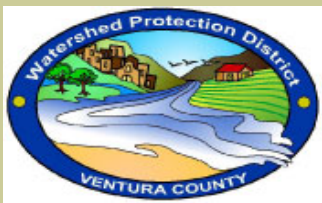




Public Works Agency



Urban Low Impact Development (LID) Retrofit Project at Meiners Oaks, CA

Ewelina Mutkowska, Stormwater Program Manager

Salvador Diaz-Rubin, PE, Construction Manager

David Kirby, PE, Water Quality Engineer



Background

Federal Water Pollution Control Act

“Clean Water Act” - 1972



Federal Program to Regulate the Discharge of Pollutants into Waters of the United States



Ventura River 303(d) List

Water Quality Impairments
to be addressed by
proposed project include:

- Indicator Bacteria,
Total Coliform
- Algae, Eutrophic
Conditions (nitrogen &
phosphorus) –TMDL
effective June 2013





Algae/ Nitrogen TMDL

Resolution No. R12-011
Effective 6/2013

Implementation Schedule:

- Monitoring Plan submitted 6/2014
- Implementation Plan due 6/2015
- Compliance with dry-weather allocations due 3/2019

Attachment A to Resolution No. R12-011

Amendment to the Water Quality Control Plan – Los Angeles Region
to Incorporate the

Total Maximum Daily Load for Algae, Eutrophic Conditions, and Nutrients
In the Ventura River and its Tributaries

Adopted by the California Regional Water Quality Control Board, Los Angeles Region on
December 6, 2012.

Amendments:

Table of Contents

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)

7-35 Ventura River and Tributaries Algae, Eutrophic Conditions, and Nutrients
TMDL

List of Figures, Tables, and Inserts

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)

Tables

7-35 Ventura River and Tributaries Algae, Eutrophic Conditions, and Nutrients
TMDL

7-35.1 Ventura River and Tributaries Algae, Eutrophic Conditions, and Nutrients
TMDL - Elements

7-35.2 Ventura River and Tributaries Algae, Eutrophic Conditions, and Nutrients
TMDL - Implementation Schedule

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries

Add:

7-35 Ventura River and Tributaries Algae, Eutrophic Conditions, and Nutrients TMDL

This TMDL was adopted by:

The Regional Water Quality Control Board on December 6, 2012.

This TMDL was approved by:

The State Water Resources Control Board on February 19, 2013

The Office of Administrative Law on June 4, 2013

The U.S. Environmental Protection Agency on June 28, 2013

This TMDL is effective on June 28, 2013

The elements of the TMDL are presented in Table 7-35.1 and the Implementation Plan
in Table 7-35.2.



Algae/ Nitrogen TMDL

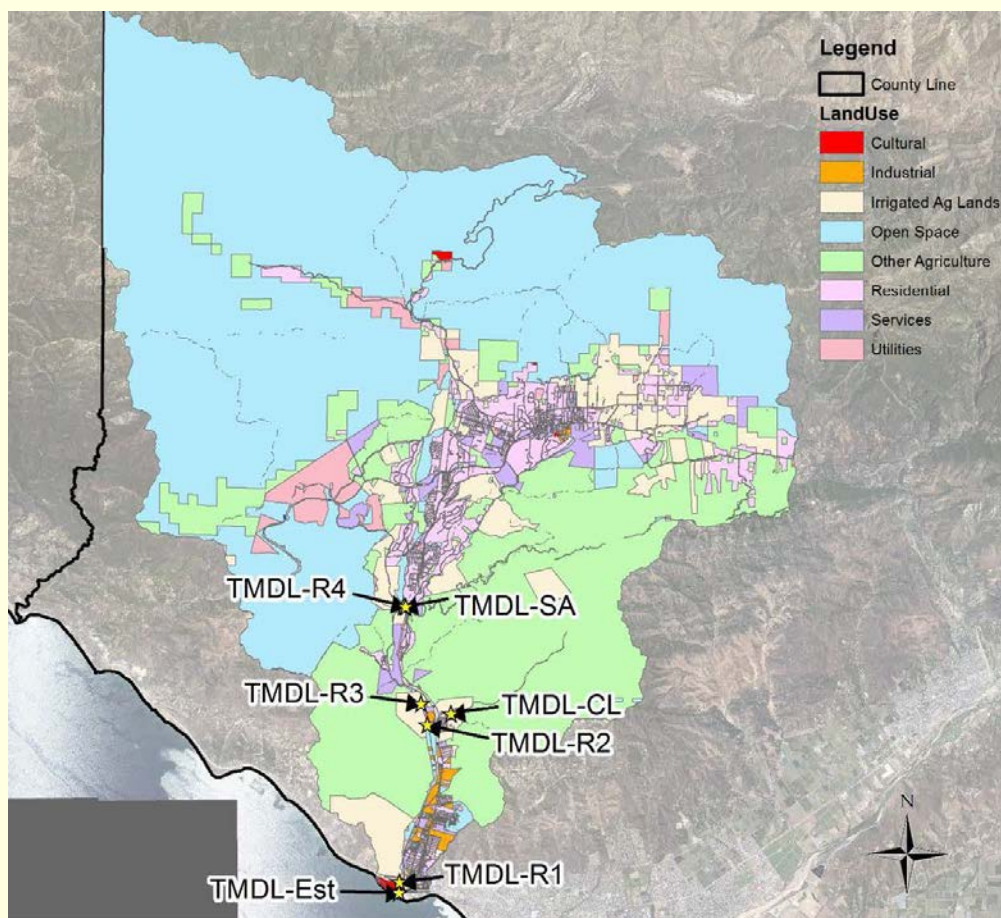
Responsible Parties:

- Ventura Stormwater Dischargers: County of Ventura, Ventura County Watershed Protection District, City of Ventura, and City of Ojai;
- Ojai Valley Sanitary District (OVSD);
- Ag Dischargers;
- California Department of Transportation (Caltrans);
- Cattle and horse owners subject to Conditional Waiver (under development by RWQCB).





Algae/ Nitrogen TMDL Monitoring

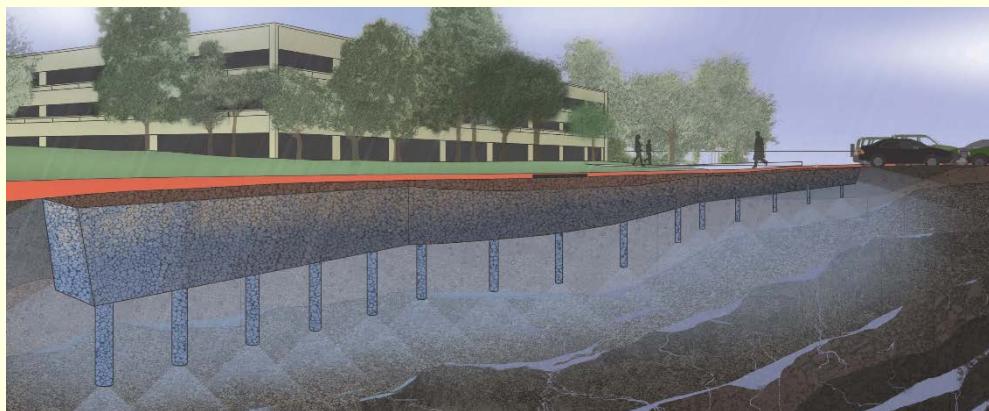
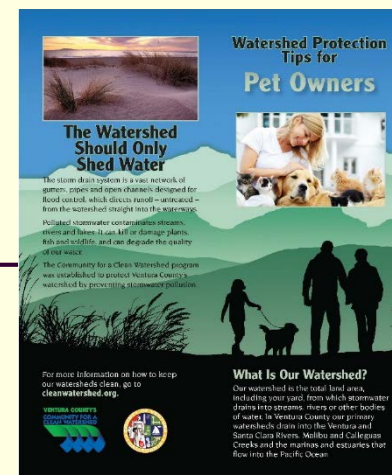


- Seven (7) Monitoring Locations within Ventura River including estuary, San Antonio Creek and Canada Larga;
- Monitoring parameters: flow, nutrients, pH, temp., conductivity, DO, algal % cover, and algal biomass (chlorophyll a);
- Monthly sampling and quarterly continuous monitoring;
- Algae monthly sampling (May 1 through Sept. 30)



Implementation Plan

- To define scope and schedule to meet algae targets/objectives through:
 - Public Outreach and Education,
 - Enhancement of Regulations & Ordinances, and
 - Distributed BMPs and/or Regional Stormwater Treatment Projects.





Efforts to Improve Water Quality

County & Cities

- Illicit Discharge and Dumping hotlines
- Business inspections
- Storm drain cleaning
- Full trash capture devices
- Construction BMPs
- Low Impact Development for new development and redevelopment projects
- Education and Outreach





Prop 84 Stormwater Grant



- The County in partnership with the Ojai Valley Land Conservancy submitted Concept Proposal in October 2013.
- Project was one of 41 projects throughout the State selected to submit Full Proposal in February 2014.
- Project was selected for funding in May 2014 (total 23 + 4 conditional).

PIN	REG	APPLICANT NAME	PROJECT NAME	FUNDING AMOUNTS		
				Prop 84	Match	Total
25941	4	County of Ventura	Oak Park Green Streets Urban Retrofit	\$ 1,397,410	\$ 350,540	\$ 1,747,950
25942	4	County of Ventura	Urban LID Retrofit at Meiners Oaks	\$ 815,410	\$ 204,350	\$ 1,019,760
25952	4	City of Los Angeles, Department of Public Works	Avalon Green Alley North: LID Demonstration Project Phase II	\$ 1,153,445	\$ 307,000	\$ 1,460,445



Initial Site Selection

- Concept application proposed improvements at 4 sites
- Upstream of monitoring station and next to existing storm drains





Infiltration Testing

- January 2014
- Insufficient infiltration rates
- Redesign was required for final application



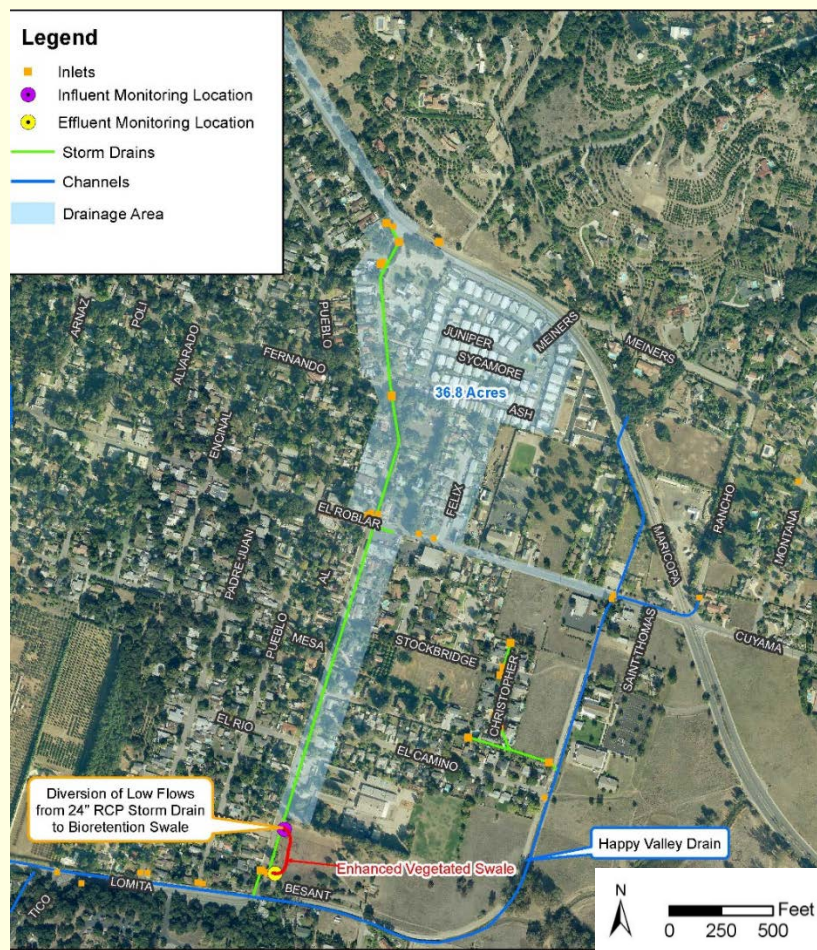
Table 2. Field Percolation Testing Results

Site Name	Location	Test Interval (feet bgs)	Stabilized Field Test Percolation Rate (in/hr)	
			Corrected (for open, uncased hole)	Uncorrected (Field Data)
OVLC	Ojai Valley Land Conservancy parcel	DH-01B, 2-5	<1/4	<1/4
		DH-01A, 9-14	<1/4	<1/4
El Camino	Ventura County access road	DH-02B, 2-5	<1/4	<1/4
		DH-02A, 9-14	3/4	1
El Roblar	Ventura County ROW (dirt shoulder of road)	DH-03B, 2-5	<1/4	<1/4
		DH-03A, 10-14	1/2	3/4
Lomita	Ventura County ROW (dirt shoulder of road)	DH-04B, 3-5	<1/4	<1/4
		DH-04A, 6-9	<1/4	<1/4



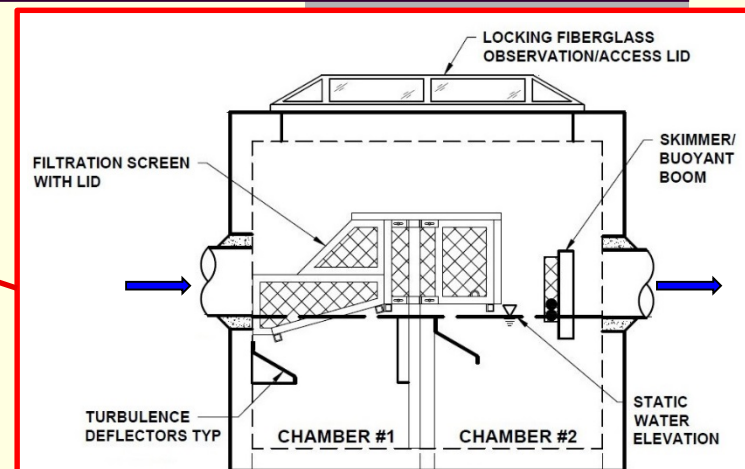
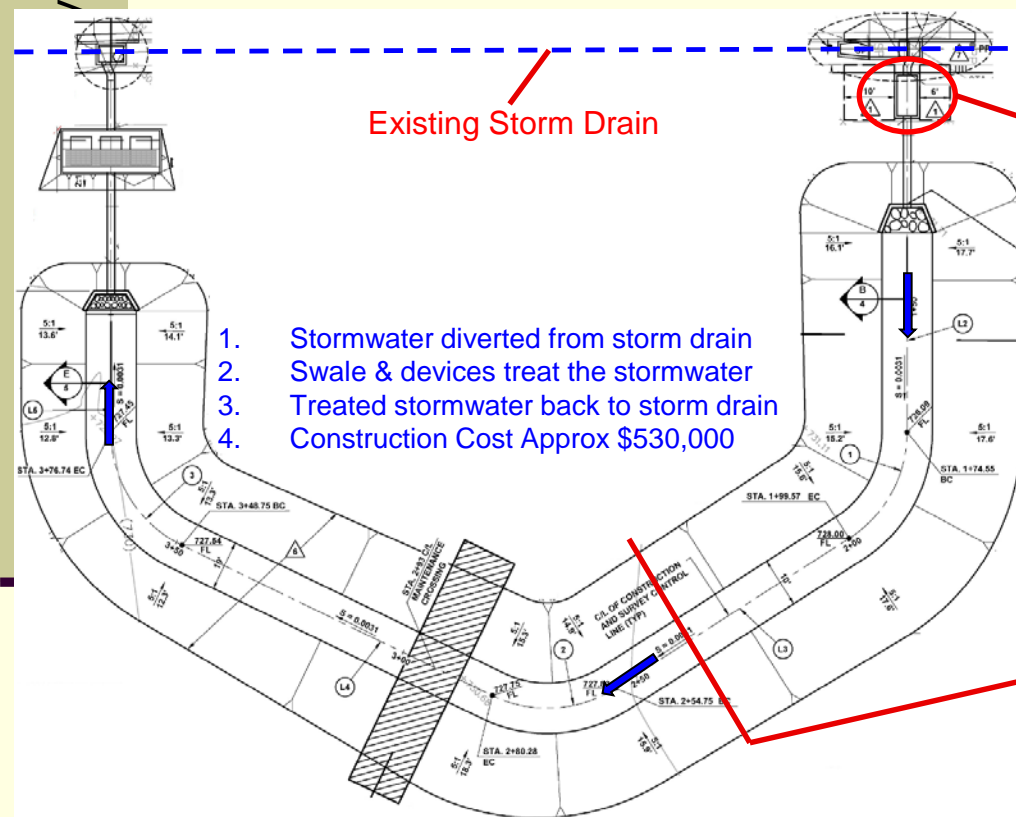
Urban LID Retrofit Project at Meiners Oaks, CA - Location

- Ojai Valley Land Conservancy's Ojai Valley Meadows Preserve
- Treats runoff from about 40% (36.8 acres) of the Meiners Oaks urban area

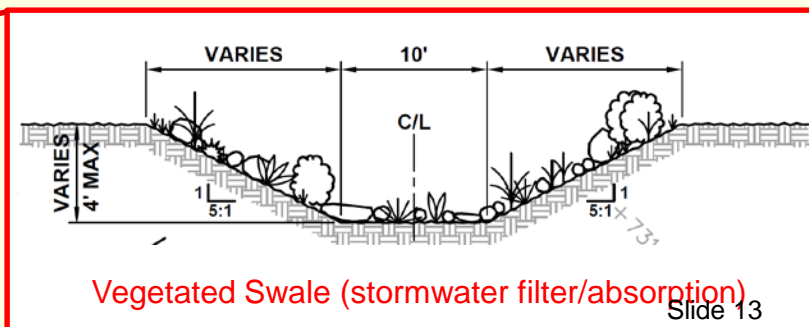




Enhanced Vegetated Swale



Trash/Nutrient/Sediment Removal Baffle Box



Vegetated Swale (stormwater filter/absorption)



Construction Considerations

- Notice to Residents and School
- Traffic Controls
 - Open to traffic during non-working hrs
 - Temporary & limited lane closure
 - Driveway access
 - Limited parking restrictions – one side of the street
 - Limited pedestrian access – one side of the street
- One non-native tree will be removed as a part of this project
- Coordination
 - Meiners Oaks Elementary School



Other Project Elements

- Water Quality & Flow Monitoring
- Education and Outreach:
 - Educational Kiosk
 - OFG™ classroom and hands-on workshops
 - Presentation, press releases, etc.





Project Schedule

Project Tasks	Due Date
Final Design	03/25/2015
Construction	July 2015 Thru October 2015
Flow and Water Quality Monitoring	Winter 2015/16
Education & Outreach	2015/2016
OFG™ classroom and hands-on workshops	Fall 2015 – Spring 2016
Project Completion	Spring 2017



Questions?

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