parking Lots | P(1) | P(1) | X | | X | P(1) | X | | P(1) |
| Retail Gasoline Outlets | | | X | X | X | X | X | | |
| **Streets, Highways & Freeways** | **X** | **P(1)** | **X** | **X(4)** | **X** | **P(5)** | **X** | | |

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

PROJECT POLLUTANTS OF CONCERN SUMMARY TABLE

Please summarize the identified project pollutants-of-concern by checking the appropriate boxes in the table below and list any surface water impairments identified. Pollutants anticipated to be generated by the project, which are also causing impairment of receiving waters, shall be considered the primary pollutants of concern. For projects where no primary pollutants of concern exist, those pollutants identified as anticipated shall be considered secondary pollutants of concern.

**TABLE 7: PROJECT POLLUTANTS OF CONCERN**

| Pollutant Category | Anticipated (X) | Potential (P) | Surface Water Impairments (determined by your receiving waters impairments on page 10) |
|---|---|---|---|
| Sediments | X | | |
| Nutrients | X | | |
| Heavy Metals | X | | |
| Organic Compounds | X | | |
| Trash & Debris | X | | |
| Oxygen Demanding Substances | X | | |
| Oil & Grease | X | | |
| Bacteria & Viruses | X | | |
| Pesticides | X | | |

## STEP 5

## LID AND SITE DESIGN STRATEGIES

Each numbered item below is a Low Impact Development (LID) requirement of the WPO. Please check the box(s) under each number that best describes the LID BMP(s) and Site Design Strategies selected for this project. LID BMPs selected on this table will be typically represented as a self-retaining area, self-treating area, pervious pavement and greenroof, which, should be delineated in the Drainage Management Area map in Attachment C.

### TABLE 8: LID AND SITE DESIGN

| |
|---|
| 1. Conserve natural Areas, Soils, and Vegetation |
| ☒ Preserve well draining soils (Type A or B) |
| Preserve Significant Trees |
| ☒ Preserve critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions |
| Other. Description: |
| 2. Minimize Disturbance to Natural Drainages |
| Set-back development envelope from drainages |
| ☒Restrict heavy construction equipment access to planned green/open space areas |
| Other. Description: |
| 3. Minimize and Disconnect Impervious Surfaces (see 5) |
| Clustered Lot Design |
| ☒ Items checked in 5 |
| Other. Description: No impervious surfaces proposed at this phase of development |
| 4. Minimize Soil Compaction |
| ☒ Restrict heavy construction equipment access to planned green/open space areas |
| ☐ Re-till soils compacted by construction vehicles/equipment |
| ☐ Collect & re-use upper soil layers of development site containing organic Materials |
| Other. Description: |
| 5. Drain Runoff from Impervious Surfaces to Pervious Areas |
| LID Street & Road Design |
| Curb-cuts to landscaping |
| Rural Swales |
| Concave Median |
| Cul-de-sac Landscaping Design |
| ☒ Other. Description: Modified Curb Outlet to Bioretention basin proposed |
| LID Parking Lot Design |
| Permeable Pavements |

| |
|---|
| Curb-cuts to landscaping |
| ☒ Other. Description: No parking lots proposed |
| LID Driveway, Sidewalk, Bike-path Design |
| Permeable Pavements |
| ☒ Pitch pavements toward landscaping |
| Other. Description: |
| LID Building Design |
| Cisterns & Rain Barrels |
| ☒ Downspout to swale |
| Vegetated Roofs |
| Other. Description: |
| LID Landscaping Design |
| Soil Amendments |
| Reuse of Native Soils |
| ☒ Smart Irrigation Systems |
| Street Trees |
| Other. Description: |
| 6. Minimize erosion from slopes |
| ☒ Disturb existing slopes only when necessary |
| ☒ Minimize cut and fill areas to reduce slope lengths |
| ☒ Incorporate retaining walls to reduce steepness of slopes or to shorten slopes |
| ☒ Provide benches or terraces on high cut and fill slopes to reduce concentration of flows |
| ☒ Rounding and shaping slopes to reduce concentrated flow |
| Collect concentrated flows in stabilized drains and channels |
| Other. Description: |

## STEP 6

## SOURCE CONTROL

Please complete the checklist on the following pages to determine Source Control BMPs. Below is instruction on how to use the checklist. (Also see instructions on page 60 of the *SUSMP)*

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies and list in Table 9.

2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your Source Control Exhibit in Attachment B.

3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs into Table 9.

4. Use the format in Table 9 below to summarize the project Source Control BMPs. Incorporate all identified Source Control BMPs in your Source Control Exhibit in Attachment B.

**TABLE 9: PROJECT SOURCE CONTROL BMPS**

| *Potential source of runoff pollutants* | *Permanent source control BMPs* | *Operational source control BMPs* |
|---|---|---|
| Onsite Stormdrain Inlets | Location/stenciling inlets | Maintanence/Education |
| Onsite Storm Drains | **Mark all inlets with the words "No Dumping! Flows to Bay" or similar where feasible** | **Maintain and periodically repaint or replace inlet markings.**<br><br>**Provide stormwater pollution prevention information to new site owners, lessees, or operators.** |
| Landscaped Areas | **Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.**<br><br>**Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater** | **Maintain landscaping using minimum or no pesticides.**<br><br>**Provide IPM information to new owners, lessees and operators.** |

| | | |
|---|---|---|
| | **pollution.**<br><br>**Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.**<br><br>**To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.** | |

Describe your specific Source Control BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting Source Control BMPs or substituting alternatives.

Once the site is mass graded, and before slope planting and pad stabilization is established, the disturbed areas should be hydroseeded and/or stabilized with BFM to prevent sentiment generation and transport. The hydroseed mix should be native pest and drought tolerant species to reduce the amount of irrigation that can generate runoff and erosion, and the amount of pesticides and fertilizer that can be carried by the runoff to downstream water bodies. Due to large size of the site, people accessing the site may left behind trash and debris that may accumulate at drain inlets and enter the storm drain and, subsequently, be conveyed to downstream water bodies. Prohibitive signs should be installed at the drain inlets to remind people not to leave trash, debris and other pollutants behind, especially near the inlets that can enter the drainage system. The site manager should be vigilant to keep the site clean, especially around drain inlets and prior and post runoff producing storms.

| IF THESE SOURCES WILL BE ON THE PROJECT SITE ... | ... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs | | |
|---|---|---|---|
| 1<br>**Potential Sources of Runoff Pollutants – List in Table 9** | 2<br>**Permanent Controls—Show on Source Control Exhibit, Attachment B** | 3<br>**Permanent Controls—List in Table 9 and Narrative** | 4<br>**Operational BMPs—Include in Table 9 and Narrative** |
| ☒ **A.** On-site storm drain inlets | ☒ Locations of inlets. | ☒ Mark all inlets with the words "No Dumping! Flows to Bay" or similar. | ☒ Maintain and periodically repaint or replace inlet markings.<br>☒ Provide stormwater pollution prevention information to new site owners, lessees, or operators.<br>☒ See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com<br>☒ Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains." |
| ☐ **D1.** Need for future indoor & structural pest control | | ☐ Note building design features that discourage entry of pests. | ☐ Provide Integrated Pest Management information to owners, lessees, and operators. |

| IF THESE SOURCES WILL BE ON THE PROJECT SITE ... | ... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs | | |
|---|---|---|---|
| **1**<br>**Potential Sources of Runoff Pollutants – List in Table 9** | **2**<br>**Permanent Controls—Show on Source Control Exhibit, Attachment B** | **3**<br>**Permanent Controls—List in Table 9 and Narrative** | **4**<br>**Operational BMPs—Include in Table 9 and Narrative** |
| ❑ **D2.** Landscape/ Outdoor Pesticide Use<br><br>Note: Should be consistent with project landscape plan (if applicable). | ❑ Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained.<br><br>❑ Show self-retaining landscape areas, if any.<br><br>❑ Show stormwater treatment facilities. | State that final landscape plans will accomplish all of the following:<br><br>❑ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.<br><br>❑ Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.<br><br>❑ Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.<br><br>❑ Consider using pest-resistant plants, especially adjacent to hardscape.<br><br>❑ To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions. | ❑ Maintain landscaping using minimum or no pesticides.<br><br>❑ See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com<br><br>❑ Provide IPM information to new owners, lessees and operators. |

## STEP 7

## LID AND TREATMENT CONTROL SELECTION

A treatment control BMP and/or LID IMP must be selected to treat the project pollutants of concern identified in Table 7 "Project Pollutants of Concern". A treatment control facility with a high or medium pollutant removal efficiency for the project's most significant pollutant of concern shall be selected. It is recommended to use the design procedure in Chapter 4 of the SUSMP to meet NPDES permit LID requirements, treatment requirements, and flow control requirements. If your project does not utilize this approach, the project will need to demonstrate compliance with LID, treatment and hydromodification flow control requirements. Review Chapter 2 "Selection of Stormwater Treatment Facilities" in the SUSMP to assist in determining the appropriate treatment facility for your project.

| Will this project be utilizing the unified LID design procedure as described in Chapter 4 of the Local SUSMP? *(If yes, please document in Attachment D following the steps in Chapter 4 of the County SUSMP)* | |
|---|---|
| ☒Yes | No |
| If this project is not utilizing the unified LID design procedure, please describe how the alternative treatment facilities will comply with applicable LID criteria, stormwater treatment criteria, and hydromodification management criteria. | |
| | |

➢ Indicate the project pollutants of concern (POCs) from Table 7 in Column 2 below.

**TABLE 10: GROUPING OF POTENTIAL POLLUTANTS of Concern (POCs) by fate during stormwater treatment**

| Pollutant | Check Project Specific POCs | Coarse Sediment and Trash | Pollutants that tend to associate with fine particles during treatment | Pollutants that tend to be dissolved following treatment |
|---|---|---|---|---|
| Sediment | X | X | X | |
| Nutrients | X | | X | X |
| Heavy Metals | X | | X | |
| Organic Compounds | X | | X | |
| Trash & Debris | X | X | | |
| Oxygen Demanding | X | | X | |
| Bacteria | X | | X | |
| Oil & Grease | X | | X | |
| Pesticides | X | | X | |

➢ Indicate the treatment facility(s) chosen for this project in the following table.

**TABLE 11: GROUPS OF POLLUTANTS and relative effectiveness of treatment facilities**

| Pollutants of Concern | Bioretention Facilities (LID) | Settling Basins (Dry Ponds) | Wet Ponds and Constructed Wetlands | Infiltration Facilities or Practices (LID) | Media Filters | Higher-rate biofilters* | Higher-rate media filters* | Trash Racks & Hydro-dynamic Devices | Vegetated Swales |
|---|---|---|---|---|---|---|---|---|---|
| Coarse Sediment and Trash | High | High | High | High | High | High | High | High | High |
| Pollutants that tend to associate with fine particles during treatment | High | High | High | High | High | Medium | Medium | Low | Medium |
| Pollutants that tend to be dissolved following treatment | Medium | Low | Medium | High | Low | Low | Low | Low | Low |

➢ Please check the box(s) that best describes the Treatment BMP(s) and/or LID BMP selected for this project.

**TABLE 12: PROJECT LID AND TC-BMPS - BMPs designed to treat stormwater (e.g., LID and hydromod) shall be considered TCBMPs.**

| TCBMP Type | Water Quality Treatment | Hydromodification Flow Control |
|---|---|---|
| **Bioretention Facilites (LID)** | | |
| ☒ Bioretention area | X | X |
| Flow-through Planter | | |
| Cistern with Bioretention Facility | | |
| **Basins** | | |
| Extended/dry detention basin with grass/vegetated lining | | |
| Extended/dry detention basin with impervious lining | | |
| Underground vault | | |
| Cistern | | |
| **Infiltration Devices (LID)** | | |
| Infiltration basin | | |

| | |
|---|---|
| Infiltration trench | |
| Other | |
| **Wet Ponds and Constructed Wetlands** | |
| Wet pond/basin (permanent pool) | |
| Constructed wetland | |
| **Vegetated Swales (LID[1])** | |
| Vegetated Swale | |
| **Media Filters** | |
| Austin Sand Filter | |
| Delaware Sand Filter | |
| Multi-Chambered Treatment Train (MCTT) | |
| **Higher-rate Biofilters** | |
| Tree-pit-style unit | |
| Other_____ | |
| **Higher-rate Media Filters** | |
| Vault-based filtration unit with replaceable cartridges | |
| Other_____ | |
| **Hydrodynamic Separator Systems** | |
| Swirl Concentrator | |
| Other | |
| **Trash Racks** | |
| Catch Basin Insert | |
| Catch Basin Insert w/ Hydrocarbon boom | |
| Other_____ | |
| **Self-Treating or Self-Retaining Areas (LID)** | |
| Permeable Pavements | |
| Vegetated Roofs | |
| ☒ Other – Perimeter Slopes | |

(1) Must be designed per SUSMP "Vegetated Swales" design criteria for water quality treatment credit (p. 102-103).

For design guidelines and calculations refer to Chapter 4 "Low Impact Development Design Guide" in the SUSMP. Please show all calculations and design sheets for all treatment control BMPs proposed in Attachment D.

➢ Create a Construction Plan SWMP Checklist for your project.

Instructions on how to fill out table

1. Number and list each measure or BMP you have specified in your SWMP in Columns 1 and Maintenance Category in Column 3 of the table. Leave Column 2 blank.

2. When you submit construction plans, duplicate the table (by photocopy or electronically). Now fill in Column 2, identifying the plan sheets where the BMPs are shown. List all plan sheets on which the BMP appears. This table must be shown on the front sheet of the grading and improvement plans.

| Treatment Control BMPs[1] | | | |
|---|---|---|---|
| Description / Type | Sheet | Maintenance Category | Revisions |
| Bioretention Area | 2 | 2 | |
| | | | |
| | | | |
| | | | |
| [1] BMPs designed to treat stormwater (e.g., LID and hydromod) shall be considered TCBMPs. | | | |

*BMP's approved as part of Stormwater Management Plan (SWMP) dated xx/xx/xx on file with DPW. Any changes to the above BMP's will require SWMP revision and Plan Change approvals.

➢ Please describe why the chosen treatment control BMP(s) was selected for this project. For projects utilizing a low performing BMP, please provide a feasibility analysis that demonstrates utilization of a treatment control BMP with a high or medium removal efficiency ranking is infeasible.

Bioretention pond devices are a very effective approach for runoff water treatment and flow control.

Please provide the sizing design calculations for each Drainage Management Area in Attachment D. Guidelines for design calculations are located in Chapter 4 of the County SUSMP. To assist in these calculations a BMP sizing calculator is available for use at the following location: http://www.projectcleanwater.org/html/wg_susmp.html

## STEP 8

## OPERATION AND MAINTENANCE

- Please check the box that best describes the maintenance mechanism(s) for this project. The recorded maintenance agreement shall be included in the Maintenance Plan for this project (Attachment F).

### TABLE 13: PROJECT BMP CATEGORY

| CATEGORY | SELECTED | | BMP Description |
|---|---|---|---|
| | YES | NO | |
| First | | | Bioretention pond |
| Second[1] | ☒ | | |
| Third[2] | | | |
| Fourth | | | |

Note:

1. A maintenance notification will be required.
2. A recorded maintenance agreement and access easement will be required.
3. The project will be required to establish or be included in a watershed specific Community Facility District (CFD) for long-term maintenance.
4. The developer would be required to dedicate the BMP (and the property on which it is located and any necessary access) to the County.

Please list all individual Treatment Control BMPs (TCBMPs) incorporated into the project. Please attach the record plan sheets upon completion of project and amend the Major SWMP where appropriate. For each type of TCBMP provide an inspection sheet in Attachment F "Maintenance Plan". Replicate Table 14 in Attachment G once the TCBMP has been constructed.

### TABLE 14: PROJECT SPECIFIC LID AND TC-BMPS

| Treatment Control BMPs (TCBMPs)[1,2] (List all from SWMP) | | |
|---|---|---|
| **Lot Number Or Location** | **Description/Type** | **Sheet** |
| 21 | Bioretention facility | 2 |
| | | |
| | | |

[1]All Priority Development Projects (PDPs) require a TCBMP.
[2]BMPs designed to treat stormwater (e.g. LID and hydromod) shall be considered TCBMPs.

* For location of BMP's, see approved Record Plan dated _XX/XX/XX_, plan (TYPE) sheet _(#)_

➢ Responsible Party for the Construction Phase:

Identify the parties responsible for maintenance during the construction phase of the BMPs identified above and Source Controls specified in Attachment B.

Developer's Name: _____

Address: _____

City _____ State _____ Zip_____

Email Address: _____

Phone Number: _____

Engineer of Work: _____

Engineer's Phone Number: _____

➢ Responsible Party for Ongoing Maintenance:

Identify the parties responsible for long-term maintenance of the BMPs identified above and Source Controls specified in Attachment B. Include the appropriate written agreement with the entities responsible for O&M in Attachment F. Please see Chapter 5 "Stormwater Facility Maintenance" of the County SUSMP for appropriate maintenance mechanisms.

Owner's Name: _____

Address: _____

City _____ State _____ Zip_____

Email Address: _____

Phone Number: _____

* Note: If a corporation or LLC, provide information for principal partner or Agent for Service of Process. If an HOA, provide information for the Board or property manager at

| |
|---|
| time of project closeout. |

➢ Funding Source:

Provide the funding source or sources for long-term operation and maintenance of each BMP identified above. Please see Chapter 5 "Stormwater Facility Maintenance" of the County SUSMP for the appropriate funding source options. By certifying the Major SWMP the applicant is certifying that the funding responsibilities have been addressed and will be transferred to future owners.

| |
|---|
| HOA to be determined |

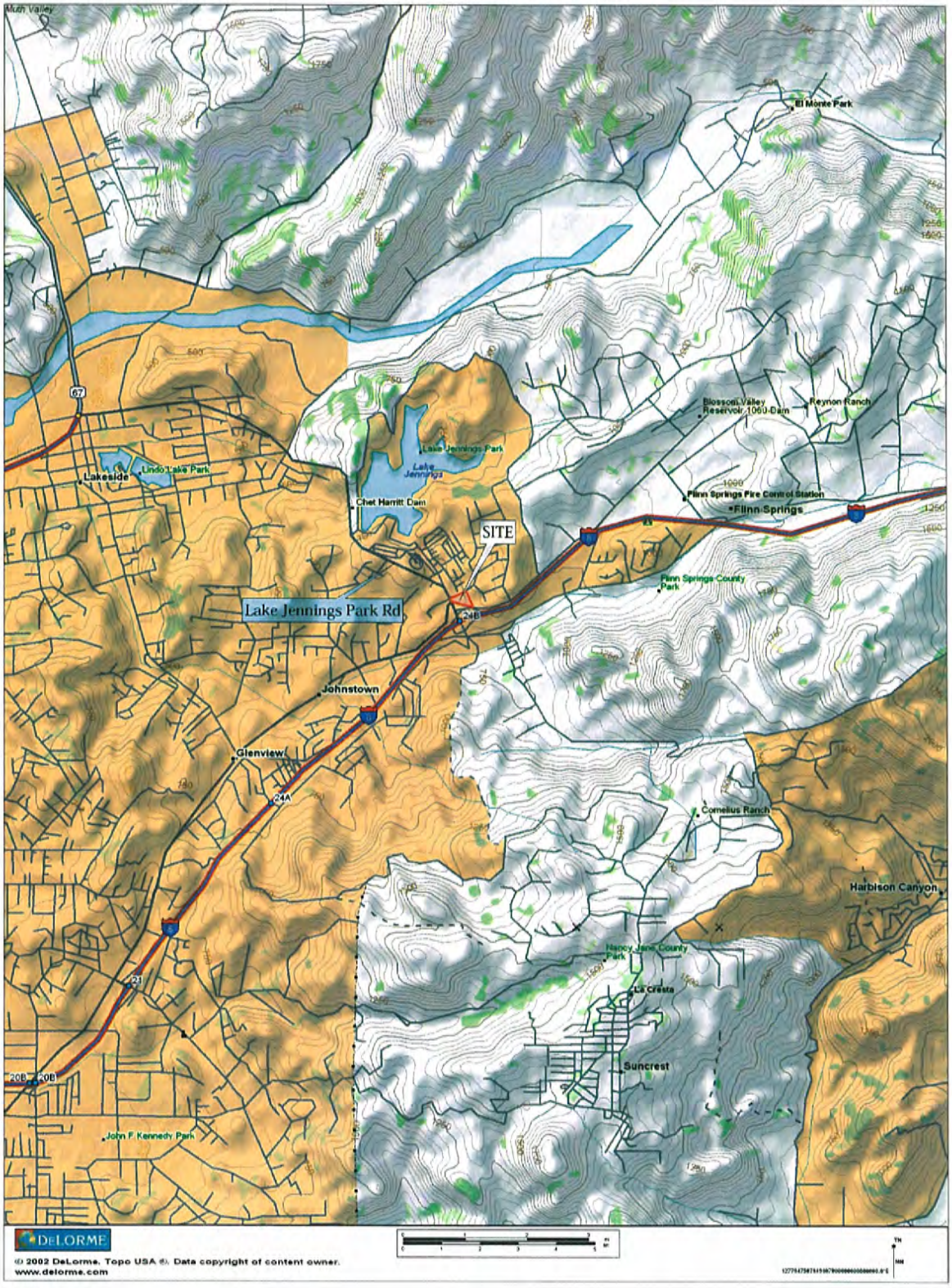
## ATTACHMENTS

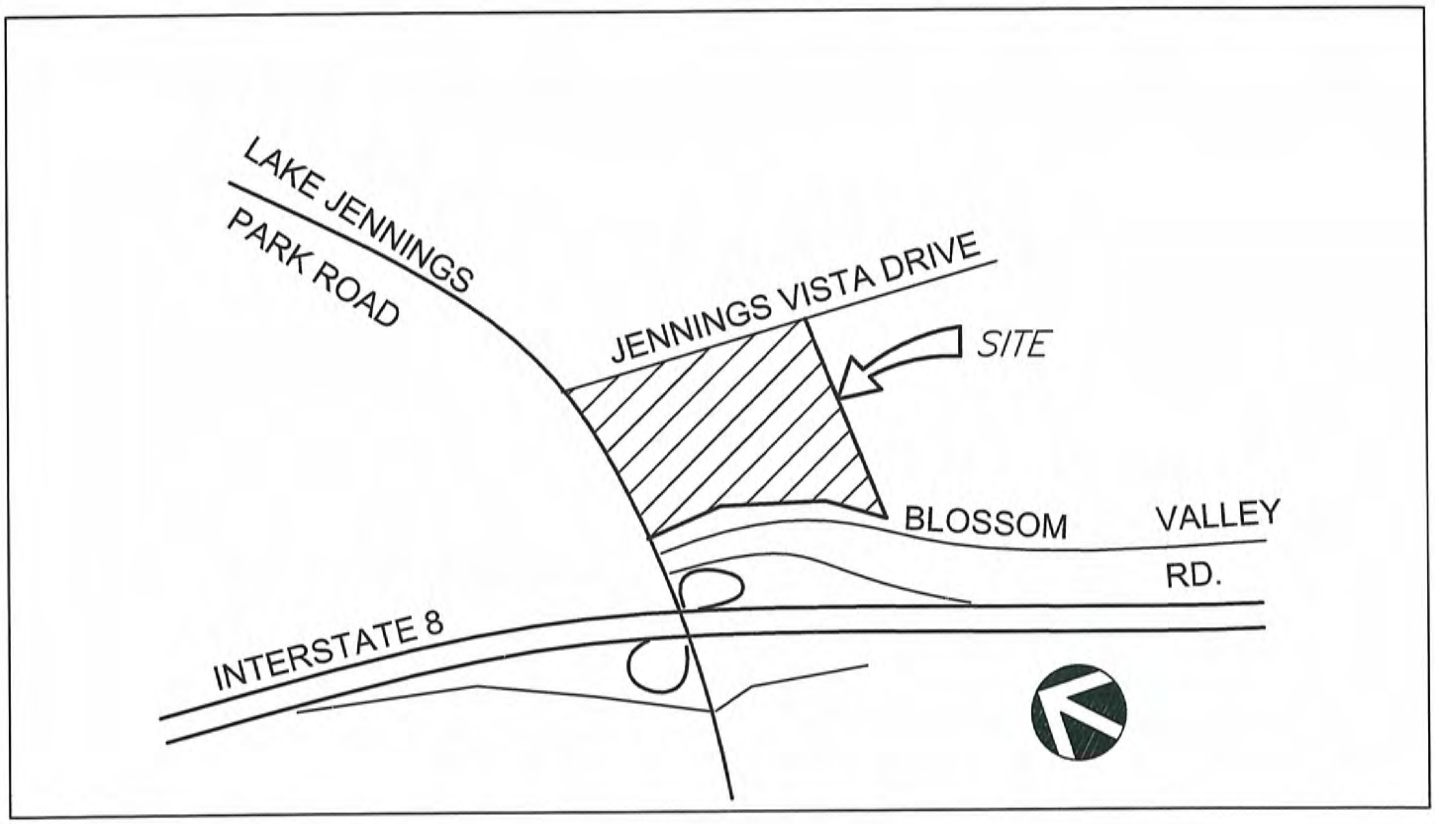
| | ATTACHMENT | COMPLETED | N/A |
|---|---|---|---|
| A | Project Location Map | ☒ | |
| B | Source Control Exhibit | | ☒ |
| C | Drainage Management Area (DMA)Exhibit | ☒ | |
| D | BMP Sizing Design Calculations (Water Quality and Hydromodification) and TCBMP/IMP Design Details | ☒ | |
| E | Geotechnical Certification Sheet | ☒ | |
| F | Maintenance Plan | ☒ | |
| G | Treatment Control BMP Certification (due at project completion) | | |
| H | HMP Study | ☒ | |
| I | Geomorphic Assessment | | ☒ |
| J | HMP Exemption Documentation | | ☒ |
| K | SWMM Model | | ☒ |

**Note:** Attachments B and C may be combined.

# ATTACHMENT A

## Project Location Map





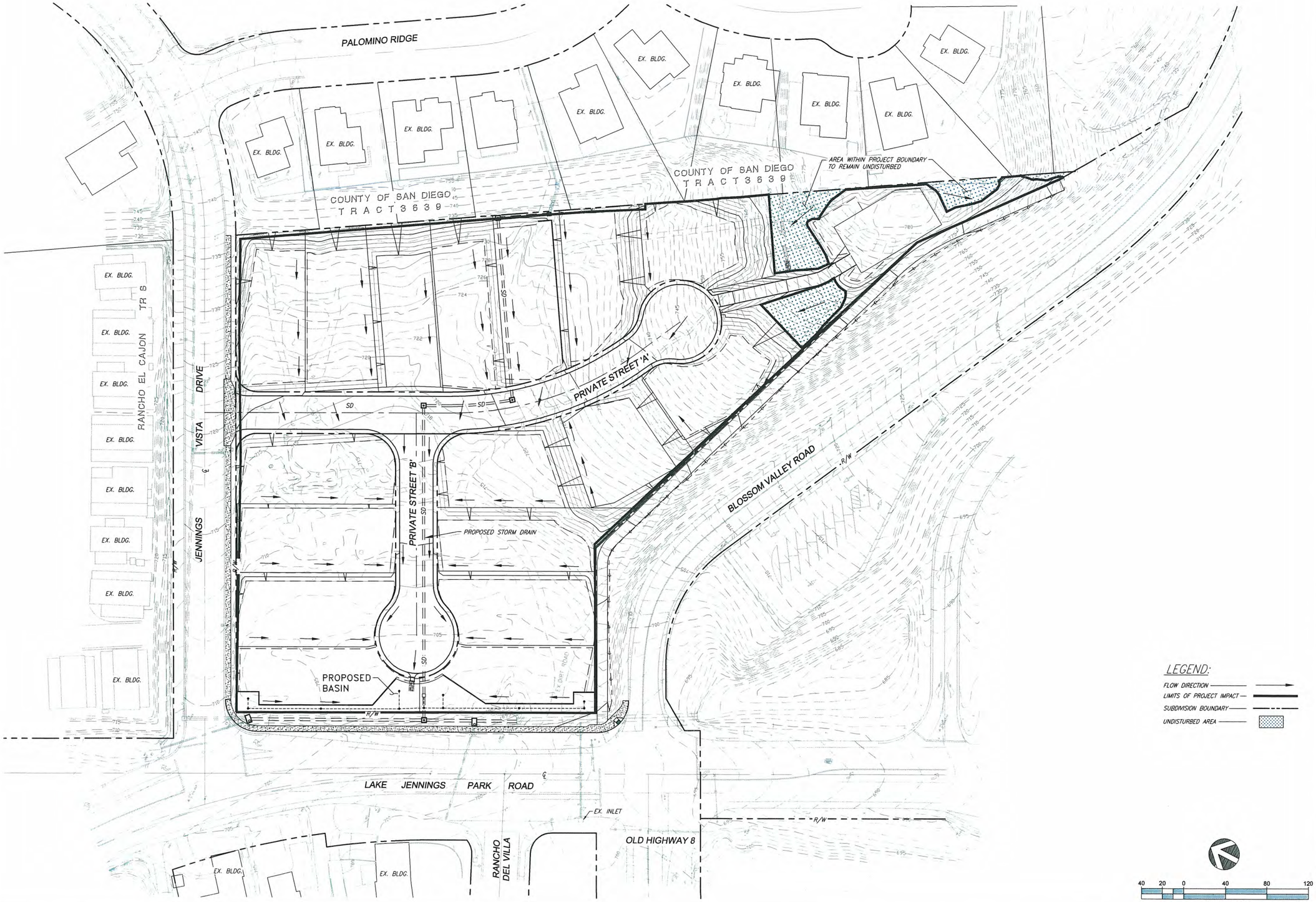

# VICINITY MAP

NOT TO SCALE
THOMAS BROTHERS 1232 F5

# ATTACHMENT B

## Source Control Exhibit

***SEE ATTACHMENT C***




| REVISIONS | | | |
|---|---|---|---|
| NO. | DESCRIPTION | DATE | APP'D |
| | | | |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DATE: 03-18-2014
SCALE: –
DRAWN: –
CHECKED: –

SHEET TITLE: SOURCE CONTROL EXHIBIT

PROJECT: LAKE JENNINGS PARK ROAD
LAKESIDE, CA

SHEET 1 OF 1 SHEETS


D.E. DATE 1/31/2014 – PLOT DATE 1/25/2014 – FILE NAME P:\Acad\681-LAKE JENNINGS\Civil\Reports\SWMP\Source control Exhibit.dwg

# ATTACHMENT C

## Drainage Management Area (DMA) Exhibit