TM 5421 RPL2
ER 05-14-003

Major Stormwater Management Plan
for
Oakmont II, TM 5421 RPL1

Preparation Date: September 22, 2010

Prepared for:
Hsiung Cheng
1852 Hacienda Drive
El Cajon, CA. 92020
(619) 562-0842

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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 the Regional Water Quality Control Board Order R9-2007-0001 and subsequent amendments.

Thomas H. Koerner 9/20/10

Thomas H. Koerner, RCE 65317 EXP. 9/30/11 Date

County of San Diego

STORMWATER INTAKE FORM FOR DEVELOPMENT PROJECTS

This form must be completed in its entirety and accompany applications for any of the discretionary or ministerial permits and approvals referenced in Sections 67.803(c)(1) and 67.803(c)(2) of the County of San Diego Watershed Protection, Stormwater Management and Discharge Control Ordinance (WPO).

STEP 1: IDENTIFY RELEVANT PROJECT INFORMATION	
Applicant Name: HSIUNG CHENG	Contact Information: (619) 562-0842
Project Address: OLD HWY. 80 & FLINN SPRINGS ROAD	APN(s): 396-020-13
Permit Application Number: TM 5421 RPL1	

STEP 2: DETERMINE PRIORITY DEVELOPMENT PROJECT STATUS

WPO Section 67.802(w) defines the criteria for determining whether your project is considered a Priority Development Project (PDP). First, select the proposed project type category. Then select "Yes" or "No" for all of the categories in Table A, Priority Development Project Categories. If you answer "Yes" for any of the categories in Table A, your project is a PDP subject to review and approval of a Major Stormwater Management Plan (SWMP). If you answer "No" to all of the categories in Table A, your project is subject to review and approval of a Minor SWMP.

☑ **New Development Project:**

Projects on previously undeveloped land are Priority Development Projects if they are in one or more of the categories listed below.

☐ **Previously Developed Site:**

Projects on previously developed sites ("redevelopment projects") are Priority Development Projects if they create, add, or replace 5,000 sq. ft. or more of impervious surface and also are in one of the categories listed below.

☐ **Pollutant Generating Project:**

Projects that generate pollutants at levels greater than background levels which disturb one acre or more of land and include housing subdivisions of 10 or more dwelling units are considered Priority Development Projects.

If project is exempt please list the exemption: _____

***PROJECT WILL STILL NEED TO COMPLETE A MINOR SWMP**

If you answer "YES" for any category in Table A, please complete a Major SWMP for your project.
Instructions and an example of the form can be downloaded from:
http://www.co.san-diego.ca.us/dpw/watersheds/land_dev/susmp.html

If you answer "NO" to all of the categories in Table A, please complete a Minor SWMP for your project.
Instructions and an example of the form can be downloaded from:
http://www.sdcounty.ca.gov/dplu/docs/LUEG-SW.pdf

TABLE A:
PRIORITY DEVELOPMENT PROJECT CATEGORIES

Yes	No		
☑	☐	A	**Housing subdivisions of 10 or more dwelling units.** Examples: single-family homes, multi-family homes, condominiums, and apartments.
☐	☑	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.
☐	☑	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.).
☐	☑	D	**Automotive repair shops.** A facility categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.
☐	☑	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 sq. ft.. Restaurants where land development is less than 5,000 sq. ft. shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirements and hydromodification requirements.
☐	☑	F	**Hillside development greater than 5,000 square feet.** Any development that creates 5,000 sq. ft. of impervious surface located in an area with known erosive soil conditions, where development will grade on any natural slope that is 25% or greater. (1)
☐	☑	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 sq. ft. 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.(1) (2)
☐	☑	H	**Parking lots 5,000 square feet or more or with 15 or more parking spaces** and potentially exposed to urban runoff. (3)
☑	☐	I	**Street, roads, highways, and freeways.** Any paved surface ≥ 5,000 sq. ft. used for transportation of automobiles, trucks, motorcycles, and other vehicles. (3)
☐	☑	J	**Retail Gasoline Outlets (RGOs) that are:** (a) ≥ 5,000 sq. ft. or (b) projected Average Daily Traffic (ADT) ≥ 100 vehicles per day.

(1) In lieu of a Major SWMP, Ministerial Permit Applications for residential dwellings/additions on an existing legal lot answering "Yes" may be able to utilize the Minor SWMP upon approval of a county official. Please note that upon further analysis, staff may determine that a Major SWMP will be required.

(2) Counter staff will assist you in determining whether your project is located within 200 feet of an Environmentally Sensitive Area.

(3) PDP Exemptions: interior remodels, trenching and resurfacing associated with utility work, routine maintenance or repair, roof or exterior surface replacement, resurfacing and reconfiguring surface parking lots and existing roadways, new sidewalk construction, pedestrian ramps, or bike lanes on existing roads, and routine replacement of damaged pavement such as pothole repair.

STEP 3: SIGN AND DATE THE CERTIFICATION

APPLICANT CERTIFICATION: I have read and understand that the County of San Diego has adopted minimum requirements for managing urban runoff, including stormwater, from construction and land development activities. I certify that this intake form has been completed to the best of my ability and accurately reflects the project being proposed. I also understand that non-compliance with the County's WPO and Grading Ordinance may result in enforcement by the County, including fines, cease and desist orders, or other actions.

Applicant: _____ *Date:* _____

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:	OAKMONT II
Project Location:	BLOSSOM VALLEY; OLD HWY. 80 & FLINN SPRINGS RD.
Permit Number (Land Development Projects):	TM 5421 RPL1
Work Authorization Number (**CIP only**):	N/A
Applicant:	HSIUNG CHENG
Applicant's Address:	1852 HACIENDA DR., EL CAJON 92020
Plan Prepared By (*Leave blank if same as applicant*):	CREW ENGINEERING & SURVEYING 5725 KEARNY VILLA RD., STE. D
Preparer's Address:	SAN DIEGO, CA. 92123
Date:	9-22-10

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 103.7 (Acres or ft^2)

Estimated amount of disturbed acreage: 15.8 (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: 103.7 (Acres or ft^2)

B. Total impervious area (including roof tops) before construction 0.8 (Acres or ft^2)

C. Total impervious area (including roof tops) after construction 5.3 (Acres or ft^2)

Calculate percent impervious before construction: B/A = 0.8 %
Calculate percent impervious after construction: C/A = 5.1 %

Please provide detailed descriptions regarding the following questions:

TABLE 2: PROJECT SPECIFIC STORMWATER ANALYSIS

1.	Please provide a brief description of the project.	
	SEE "PROJECT DESCRIPTION" FOR ITEMS 1 THRU 7	
2.	Describe the current and proposed zoning and land use designation.	
3.	Describe the pre-project and post-project topography of the project. (Show on Plan)	
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.	
5.	Describe if contaminated or hazardous soils are within the project area. (Show on Plan)	
6.	Describe the existing site drainage and natural hydrologic features. (Show on Plan).	
7.	Describe site features and conditions that constrain, or provide opportunities for stormwater control, such as LID features.	
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)

PROJECT DESCRIPTION

Please provide a brief description of the project in the following box. Please include:

- Project Location
- Project Description
- Physical Features (Topography)
- Surrounding Land Use
- Proposed Project Land Use
- Location of dry weather flows (year-round flows in streams, or creeks) within project limits, if applicable.

The proposed project is a subdivision of 103.0 gross acres in to 20 residential lots. Ultimate build-out of the project will be 20 single family homes on lot sizes ranging from 2.0. to 23.6 acres. The proposed lots will be served by private roads. This is a lot sales project. THE TOTAL IMPERVIOUS SURFACE OF THE PROPOSED ROADS IS 62,760 SF, THE AREA OF FUTURE LOT GRADING, INCLUDING DRIVEWAYS AND SLOPES, IS 11.9 AC. THE TOTAL DISTURBED AREA IS 15.8 AC.

The project is located in the Lakeside Community Plan Area north of Old Highway 80 between Flinn Springs Road and Oak Creek Road, and is within the San Diego Hydrologic Unit and Coches Hydrologic Sub-area according to the Water Quality Control Plan for the San Diego Basin.

The site is dominated by a peak at the southern end of the property. A saddle separates the peak from a ridge that runs offsite and then returns onto the northern end of the property. The site has moderate to steep slopes. Approximately 57.7 acres or 56%of the property is proposed to be dedicated to the County of San Diego as biological open space, steep slope open space and fie clearing buffers.

The site is currently vacant. An elementary school and fire station occupy the property immediately to the east of the site. There are some commercial and industrial uses across Old Highway 80 to the south of the site. Otherwise the site is surrounded by single family residential land uses.

Within the project limits, there are no dry weather flows, 303(d) impaired receiving water bodies, High Risk Areas, Regional Board special Requirements, and no evidence of there being any contaminated or hazardous soils. The site consists predominantly of soils type C. The drilling of deep borings on the site in March, 1985 indicated that the depth to groundwater was greater than 15-feet in the area of the proposed septic systems that were to serve a previously expired project application.
THE AVERAGE ANNUAL RAINFALL IS 16- INCHES.

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 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.

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

- [x] 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.swrcb.ca.gov/tmdl/docs/303dlists2006/approved/r9_06_303d_reqtmdls.pdf		✓	If YES, continue to 2. 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. 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. 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?			If YES, continue to 6. 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 shows 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

HYDROLOGIC SUB-AREA NAME AND NUMBER(S)

Number	Name
907.14	COCHES

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

SURFACE WATERS that each project discharge point proposes to discharge to. List the impairments identified in Table 7.

SURFACE WATERS (river, creek, stream, etc.)	Hydrologic Unit Basin Number	Impairment(s) listed [303(d) listed waters or waters with established TMDLs]	Distance to Project
LOS COCHES CREEK	907.14	N/A	

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
	907.14	●	●	●	○											

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 pollutant 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
Sediments	✓		N/A
Nutrients	✓		
Heavy Metals	✓		
Organic Compounds	✓		
Trash & Debris	✓		
Oxygen Demanding Substances	✓		
Oil & Grease	✓		
Bacteria & Viruses	✓		
Pesticides	✓		

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.

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:
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 bioretention and natural vegetation
☐ Rural Swales
☐ Concave Median
☐ Cul-de-sac Landscaping Design
☐ Other. Description:
LID Parking Lot Design N/A
☐ Permeable Pavements

☐ Other. Description:
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 40 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.

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 in a table in your Project-Specific SUSMP.

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

SEE TABLE 9

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*
LANDSCAPE / OUTDOOR PESTICIDE USE	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.	Maintain landscaping using minimum or no pesticides.
		Provide IPM information to new owners, lessees and operators.
	Consider using pest-resistant plants, especially adjacent to hardscape.	
	Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.	
	To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	
ROOFING, GUTTERS AND TRIM		Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in SUSMP Table and Narrative**	4 **Operational BMPs—Include in SUSMP Table and Narrative**
☐ **A.** On-site storm drain inlets N/A	☐ Locations of inlets.	☐ Mark all inlets with the words "No Dumping! Flows to Bay" or similar.	☐ Maintain and periodically repaint or replace inlet markings. ☐ Provide stormwater pollution prevention information to new site owners, lessees, or operators. ☐ See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com ☐ 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."
☐ **B.** Interior floor drains and elevator shaft sump pumps N/A		☐ State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	☐ Inspect and maintain drains to prevent blockages and overflow.
☐ **C.** Interior parking garages N/A		☐ State that parking garage floor drains will be plumbed to the sanitary sewer.	☐ Inspect and maintain drains to prevent blockages and overflow.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in SUSMP Table and Narrative**	4 **Operational BMPs—Include in SUSMP Table and Narrative**
☐ **D1.** Need for future indoor & structural pest control N/A		☐ 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 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in SUSMP Table and Narrative**	4 **Operational BMPs—Include in SUSMP Table and Narrative**
☑ **D2.** Landscape/ Outdoor Pesticide Use 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. ☐ Show self-retaining landscape areas, if any. ☑ Show stormwater treatment facilities.	State that final landscape plans will accomplish all of the following: ☑ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. ☑ 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. ☐ Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. ☑ Consider using pest-resistant plants, especially adjacent to hardscape. ☑ 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. ☐ See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com ☑ Provide IPM information to new 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 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in SUSMP Table and Narrative**	4 **Operational BMPs—Include in SUSMP Table and Narrative**
❑ **E.** Pools, spas, ponds, decorative fountains, and other water features. N/A	❑ Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet.	❑ If the local municipality requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.	❑ See applicable operational BMPs in Fact Sheet SC-72, "Fountain and Pool Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
❑ **F.** Food service N/A	❑ For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment. ❑ On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.	❑ Describe the location and features of the designated cleaning area. ❑ Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.	❑

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in SUSMP Table and Narrative**	4 **Operational BMPs—Include in SUSMP Table and Narrative**
☐ **G.** Refuse areas N/A	☐ Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas. ☐ If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area. ☐ Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.	☐ State how site refuse will be handled and provide supporting detail to what is shown on plans. ☐ State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.	☐ State how the following will be implemented: Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
☐ **H.** Industrial processes. N/A	☐ Show process area.	☐ If industrial processes are to be located on site, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."	☐ See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in SUSMP Table and Narrative**	4 **Operational BMPs—Include in SUSMP Table and Narrative**
☐ **I.** Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.) N/A	☐ Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area. ☐ Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults. ☐ Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.	☐ Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. Where appropriate, reference documentation of compliance with the requirements of local Hazardous Materials Programs for: ▪ Hazardous Waste Generation ▪ Hazardous Materials Release Response and Inventory ▪ California Accidental Release (CalARP) ▪ Aboveground Storage Tank ▪ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 ▪ Underground Storage Tank	☐ See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials " in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

☐ **J.** Vehicle and Equipment Cleaning N/A	☐ Show on drawings as appropriate: (1) Commercial/industrial facilities having vehicle /equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses. (2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use). (3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer. (4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.	☐ If a car wash area is not provided, describe measures taken to discourage on-site car washing and explain how these will be enforced.	Describe operational measures to implement the following (if applicable): ☐ Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system. ☐ Car dealerships and similar may rinse cars with water only. ☐ See Fact Sheet SC-21, "Vehicle and Equipment Cleaning," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

❑ **K.** Vehicle/Equipment Repair and Maintenance N/A	❑ Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater. ❑ Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas. ❑ Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.	❑ State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area. ❑ State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements. ❑ State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.	In the SUSMP report, note that all of the following restrictions apply to use the site: ❑ No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains. ❑ No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately. ❑ No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.

☐ **L. Fuel Dispensing Areas** N/A	☐ Fueling areas[1] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable. ☐ Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area[1].] The canopy [or cover] shall not drain onto the fueling area.		☐ The property owner shall dry sweep the fueling area routinely. ☐ See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

[1] The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

☐ **M.** Loading Docks N/A	☐ Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas should be drained to the sanitary sewer where feasible. Direct connections to storm drains from depressed loading docks are prohibited. Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which ☐ shall be kept closed during periods of operation. Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer. ☐		☐ Move loaded and unloaded items indoors as soon as possible. ☐ See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
☐ **N.** Fire Sprinkler Test Water N/A		☐ Provide a means to drain fire sprinkler test water to the sanitary sewer.	☐ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

O. Miscellaneous Drain or Wash Water ☐ Boiler drain lines ☐ Condensate drain lines ☐ Rooftop equipment ☐ Drainage sumps ☑ Roofing, gutters, and trim.		☐ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. ☐ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ☐ Rooftop mounted equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ☐ Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water. ☑ Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	
☐ **P.** Plazas, sidewalks, and parking lots. N/A			☐ Plazas, sidewalks, and parking lots shall be swept regularly to prevent the accumulation of litter and debris. Debris from pressure washing shall be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser shall be collected and discharged to the sanitary sewer and not discharged to a storm drain.

STEP 7

LID AND TREATMENT CONTROL SELECTION

A treatment control BMP and/or LID facility 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 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	
Nutrients	✓		X	X
Heavy Metals	✓		X	
Organic Compounds	✓		X	
Trash & Debris	✓	X		
Oxygen Demanding	✓		X	
Bacteria	✓		X	
Oil & Grease	✓		X	
Pesticides	✓		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

Bioretention Facilites (LID)
☑ Bioretention area
☐ Flow-through Planter
☐ Cistern with Bioretention Facility
Settling Basins (Dry Ponds)
☐ Extended/dry detention basin with grass/vegetated lining
☐ Extended/dry detention basin with impervious lining
Infiltration Facilities or Practices (LID)
☐ Infiltration basin
☐ Dry well
☐ Infiltration trench
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
☐ Cyclone Separator
Trash Racks
☐ Catch Basin Insert
☐ Catch Basin Insert w/ Hydrocarbon boom
☐ Other_____
Self-Treating or Self-Retaining Areas (LID)
☐ Pervious Pavements
☐ Vegetated Roofs
☐ Other_____

(1) Must be designed per SUSMP "Vegetated Swales" design criteria for LID credit (p. 65).

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 facilities 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.

Stormwater Treatment Control and LID BMP's			
Description / Type	Sheet	Maintenance Category	Revisions
BIORETENTION AREAS		1	
RIP RAP SUMPS		1	
GRAVEL DESILTING PADS		1	

* 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 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 facility with a high or medium removal efficiency ranking is infeasible.

THE TREAMENT & LID BMPS WERE CHOSEN FOR THEIR HIGH REMOVAL EFFICIENCY FOR THE ANTICIPATED POLLUTANTS, RELATIVELY LOW COST, AND BECAUSE THEY CAN BE EASILY MAINTAINED BY INDIVIDUAL HOMEOWNERS.

A Treatment BMP must address runoff from developed areas. Please provide the post-construction water quality treatment volume or flow values for the selected project Treatment BMP(s). Guidelines for design calculations are located in Chapter 4 of the County SUSMP. Label outfalls on the BMP map. The Water Quality peak rate of discharge flow (Q_{WQ}) and the Water Quality storage volume (V_{WQ}) is dependent on the type of treatment BMP selected for the project.

Outfall	**Tributary Area (acres)**	**Q_{WQ} (cfs)**	**V_{WQ} (ft^3)**

SEE CALCULATIONS IN APPENDIX "D"

STEP 8

OPERATION AND MAINTENANCE

- Please check the box that best describes the maintenance mechanism(s) for this project.

TABLE 13: PROJECT BMP CATEGORY

CATEGORY	SELECTED		BMP Description
	YES	NO	
First	✓		BIORETENTION AREAS, RIP RAP SUMPS AND GRAVEL DESILTING PADS
Second[1]		✓	
Third[2]		✓	
Fourth		✓	

Note:

1. A recorded maintenance agreement will be required.
2. Project will be required to establish or be included in a Stormwater Maintenance Assessment District for the long-term maintenance of treatment BMPs.

- Please list all individual LID and Treatment Control BMPs (TC-BMPs) incorporated into project. Please ensure the "BMP Identifier" is consistent with the legend in Attachment C "LID and/or TC-BMP Exhibit". Please attach the record plan sheets upon completion of project and amend the Major SWMP where appropriate. For each type of LID or TC-BMP provide an inspection sheet in Attachment F "Maintenance Plan".

TABLE 14: PROJECT SPECIFIC LID AND TC-BMPS

BMP Identifier*	LID or TC-BMP Type	BMP Pollutant of Concern Efficiency (H,M,L) – Table 11	Final Construction Date *(to be completed by County inspector)*	Final Construction Inspector Name *(to be completed by County inspector)*

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

➢ Responsible Party for Long-term 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.

Representative Name:	HSIUNG CHENG
Company Name:	
Phone Number:	(619) 562-0842
Street Address:	1852 HACIENDA DRIVE
City/State/Zip:	EL CAJON, CA. 92020
Email Address:	

➢ 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.

CATEGORY 1 ; NO FUNDING REQUIRED

ATTACHMENTS

Please include the following 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 TC-BMP/IMP Design Details	✓	
E	Geotechnical Certification Sheet		✓
F	Maintenance Plan	✓	
G	Treatment Control BMP Certification	✓	
H	HMP Exemption Documentation		✓
I	Addendum		

Note: Attachments B and C may be combined.

COUNTY OF SAN DIEGO TRACT NO. 5421 RPL1

(BLOSSOM VALLEY / FLINN SPRINGS AREA)

LEGAL DESCRIPTION:
BEING A SUBDIVISION OF A PORTION OF LOT 44 OF MAP NO.8660

ASSESSORS PARCEL NUMBER:
396-020-13

TAX RATE AREA:
59290

COMMUNITY PLAN:
LAKESIDE

EXISTING ZONING:
A-70-2

PROPOSED ZONING:
A-70-2

REGIONAL CATEGORY:
ESTATE, MULTIPLE RURAL USE

LAND USE DESIGNATION:
17, 18

AREA:
103.74 ACRES GROSS
99.79 ACRES NET

DWELLING UNITS
20

NUMBER OF LOTS
20

MINIMUM LOT SIZE
2.00 ACRES

TOPOGRAPHY
AERIAL TOPOGRAPHIC SURVEY BY
PHOTOGEODETIC CORP. 02-22-1991

SOLAR ACCESS STATEMENT
THIS IS A SOLAR SUBDIVISION AS REQUIRED BY SECTION 81.401 (n) OF THE SUBDIVISION ORDINANCE. ALL LOTS HAVE AT LEAST 100 SQUARE FEET OF UNOBSTRUCTED ACCESS TO SUNLIGHT ON BUILDABLE PORTION OF THE LOTS.

STREET LIGHTS
AS TO BE REQUIRED BY THE COUNTY ENGINEER

PARK LAND
PARK FEES WILL BE PAID IN LIEU OF DEDICATION

GRADING

EXCAVATION	9400	CY. ± (ROAD GRADING ONLY,
FILL	9400	CY. ± LOT SALES PROJECT)
IMPORT/EXPORT	0	CY. ±

SPECIAL ASSESSMENT ACT STATEMENT
NO SPECIAL ASSESSMENTS ARE PROPOSED

LAND PROJECT STATEMENT
THIS IS NOT A LAND PROJECT

SERVICE DISTRICTS

SEWER:	PROPOSED PRIVATE SEPTIC SYSTEMS
WATER:	PADRE DAM MUNICIPAL WATER DISTRICT
FIRE:	LAKESIDE FIRE PROTECTION DISTRICT
ELEM. SCHOOL:	CAJON VALLEY UNION SCHOOL DISTRICT,
HIGH SCHOOL:	GROSSMONT HIGH SCHOOL DISTRICT
UTILITIES:	SAN DIEGO GAS AND ELECTRIC
TELEPHONE:	PACIFIC BELL
POLICE:	SAN DIEGO COUNTY SHERIFF
STREET LIGHTING:	DEVELOPER WILL COMPLY WITH COUNTY STANDARDS
CABLE TELEVISION:	COX COMMUNICATIONS

OWNER/SUBDIVIDER
HSIUNG CHENG AND LUCINA CHENG, CO TRUSTEES OF THE CHENG INTER VIVOS TRUST DATED MAY 21, 1996

1852 HACIENDA DRIVE
EL CAJON, CA 92020
(619) 562-0842

HSIUNG CHENG, TRUSTEE

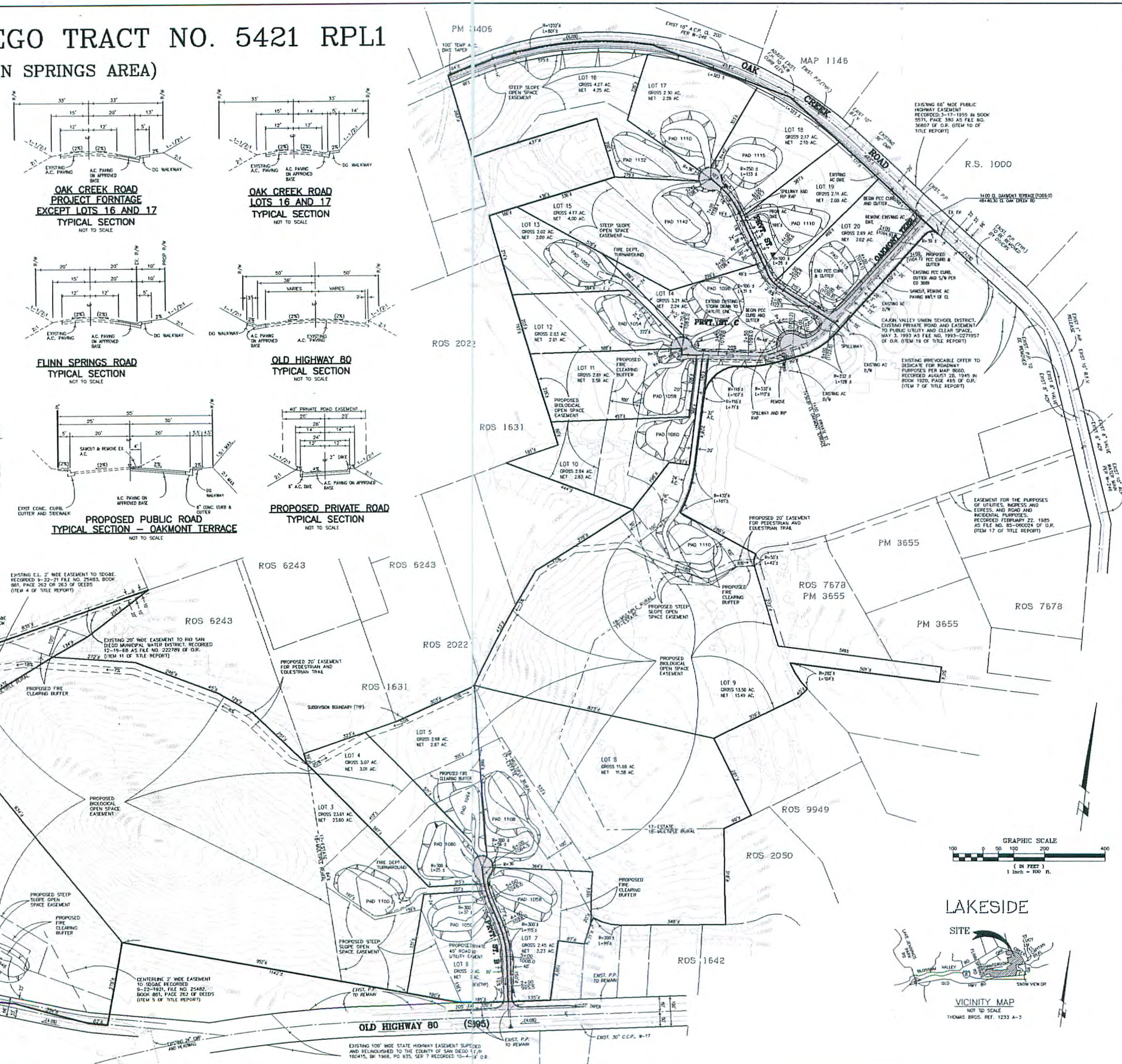
LUCINA CHENG, TRUSTEE

ZONE		ZONE	
USE REGULATIONS	A-70	USE REGULATIONS	A-70
ANIMAL REGULATIONS	L	ANIMAL REGULATIONS	L
DENSITY	.5	DENSITY	.25
LOT SIZE	2.0 ACRE	LOT SIZE	4.0 ACRE
BUILDING TYPE	C	BUILDING TYPE	C
MAXIMUM FLOOR AREA	---	MAXIMUM FLOOR AREA	---
FLOOR AREA RATIO	---	FLOOR AREA RATIO	---
HEIGHT	G	HEIGHT	G
LOT COVERAGE	---	LOT COVERAGE	---
SETBACK	C	SETBACK	C
OPEN SPACE	---	OPEN SPACE	---
SPECIAL AREA REGULATIONS	---	SPECIAL AREA REGULATIONS	---

LOT AREA SCHEDULE

LOT	GROSS ACRES	NET ACRES
1	4.48	4.03
2	8.78	8.32
3	23.61	23.60
4	3.07	3.01
5	2.68	2.67
6	2.64	2.46
7	2.45	2.23
8	11.60	11.58
9	13.50	13.49
10	2.84	2.83
11	2.61	2.56
12	2.03	2.01
13	2.02	2.00
14	3.21	2.24
15	4.17	4.00
16	4.27	4.25
17	2.30	2.28
18	2.17	2.10
19	2.11	2.00
20	2.69	2.02

LEGEND
CUT SLOPE (1-1/2:1 MAX.)
FILL SLOPE (2:1 MAX.)
PROPOSED WATER LINE
PROPOSED FIRE HYDRANT
DAYLIGHT LINE
PAD ELEVATION
EXISTING A.C. PAVING
PROPOSED A.C. PAVING
EXISTING CONTOUR
DIRECTION OF DRAINAGE
BROW DITCH



ENGINEER
CREW ENGINEERING AND SURVEYING
5725 KEARNY VILLA ROAD, STE. "D"
SAN DIEGO, CA. 92123
(858) 571-0555

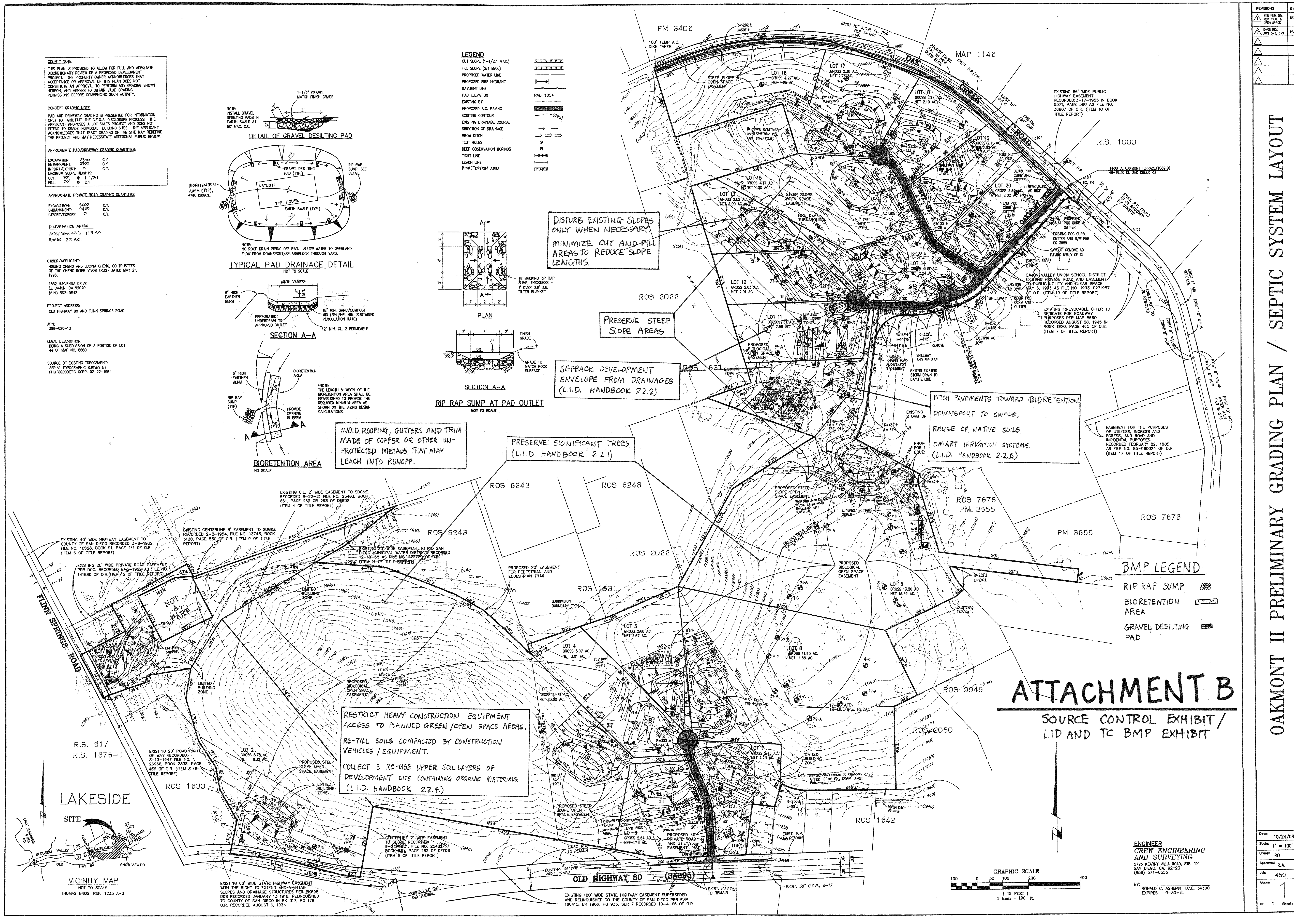
BY: RONALD C. ASHMAN R.C.E. 34300
EXPIRES 9-30-09

REVISIONS	BY
1 ADD PUB. RD., REV. TRAIL & OPEN SPACE	R.O.

OAKMONT II

Date:	1/23/08
Scale:	1" = 100'
Drawn:	RO
Approved:	
Job:	450
Sheet:	1
Of 1 Sheets	

ATTACHMENT A
LOCATION MAP


COUNTY NOTE:
THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HEREON, AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.
CONCEPT GRADING NOTE:
PAD AND DRIVEWAY GRADING IS PRESENTED FOR INFORMATION ONLY TO FACILITATE THE C.E.Q.A. DISCLOSURE PROCESS. THE APPLICANT PROPOSES A LOT SALES PROJECT AND DOES NOT INTEND TO GRADE INDIVIDUAL BUILDING SITES. THE APPLICANT ACKNOWLEDGES THAT TRACT GRADING OF THE SITE MAY REDEFINE THE PROJECT AND MAY NECESSITATE ADDITIONAL PUBLIC REVIEW.
APPROXIMATE PAD/DRIVEWAY GRADING QUANTITIES:
EXCAVATION: 2300 C.Y.
EMBANKMENT: 2300 C.Y.
IMPORT/EXPORT: 0 C.Y.
MAXIMUM SLOPE HEIGHTS:
CUT: 20' @ 1-1/2:1
FILL: 20' @ 2:1
APPROXIMATE PRIVATE ROAD GRADING QUANTITIES:
EXCAVATION: 9400 C.Y.
EMBANKMENT: 9400 C.Y.
IMPORT/EXPORT: 0 C.Y.
DISTURBANCE AREAS
PADS/DRIVEWAYS: 11.9 AC
ROADS: 3.9 AC.
OWNER/APPLICANT:
HSIUNG CHENG AND LUCINA CHENG, CO TRUSTEES OF THE CHENG INTER VIVOS TRUST DATED MAY 21, 1996.
1852 HACIENDA DRIVE
EL CAJON, CA 92020
(619) 562-0842
PROJECT ADDRESS:
OLD HIGHWAY 80 AND FLINN SPRINGS ROAD
APN:
396-020-13
LEGAL DESCRIPTION:
BEING A SUBDIVISION OF A PORTION OF LOT 44 OF MAP NO. 8660.
SOURCE OF EXISTING TOPOGRAPHY:
AERIAL TOPOGRAPHIC SURVEY BY PHOTOGEODETIC CORP. 02-22-1991
NOTE: INSTALL GRAVEL DESILTING PADS IN EARTH SWALE AT 50' MAX. O.C.
1-1/2" GRAVEL MATCH FINISH GRADE
DETAIL OF GRAVEL DESILTING PAD
GRAVEL DESILTING PAD (TYP.)
RIP RAP SUMP, SEE DETAIL
BIORETENTION AREA (TYP.), SEE DETAIL
DAYLIGHT
TYP. HOUSE
EARTH SWALE (TYP.)
NOTE: NO ROOF DRAIN PIPING OFF PAD. ALLOW WATER TO OVERLAND FLOW FROM DOWNSPOUT/SPLASHBLOCK THROUGH YARD.
TYPICAL PAD DRAINAGE DETAIL
NOT TO SCALE
WIDTH VARIES*
6" HIGH EARTHEN BERM
PERFORATED UNDERDRAIN TO APPROVED OUTLET
18" MIN. SAND/COMPOST MIX (5IN./HR. MIN. SUSTAINED PERCOLATION RATE)
12" MIN. CL. 2 PERMEABLE
SECTION A-A
BIORETENTION AREA
RIP RAP SUMP (TYP)
PROVIDE OPENING IN BERM
*NOTE: THE LENGTH & WIDTH OF THE BIORETENTION AREA SHALL BE ESTABLISHED TO PROVIDE THE REQUIRED MINIMUM AREA AS SHOWN ON THE SIZING DESIGN CALCULATIONS.
BIORETENTION AREA
NO SCALE
LEGEND
CUT SLOPE (1-1/2:1 MAX.)
FILL SLOPE (2:1 MAX.)
PROPOSED WATER LINE
PROPOSED FIRE HYDRANT
DAYLIGHT LINE
PAD ELEVATION PAD 1054
EXISTING E.P.
PROPOSED A.C. PAVING
EXISTING CONTOUR
EXISTING DRAINAGE COURSE
DIRECTION OF DRAINAGE
BROW DITCH
TEST HOLES
DEEP OBSERVATION BORINGS
TIGHT LINE
LEACH LINE
BIORETENTION AREA
#2 BACKING RIP RAP SUMP, THICKNESS = 1' OVER 0.6' D.G. FILTER BLANKET
PLAN
FINISH GRADE
GRADE TO MATCH ROCK SURFACE
SECTION A-A
RIP RAP SUMP AT PAD OUTLET
NOT TO SCALE
DISTURB EXISTING SLOPES ONLY WHEN NECESSARY.
MINIMIZE CUT AND FILL AREAS TO REDUCE SLOPE LENGTHS.
PRESERVE STEEP SLOPE AREAS
SET-BACK DEVELOPMENT ENVELOPE FROM DRAINAGES (L.I.D. HANDBOOK 2.2.2)
AVOID ROOFING, GUTTERS AND TRIM MADE OF COPPER OR OTHER UN-PROTECTED METALS THAT MAY LEACH INTO RUNOFF.
PRESERVE SIGNIFICANT TREES (L.I.D. HANDBOOK 2.2.1)
PITCH PAVEMENTS TOWARD BIORETENTION
DOWNSPOUT TO SWALE.
REUSE OF NATIVE SOILS.
SMART IRRIGATION SYSTEMS.
(L.I.D. HANDBOOK 2.2.5)
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. (L.I.D. HANDBOOK 2.2.4.)
PM 3406
MAP 1146
R.S. 1000
ROS 2022
ROS 1631
ROS 6243
ROS 7678
PM 3655
ROS 9949
ROS 2050
ROS 1642
ROS 1630
R.S. 517
R.S. 1876-1
OAK CREEK ROAD
OAKMONT TERR.
FLINN SPRINGS ROAD
OLD HIGHWAY 80 (SA895)
LOT 16 GROSS 4.27 AC. NET 4.25 AC.
LOT 17 GROSS 2.30 AC. NET 2.28 AC.
LOT 18 GROSS 2.17 AC. NET 2.10 AC.
LOT 19 GROSS 2.11 AC. NET 2.00 AC.
LOT 20 GROSS 2.69 AC. NET 2.02 AC.
LOT 15 GROSS 4.17 AC. NET 4.00 AC.
LOT 13 GROSS 2.02 AC. NET 2.00 AC.
LOT 14 GROSS 3.21 AC. NET 2.24 AC.
LOT 12 GROSS 2.03 AC. NET 2.01 AC.
LOT 11 GROSS 2.61 AC. NET 2.56 AC.
LOT 9 GROSS 13.50 AC. NET 13.49 AC.
LOT 8 GROSS 11.60 AC. NET 11.58 AC.
LOT 7 GROSS 2.45 AC. NET 2.23 AC.
LOT 6 GROSS 2.64 AC. NET 2.46 AC.
LOT 5 GROSS 2.68 AC. NET 2.67 AC.
LOT 4 GROSS 3.07 AC. NET 3.01 AC.
LOT 3 GROSS 23.61 AC. NET 23.60 AC.
LOT 2 GROSS 8.78 AC. NET 8.32 AC.
NOT A PART
EXISTING 66' WIDE PUBLIC HIGHWAY EASEMENT RECORDED: 3-17-1955 IN BOOK 5571, PAGE 380 AS FILE NO. 36807 OF O.R. (ITEM 10 OF TITLE REPORT)
CAJON VALLEY UNION SCHOOL DISTRICT, EXISTING PRIVATE ROAD, AND EASEMENT TO PUBLIC UTILITY AND CLEAR SPACE. MAY 3, 1993 AS FILE NO. 1993-0271957 OF O.R. (ITEM 19 OF TITLE REPORT)
EXISTING IRREVOCABLE OFFER TO DEDICATE FOR ROADWAY PURPOSES PER MAP 8660. RECORDED AUGUST 28, 1945 IN BOOK 1920, PAGE 465 OF O.R. (ITEM 7 OF TITLE REPORT)
EASEMENT FOR THE PURPOSES OF UTILITIES, INGRESS AND EGRESS, AND ROAD AND INCIDENTAL PURPOSES. RECORDED FEBRUARY 22, 1985 AS FILE NO. 85-060024 OF O.R. (ITEM 17 OF TITLE REPORT)
EXISTING C.L. 2' WIDE EASEMENT TO SDG&E. RECORDED 9-22-21 FILE NO. 25483, BOOK 861, PAGE 262 OR 263 OF DEEDS (ITEM 4 OF TITLE REPORT)
EXISTING CENTERLINE 8' EASEMENT TO SDG&E RECORDED 2-2-1954, FILE NO. 13743, BOOK 5128, PAGE 530 OF O.R. (ITEM 9 OF TITLE REPORT)
EXISTING 40' WIDE HIGHWAY EASEMENT TO COUNTY OF SAN DIEGO RECORDED 3-8-1932, FILE NO. 10628, BOOK 91, PAGE 141 OF O.R. (ITEM 6 OF TITLE REPORT)
EXISTING 20' WIDE PRIVATE ROAD EASEMENT PER DOC. RECORDED 8-5-1969 AS FILE NO. 141580 OF O.R. (ITEM 12 OF TITLE REPORT)
EXISTING 20' WIDE EASEMENT TO RIO SAN DIEGO MUNICIPAL WATER DISTRICT RECORDED 12-19-68 AS FILE NO. 222789 OF O.R. (ITEM 11 OF TITLE REPORT)
PROPOSED 20' EASEMENT FOR PEDESTRIAN AND EQUESTRIAN TRAIL
EXISTING 20' ROAD RIGHT OF WAY RECORDED 3-13-1947 FILE NO. 26960, BOOK 2338, PAGE 466 OF O.R. (ITEM 8 OF TITLE REPORT)
CENTERLINE 2' WIDE EASEMENT TO SDG&E RECORDED 9-22-1921, FILE NO. 25482, BOOK 861, PAGE 262 OF DEEDS (ITEM 5 OF TITLE REPORT)
EXISTING 66' WIDE STATE HIGHWAY EASEMENT WITH THE RIGHT TO EXTEND AND MAINTAIN SLOPES AND DRAINAGE STRUCTURES PER BK698 DDS RECORDED JANUARY 13 1916. RELINQUISHED TO COUNTY OF SAN DIEGO IN BK 317, PG 176 O.R. RECORDED AUGUST 6, 1934
EXISTING 100' WIDE STATE HIGHWAY EASEMENT SUPERSEDED AND RELINQUISHED TO THE COUNTY OF SAN DIEGO PER F/P 160415, BK 1966, PG 935, SER 7 RECORDED 10-4-66 OF O.R.
NOTE: SEPTIC CONTRACTOR TO REMOVE UPPER 2' OF SOIL FROM LEACH FIELD AREA.
PROPOSED 40' PRIVATE ROAD AND UTILITY EASEMENT
PROPOSED BIOLOGICAL OPEN SPACE EASEMENT
PROPOSED STEEP SLOPE OPEN SPACE EASEMENT
LIMITED BUILDING ZONE
FIRE DEPT. TURNAROUND
LAKESIDE
SITE
VICINITY MAP
NOT TO SCALE
THOMAS BROS. REF. 1233 A-3
BMP LEGEND
RIP RAP SUMP
BIORETENTION AREA
GRAVEL DESILTING PAD
ATTACHMENT B
SOURCE CONTROL EXHIBIT / LID AND TC BMP EXHIBIT
GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.
ENGINEER
CREW ENGINEERING AND SURVEYING
5725 KEARNY VILLA ROAD, STE. "D"
SAN DIEGO, CA. 92123
(858) 571-0555
BY: RONALD C. ASHMAN R.C.E. 34300
EXPIRES 9-30-11
REVISIONS BY
1 ADD PUB. RD., REV. TRAIL & OPEN SPACE RO
2 10/08 REV. LOTS 3-8, O/S RO
OAKMONT II PRELIMINARY GRADING PLAN / SEPTIC SYSTEM LAYOUT
Date: 10/24/08
Scale: 1" = 100'
Drawn: RO
Approved: R.A.
Job: 450
Sheet: 1
Of 1 Sheets

ATTACHMENT C

DRAINAGE MANAGEMENT AREA (DMA) MAP

COUNTY NOTE:

THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HEREON, AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.

CONCEPT GRADING NOTE:

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APPROXIMATE PAD/DRIVEWAY GRADING QUANTITIES:

EXCAVATION: 2300 C.Y.
EMBANKMENT: 2300 C.Y.
IMPORT/EXPORT: 0 C.Y.
MAXIMUM SLOPE HEIGHTS:
CUT: 20' @ 1-1/2:1
FILL: 20' @ 2:1

APPROXIMATE PRIVATE ROAD GRADING QUANTITIES:

EXCAVATION: 9400 C.Y.
EMBANKMENT: 9400 C.Y.
IMPORT/EXPORT: 0 C.Y.

DISTURBANCE AREAS

PADS/DRIVEWAYS: 11.9 AC.
ROADS: 3.9 AC.

OWNER/APPLICANT:
HSIUNG CHENG AND LUCINA CHENG, CO TRUSTEES OF THE CHENG INTER VIVOS TRUST DATED MAY 21, 1996.

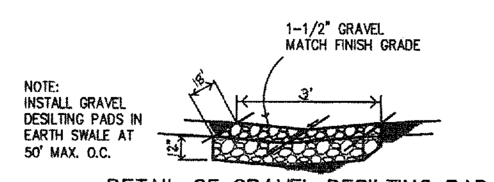
1852 HACIENDA DRIVE
EL CAJON, CA 92020
(619) 562-0842

PROJECT ADDRESS:
OLD HIGHWAY 80 AND FLINN SPRINGS ROAD

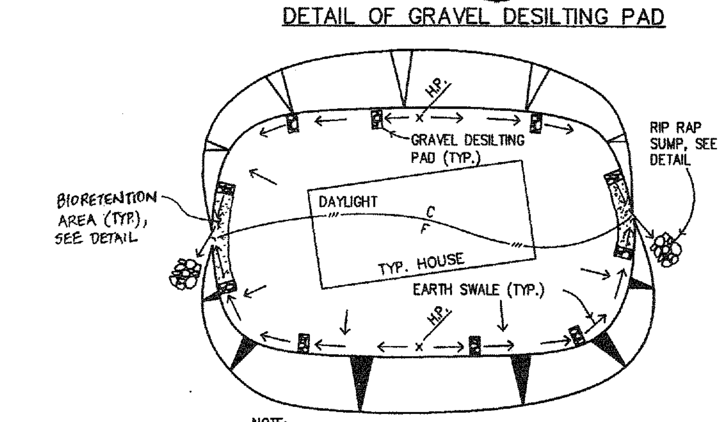
APN:
396-020-13

LEGAL DESCRIPTION:
BEING A SUBDIVISION OF A PORTION OF LOT 44 OF MAP NO. 8660.

SOURCE OF EXISTING TOPOGRAPHY:
AERIAL TOPOGRAPHIC SURVEY BY PHOTOGEODETIC CORP. 02-22-1991



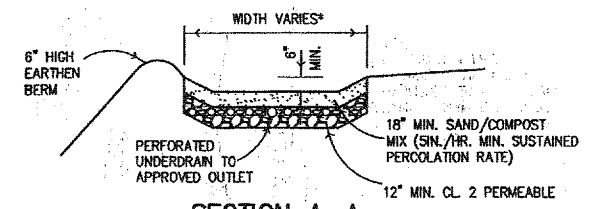
DETAIL OF GRAVEL DESILTING PAD



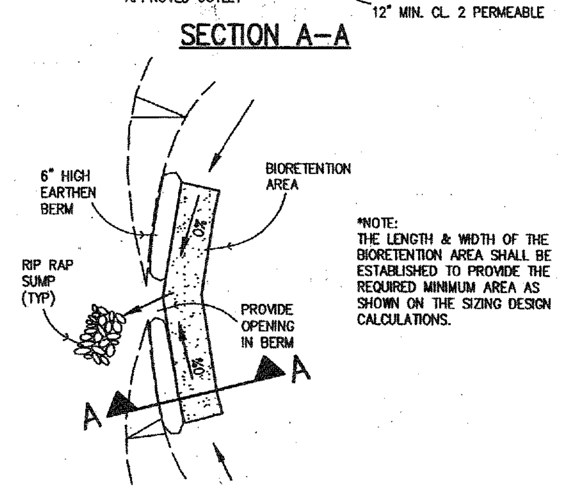
NOTE: NO ROOF DRAIN PIPING OFF PAD. ALLOW WATER TO OVERLAND FLOW FROM DOWNSPOUT/SPLASHBLOCK THROUGH YARD.

TYPICAL PAD DRAINAGE DETAIL

NOT TO SCALE



SECTION A-A



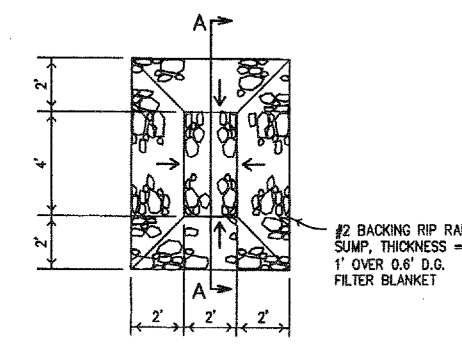
*NOTE: THE LENGTH & WIDTH OF THE BIORETENTION AREA SHALL BE ESTABLISHED TO PROVIDE THE REQUIRED MINIMUM AREA AS SHOWN ON THE SIZING DESIGN CALCULATIONS.

BIORETENTION AREA

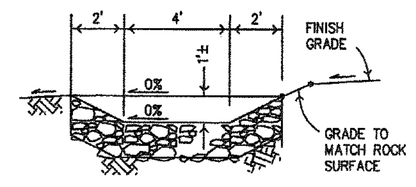
NO SCALE

LEGEND

CUT SLOPE (1-1/2:1 MAX.)	
FILL SLOPE (2:1 MAX.)	
PROPOSED WATER LINE	
PROPOSED FIRE HYDRANT	
DAYLIGHT LINE	
PAD ELEVATION	PAD 1054
EXISTING E.P.	
PROPOSED A.C. PAVING	
EXISTING CONTOUR	(695)
EXISTING DRAINAGE COURSE	
DIRECTION OF DRAINAGE	
BROW DITCH	
TEST HOLES	
DEEP OBSERVATION BORINGS	
TIGHT LINE	
LEACH LINE	
BIORETENTION AREA	



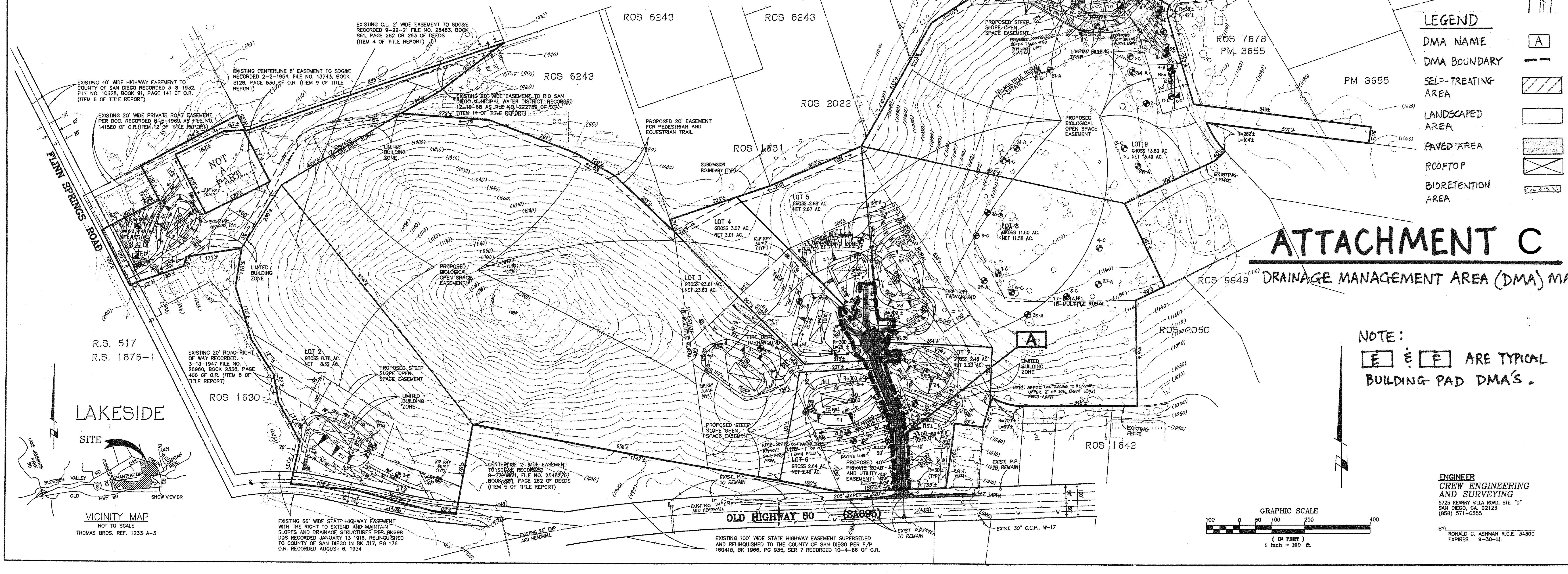
PLAN



SECTION A-A

RIP RAP SUMP AT PAD OUTLET

NOT TO SCALE



LEGEND

DMA NAME	A
DMA BOUNDARY	
SELF-TREATING AREA	
LANDSCAPED AREA	
PAVED AREA	
ROOFTOP	
BIORETENTION AREA	

NOTE: E & F ARE TYPICAL BUILDING PAD DMA'S.

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

ENGINEER
CREW ENGINEERING AND SURVEYING
5725 KEARNY VILLA ROAD, STE. "D"
SAN DIEGO, CA. 92123
(858) 571-0555

BY: RONALD C. ASHMAN R.C.E. 34300
EXPIRES 9-30-11

REVISIONS	BY
1 ADD PUB. RD., REV. TRAIL & OPEN SPACE	RO
2 10/08 REV. LOTS 3-8, O/S	RO

OAKMONT II PRELIMINARY GRADING PLAN / SEPTIC SYSTEM LAYOUT

Date:	10/24/08
Scale:	1" = 100'
Drawn:	RO
Approved:	R.A.
Job:	450
Sheet:	1
Of 1 Sheets	

ATTACHMENT D

Project Summary

Project Name	Oakmont II - TM 5421
Project Applicant	Hsiung Cheng
Jurisdiction	County of San Diego
Parcel (APN)	396-020-13
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	A
Receiving Water:	existing sheet flow
Rainfall Basin	Oceanside
Mean Annual Precipitation (inches)	13.3
Project Basin Area (acres):	0.87
Watershed Area (acres):	0.87
SCCWRP Lateral Channel Susceptiblity (H, M, L):	
SCCWRP Vertifical Channel Susceptiblity (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
2492	Drains to LID	BMP 1	A1	0.4	Pervious (Pre)	Concrete or asphalt	Type C (slow infiltration)	Steep (greater 10%)
2493	Drains to LID	BMP 1	A2	0.4	Pervious (Pre)	Landscaping	Type C (slow infiltration)	Steep (greater 10%)

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 1	Bioretention	Bioretention area for private street B	2400	2001	1440	0.018	0.7

Project Summary

Project Name	Oakmont II - TM 5421
Project Applicant	Hsiung Cheng
Jurisdiction	County of San Diego
Parcel (APN)	396-020-13
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	B
Receiving Water:	Existing swale
Rainfall Basin	Oceanside
Mean Annual Precipitation (inches)	13.3
Project Basin Area (acres):	0.41
Watershed Area (acres):	0.41
SCCWRP Lateral Channel Susceptiblity (H, M, L):	
SCCWRP Vertifical Channel Susceptiblity (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
2512	Drains to LID	BMP 2	B1	0.3	Pervious (Pre)	Concrete or asphalt	Type C (slow infiltration)	Steep (greater 10%)
2513	Drains to LID	BMP 2	B2	0.1	Pervious (Pre)	Landscaping	Type C (slow infiltration)	Steep (greater 10%)

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 2	Bioretention	Bioretention area for private street C	1533	1278	920	0.008	0.5

Project Summary

Project Name	Oakmont II - TM 5421
Project Applicant	Hsiung Cheng
Jurisdiction	County of San Diego
Parcel (APN)	396-020-13
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	C
Receiving Water:	Existing Sheet flow
Rainfall Basin	Oceanside
Mean Annual Precipitation (inches)	13.3
Project Basin Area (acres):	0.38
Watershed Area (acres):	0.38
SCCWRP Lateral Channel Susceptiblity (H, M, L):	
SCCWRP Vertifical Channel Susceptiblity (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
2519	Drains to LID	BMP 3	C1	0.2	Pervious (Pre)	Concrete or asphalt	Type C (slow infiltration)	Steep (greater 10%)
2521	Drains to LID	BMP 3	C2	0.1	Pervious (Pre)	Landscaping	Type C (slow infiltration)	Steep (greater 10%)

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 3	Bioretention	Bioretention area for Private Street A	1217	1014	730	0.008	0.4

Project Summary

Project Name	Oakmont II - TM 5421
Project Applicant	Hsiung Cheng
Jurisdiction	County of San Diego
Parcel (APN)	396-020-13
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	D
Receiving Water:	Existing sheet flow
Rainfall Basin	Oceanside
Mean Annual Precipitation (inches)	13.3
Project Basin Area (acres):	0.28
Watershed Area (acres):	0.28
SCCWRP Lateral Channel Susceptiblity (H, M, L):	
SCCWRP Vertifical Channel Susceptiblity (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
2526	Drains to LID	BMP 4	D1	0.2	Pervious (Pre)	Concrete or asphalt	Type C (slow infiltration)	Steep (greater 10%)
2527	Drains to LID	BMP 4	D2	0.0	Pervious (Pre)	Landscaping	Type C (slow infiltration)	Steep (greater 10%)

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 4	Bioretention	Bioretention area for private street A	1126	938	675	0.006	0.4

Project Summary

Project Name	Oakmont II - TM 5421
Project Applicant	Hsiung Cheng
Jurisdiction	County of San Diego
Parcel (APN)	396-020-13
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	E
Receiving Water:	Existing sheet flow
Rainfall Basin	Oceanside
Mean Annual Precipitation (inches)	13.3
Project Basin Area (acres):	0.20
Watershed Area (acres):	0.20
SCCWRP Lateral Channel Susceptiblity (H, M, L):	
SCCWRP Vertifical Channel Susceptiblity (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
2531	Drains to LID	BMP 5	E1	0.0	Pervious (Pre)	Roofs	Type C (slow infiltration)	Steep (greater 10%)
2532	Drains to LID	BMP 5	E2	0.1	Pervious (Pre)	Landscaping	Type C (slow infiltration)	Steep (greater 10%)

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 5	Bioretention	Bioretention area for typical pad	311	259	186	0.004	0.3

Project Summary

Project Name	Oakmont II - TM 5421
Project Applicant	Hsiung Cheng
Jurisdiction	County of San Diego
Parcel (APN)	396-020-13
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	F
Receiving Water:	Existing sheet flow
Rainfall Basin	Oceanside
Mean Annual Precipitation (inches)	13.3
Project Basin Area (acres):	0.36
Watershed Area (acres):	0.36
SCCWRP Lateral Channel Susceptiblity (H, M, L):	
SCCWRP Vertifical Channel Susceptiblity (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

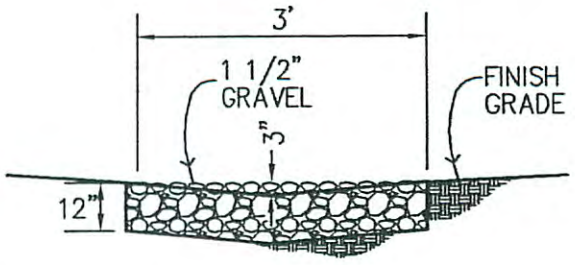
Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
2535	Drains to LID	BMP 6	F1	0.0	Pervious (Pre)	Roofs	Type C (slow infiltration)	Steep (greater 10%)
2536	Drains to LID	BMP 6	F2	0.1	Pervious (Pre)	Concrete or asphalt	Type C (slow infiltration)	Steep (greater 10%)
2537	Drains to LID	BMP 6	F3	0.1	Pervious (Pre)	Landscaping	Type C (slow infiltration)	Steep (greater 10%)

LID Facility Summary

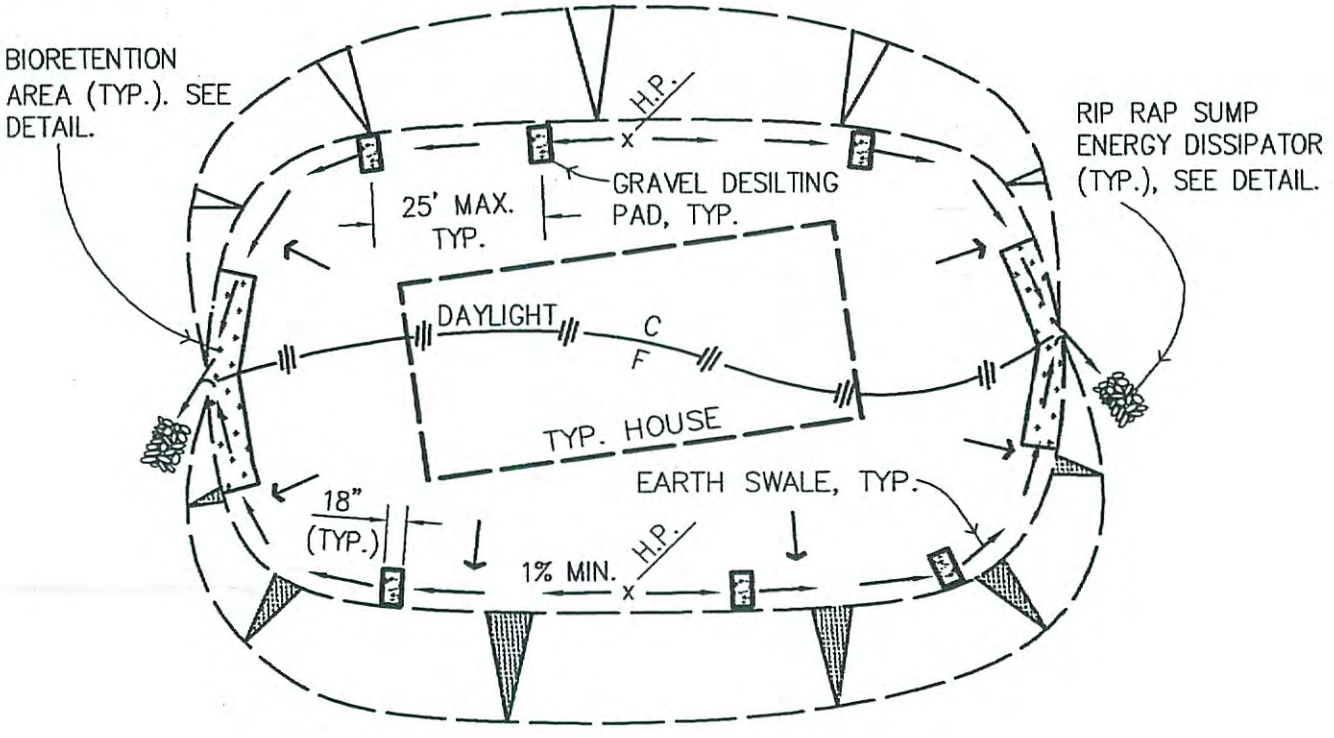
BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 6	Bioretention	Bioretention area for typical pad	1121	934	672	0.007	0.4

ATTACHMENT D



NOTE:
INSTALL GRAVEL DESILTING PADS IN EARTH SWALE AT 25' MAX. O.C.

DETAIL OF GRAVEL DESILTING PAD

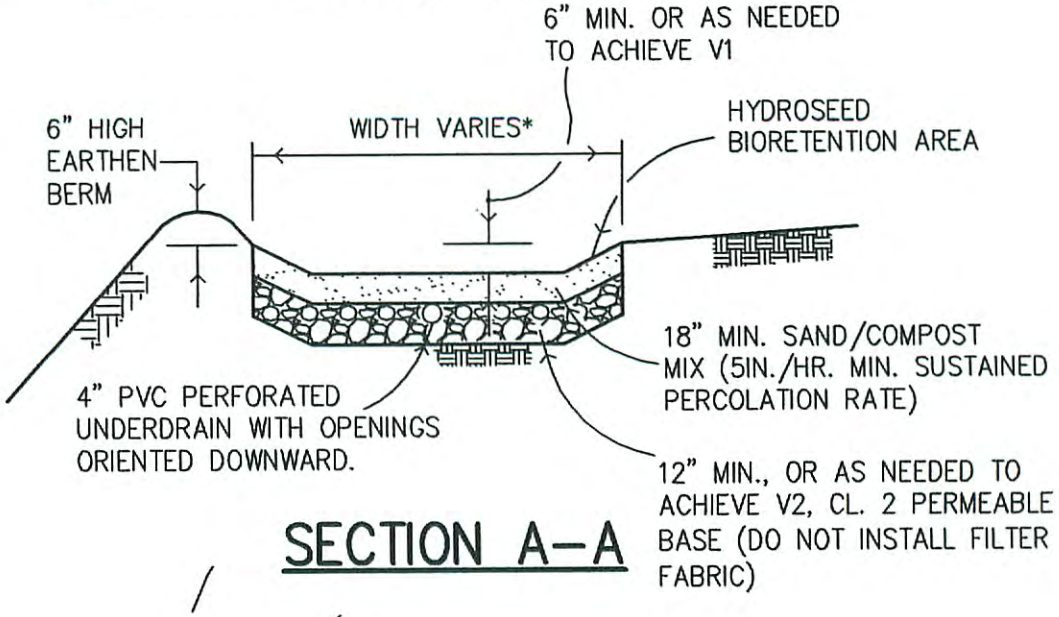


NOTE:
NO ROOF DRAIN PIPING OFF PAD. ALLOW WATER TO OVERLAND FLOW FROM DOWNSPOUT/SPLASHBLOCK THROUGH YARD.

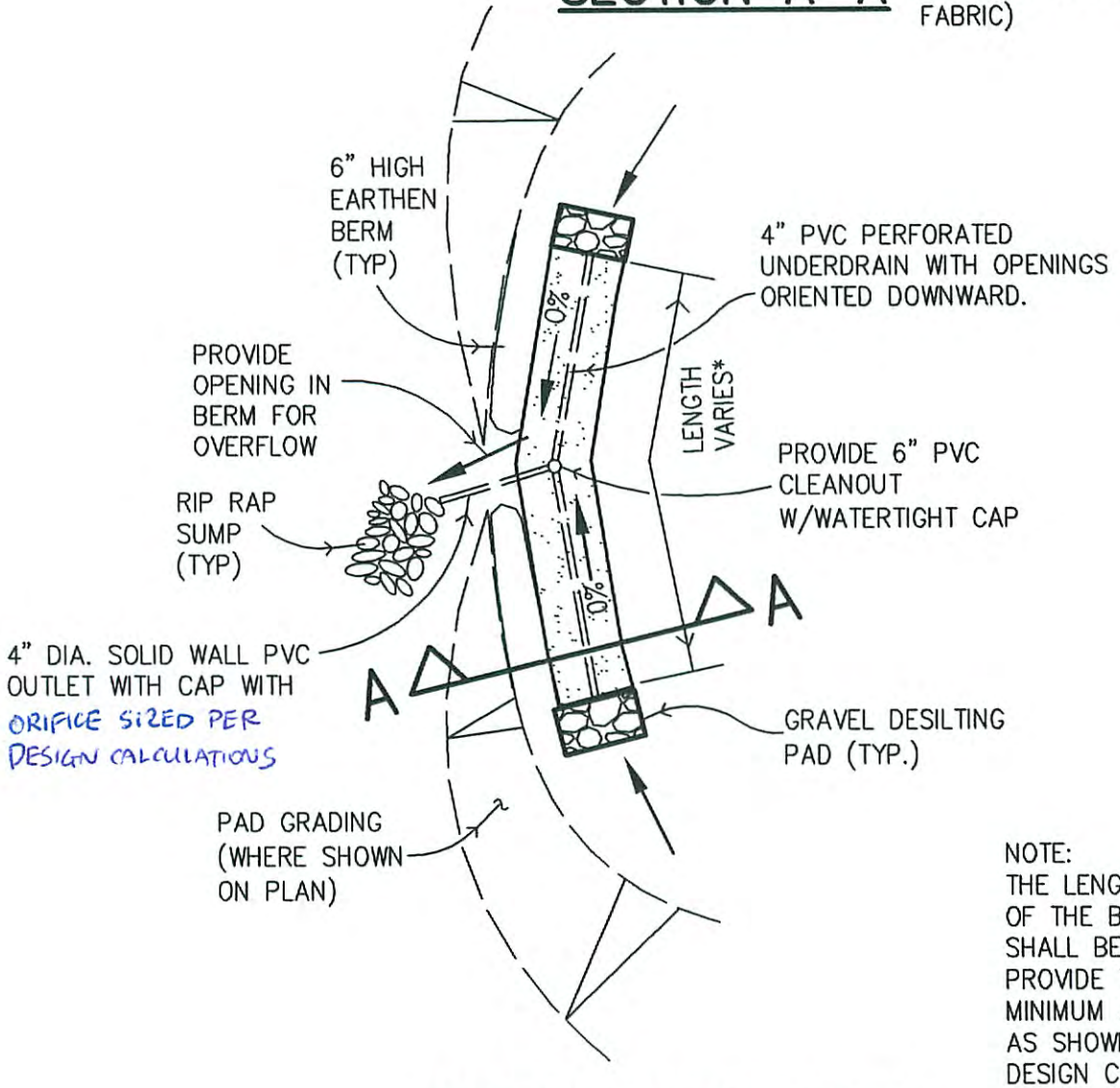
TYPICAL PAD DRAINAGE DETAIL

NO SCALE

ATTACHMENT D



SECTION A–A

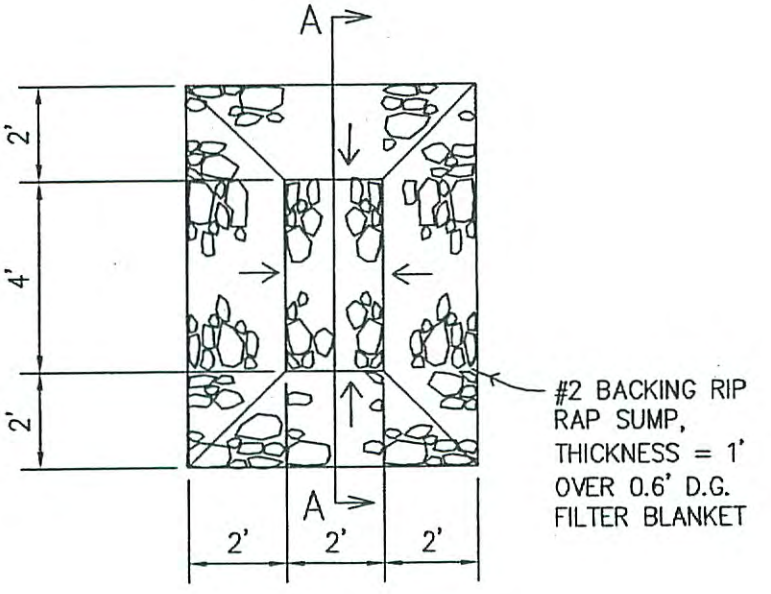


NOTE:
THE LENGTH, WIDTH & DEPTH OF THE BIORETENTION AREAS SHALL BE ESTABLISHED TO PROVIDE THE REQUIRED MINIMUM AREA AND VOLUMES AS SHOWN ON THE SIZING DESIGN CALCULATIONS.

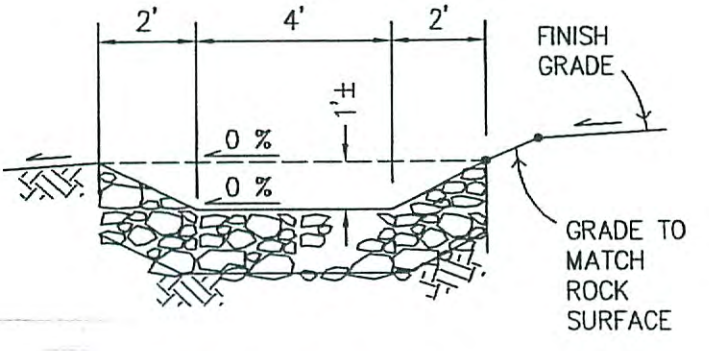
BIORETENTION AREA

NO SCALE

ATTACHMENT D



PLAN



SECTION A–A

RIP RAP SUMP AT PAD OUTLET

NOT TO SCALE

ATTACHMENT F

Maintenance Responsibility

The BMPs for this project have been chosen and designed to require the minimum maintenance after the project construction is complete. The individual property owners will be responsible for the BMPs situated on their property. Permit enforcement activities by the County of San Diego and the RWQCB will provide assurance that ongoing maintenance will be performed in perpetuity.

Maintenance Activities per BMPs

Over time the at-grade gravel filtering pads may become ineffective due to filling with trapped sediment. At that time the pads should be replaced by the installation of an additional pad adjacent to the ineffective pad. Anticipated replacement frequency is replacement every 5 years. Estimated replacement cost $100.00 per pad or $500.00 per lot.

Vegetative cover on the building sites needed for soil stabilization will be maintained by the individual homeowners. The vegetation in the bioretention areas and graded swales will be maintained by the individual homeowners in the normal course of landscape maintenance for their lot. The cost of maintenance if contracted separately could be approximately $1000.00 per year per lot. Vegetation in the natural swales will remain in its natural condition.

Rip rap sump energy dissipaters should be inspected and maintained on a yearly basis along with the rest of the private road and drainage system. Debris and excess sediment accumulation should be removed yearly before the rainy season and after every major storm event. Design service life of the private drainage system is 25 years. The energy dissipaters may need replacement at the same time as the other improved portions of the storm drain system. Estimated yearly maintenance cost is $100 per dissipater. Estimated replacement cost for the dissipaters on site is $15,000.00. All estimates are current dollars and may change with inflation or other economic factors.

ATTACHMENT G

Tracking Report

COUNTY OF SAN DIEGO
DEPARTMENT OF PUBLIC WORKS
POST-CONSTRUCTION TRACKING AND
INVENTORY REPORT

General Project Information

Permit Number TM 5421 SWMP Category (Major/Minor) MAJOR
Location / Address OLD HWY. 80 & FLINN SPRINGS ROAD
Engineer of Work: THOMAS H. KOERNER State Registration Number: 65317
Company Name: CREW ENGINEERING & SURVEYING
Address: 5725 KEARNY VILLA RD., STE. D
Email Address: TKOERNER@KMENGINNERS.COM
Phone Number: (858) 571-0555

Priority Development Project – Step 1: _____

Percent Impervious Before Construction: % 0.8
Percent Impervious After Construction: % 5.1

Project Disturbed Area: 15.8 Acres

Hydromodification Management – Step 3:
Yes ☐ or No ☑

Primary or Secondary Pollutants of Concerns – Step 4 *(check all that apply)*
- ☑ Sediment
- ☑ Nutrients
- ☑ Organic Compounds
- ☑ Bacteria and Viruses
- ☑ Trash and Debris
- ☑ Oxygen Demanding Substances
- ☑ Oil and Grease
- ☑ Pesticides

Project Specific Site Design, LID and Source Control BMPs

All selected Site Layout Strategies, LID, and Source Control BMPs must be shown on the Plan.

Site Layout Strategies – Step 5 *(check all that apply)*
- ☑ Limitation of Development Envelope
- ☐ Minimization of imperviousness
- ☐ Setbacks from creeks, wetlands, and riparian habitats
- ☑ Preservation of Natural Drainages
- ☐ Using drainage as a design element

Disperse Runoff from Impervious Surfaces to Pervious – Step 5 *(check all that apply)*
- ☑ Street and Road Design
- ☑ Driveway, Sidewalk, Bikepath Design
- ☐ Landscape Design
- ☐ Parking Lot Design
- ☐ Building Design
- ☑ Direct Runoff to Treatment BMP(s)

Source BMPs – Step 6 *(check all that apply)*

- ☐ Stormdrain Signage and Stenciling
- ☐ Trash Storage Areas
- ☐ Private Road Drainage System
- ☐ Dock Areas
- ☐ Vehicle Wash Areas
- ☐ Equipment Wash Areas
- ☐ Fueling Areas
- ☐ Outdoor Storage Areas
- ☑ Efficient Landscape Irrigation Design
- ☐ Residential Driveways & Guest Parking
- ☐ Maintenance Bays
- ☐ Outdoor Processing Areas
- ☐ Parking Areas

Post-construction Treatment Control BMP Information

Responsible Party for Maintenance – Step 8:

Name _____ Phone Number (___) _____

Street Number _____ Street Name _____

City _____ State _____ Zip _____

Email Address: _____

Project Maintenance Category (1, 2, 3 or 4): ___

Project Specific Treatment Control BMPs

BMP Identifier*	BMP Type	BMP Pollutant of Concern Efficiency (H,M,L) – Table 11	Final Construction Date *(to be completed by County inspector)*	Final Construction Inspector Name *(to be completed by County inspector)*

* For location of BMP's, see approved Record Plan dated _____, plan sheet ____.

Record Plan Certification

I certify that the above items for this project are in substantial conformance with the approved plans. Yes ☐ or No ☐

Please sign your name and seal. [SEAL]

Print Name: _____

Sign Name: _____

ATTACHMENT K

Addendum

GRADING NOTE

THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HEREON, AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.

CONCEPT GRADING NOTE

UNIT 1
PAD AND DRIVEWAY GRADING IS PRESENTED FOR INFORMATION ONLY TO FACILITATE THE C.E.Q.A. DISCLOSURE PROCESS. THE APPLICANT PROPOSES A LOT SALES PROJECT AND DOES NOT INTEND TO GRADE INDIVIDUAL BUILDING SITES. THE APPLICANT ACKNOWLEDGES THAT REACT GRADING OF THE SITE MAY REQUIRE THE PROJECT AND MAY NECESSITATE ADDITIONAL PUBLIC REVIEW.

UNIT 2
REACT EARTHWORK PROJECT (EXCEPT FOR LOT A)

APPROXIMATE PAD/DRIVEWAY GRADING QUANTITIES

UNIT 1

EXCAVATION	14,748	C.Y.
EMBANKMENT	14,748	C.Y.
EXPORT/IMPORT	0	C.Y.

MAXIMUM SLOPE HEIGHTS

CUTS	27' @	1=1/2:1
FILLS	27' @	2:1

APPROXIMATE PRIVATE ROAD GRADING QUANTITIES

UNIT 1

EXCAVATION	1,760	C.Y.
EMBANKMENT	1,760	C.Y.
EXPORT/IMPORT	0	C.Y.

APPROXIMATE ROAD AND DRIVEWAY GRADING QUANTITIES

UNIT 2

EXCAVATION	41,716	C.Y.
EMBANKMENT	41,716	C.Y.
EXPORT/IMPORT	0	C.Y.

MAXIMUM SLOPE HEIGHTS

CUTS	35' @	1=1/2:1
FILLS	57' @	2:1

OWNER/APPLICANT:
HOLDING CIVIC AND LEGAL CHENG, CO TRUSTEES OF THE CHENG FAMILY TRUST DATED MAY 21, 1996.

1855 HACIENDA DRIVE
EL CAJON, CA 92020
(619) 383-0842

PROJECT ADDRESS:
OLD HIGHWAY 80 AND FLINN SPRINGS ROAD

APN:
386-020-13

LEGAL DESCRIPTION:
BEING A SUBDIVISION OF A PORTION OF LOT 44 OF MAP NO. 6660

SOURCE OF EXISTING TOPOGRAPHY:
AERIAL TOPOGRAPHIC SURVEY BY PHOTOGEODETIC CORP. 05-22-1998

SECTION A–A

BIORETENTION AREA
NOT TO SCALE

NOTE: NO ROOF DRAIN PIPING OFF PAD. ALLOW WATER TO OVERLAND FLOW FROM DOWNSPOUT/SPLASHBLOCK THROUGH YARD.

TYPICAL PAD DRAINAGE DETAIL
NOT TO SCALE

LEGEND

ITEM	SYMBOL
CUT SLOPE (1.5:1 MAX, 2:1 IF >15')	
FILL SLOPE (2:1 MAX)	
PROPOSED WATER LINE	
PROPOSED FIRE HYDRANT	
DAYLIGHT LINE	
PAD ELEVATION	PAD 1054
EXISTING C.P.	
PROPOSED A.C. PAVING	
EXISTING CONTOUR	
DIRECTION OF DRAINAGE	
SWALE DESIGN	
LEACH LINE	
RIP RAP SUMP	
BIO RETENTION AREA	
EXISTING DRAINAGE COURSE	

DETAIL OF GRAVEL DESILTING PAD

PLAN

SECTION A–A

RIP RAP SUMP AT PAD OUTLET
NOT TO SCALE

NOTE:
E & F ARE TYPICAL BUILDING PAD DMA's.

ENGINEER
CREW ENGINEERING AND SURVEYING
5725 KEARNY VILLA ROAD, STE. "D"
SAN DIEGO, CA. 92123
(858) 571-0555

BY: ROBERT C. ASHWORTH R.C.E. 34508
EXPIRES 9-30-10

REVISIONS	BY
1 ADD PVE PD, DEL TABLE, ADD TITLE	PD
2 PLAN REV. (LOTS 2-5,6,7)	PD
3 ADD SEWER LOTS 1 & 2	TC
4	
5	
6	

OAKMONT II PRELIMINARY GRADING PLAN

Date	10/31/08
Scale	1" = 100'
Drawn	BD
Approved	R.A.
Job	450
Sheet	1
of	1 Sheets

ATTACHMENT D
DRAINAGE MANAGEMENT AREA MAP

8/6/2012 4:24:16 PM, CREW

Project Summary

Project Name	Oakmont II - TM 5421RPL1
Project Applicant	Hsung Cheng
Jurisdiction	County of San Diego
Parcel (APN)	396-020-12
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	A
Receiving Water:	offsite
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.60
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertifical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
23569	Drains to LID	BMP 1	Landscaping	0.32	Pervious (Pre)	Landscaping	Type C (slow infiltration)	Steep (greater 10%)
23575	Drains to LID	BMP 1	Paving	0.28	Pervious (Pre)	Concrete or asphalt	Type C (slow infiltration)	Steep (greater 10%)

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 1	Bioretention	Bioretention	1085	904	651	0.008	0.4

Project Summary

Project Name	Oakmont II - TM 5421RPL1
Project Applicant	Hsung Cheng
Jurisdiction	County of San Diego
Parcel (APN)	396-020-12
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	B
Receiving Water:	sheet flow
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.08
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptiblity (H, M, L):	
SCCWRP Vertifical Channel Susceptiblity (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
23572	Drains to LID	BMP 2	paving	0.07	Pervious (Pre)	Concrete or asphalt	Type C (slow infiltration)	Flat - slope (less ...
23573	Drains to LID	BMP 2	landscaping	0.01	Pervious (Pre)	Landscaping	Type C (slow infiltration)	Flat - slope (less ...

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 2	Bioretention	Bioretention	340	283	204	0.002	0.2

Project Summary

Project Name	Oakmont II - TM 5421RPL1
Project Applicant	Hsung Cheng
Jurisdiction	County of San Diego
Parcel (APN)	396-020-12
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	C
Receiving Water:	sheet flow
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (Inches)	20.0
Project Basin Area (acres):	0.07
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertifical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
23597	Drains to LID	BMP 3	paving	0.06	Pervious (Pre)	Concrete or asphalt	Type C (slow infiltration)	Flat - slope (less ...
23598	Drains to LID	BMP 3	landscaping	0.01	Pervious (Pre)	Landscaping	Type C (slow infiltration)	Flat - slope (less ...

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 3	Bioretention	bioretention	292	243	175	0.001	0.2

Project Summary

Project Name	Oakmont II - TM 5421RPL1
Project Applicant	Hsung Cheng
Jurisdiction	County of San Diego
Parcel (APN)	396-020-12
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	D
Receiving Water:	sheet flow
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.21
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertifical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
23577	Drains to LID	BMP 3	paving	0.16	Pervious (Pre)	Concrete or asphalt	Type C (slow infiltration)	Flat - slope (less ...
23578	Drains to LID	BMP 3	landscaping	0.05	Pervious (Pre)	Landscaping	Type C (slow infiltration)	Flat - slope (less ...

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 4	Bioretention	bioretention	790	659	474	0.005	0.3

Project Summary

Project Name	Oakmont II - TM 5421RPL1
Project Applicant	Hsung Cheng
Jurisdiction	County of San Diego
Parcel (APN)	396-020-12
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	E
Receiving Water:	sheet flow
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.17
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertifical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
23581	Drains to LID	BMP 4	roof	0.05	Pervious (Pre)	Roofs	Type C (slow infiltration)	Steep (greater 10%)
23582	Drains to LID	BMP 4	landscaping	0.12	Pervious (Pre)	Landscaping	Type C (slow infiltration)	Steep (greater 10%)

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1 (cft)	Volume 2 (cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 5	Bioretention	bioretention	243	202	145	0.005	0.3

Project Summary

Project Name	Oakmont II - TM 5421RPL1
Project Applicant	Hsung Cheng
Jurisdiction	County of San Diego
Parcel (APN)	396-020-12
Hydrologic Unit	San Diego

Compliance Basin Summary

Basin Name:	F
Receiving Water:	sheet flow
Rainfall Basin	Lake Wohlford
Mean Annual Precipitation (inches)	20.0
Project Basin Area (acres):	0.24
Watershed Area (acres):	0.00
SCCWRP Lateral Channel Susceptibility (H, M, L):	
SCCWRP Vertifical Channel Susceptibility (H, M, L):	
Overall Channel Susceptibility (H, M, L):	HIGH
Lower Flow Threshold (% of 2-Year Flow):	0.1

Drainage Management Area Summary

ID	Type	BMP ID	Description	Area (ac)	Pre-Project Cover	Post Surface Type	Drainage Soil	Slope
23585	Drains to LID	BMP 5	roof	0.05	Pervious (Pre)	Roofs	Type C (slow infiltration)	Steep (greater 10%)
23586	Drains to LID	BMP 5	driveway	0.06	Pervious (Pre)	Concrete or asphalt	Type C (slow infiltration)	Steep (greater 10%)
23587	Drains to LID	BMP 5	landscaping	0.13	Pervious (Pre)	Landscaping	Type C (slow infiltration)	Steep (greater 10%)

LID Facility Summary

BMP ID	Type	Description	Plan Area (sqft)	Volume 1(cft)	Volume 2(cft)	Orifice Flow (cfs)	Orifice Size (inch)
BMP 6	Bioretention	bioretention	482	401	289	0.007	0.4