

West Placer Storm Water Quality Design Manual

November 4, 2015

SACRAMENTO
REGIONAL
LID CONFERENCE



Source: Sunset Publishing Corporation



**CDM
Smith**

Multi-Jurisdiction Effort

Steering Committee

Municipal Stakeholder Agencies

Placer County
City of Roseville
City of Lincoln
City of Loomis
City of Auburn

Consultant Team

cbec eco engineering
CDM Smith



West Placer LID Manual Outline

1. Introduction
2. Projects Subject to Requirements
3. Pre-Project Site Assessment
4. Site Planning and BMP Selection
5. BMP Inspection, Operation and Maintenance
6. Developing a Post-Construction Storm Water Quality Plan (SWQP)

Appendices

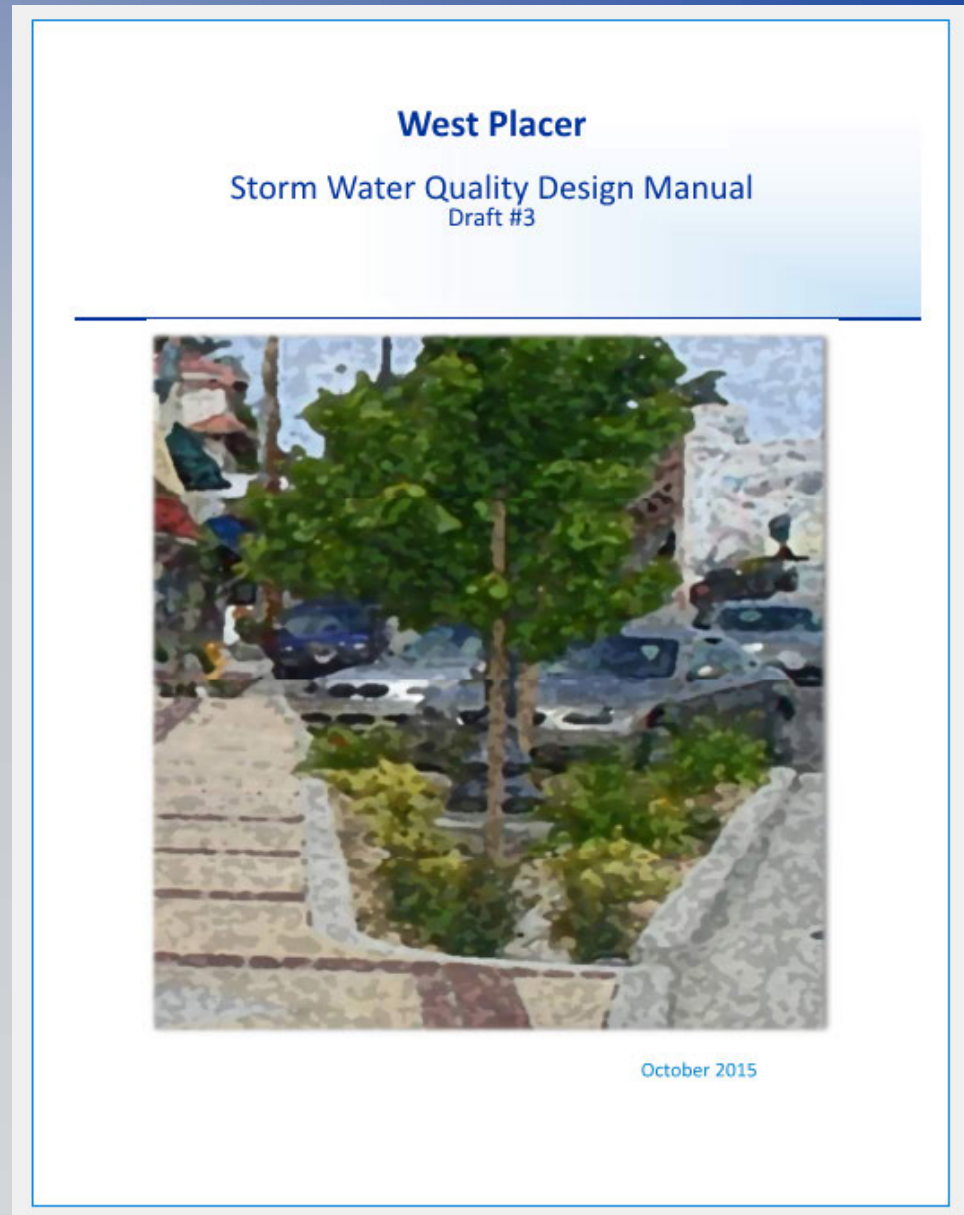
- A. Automated Template for Post-Construction Storm Water Quality Plan
- B. Site Design Measures Fact Sheets
- C. Source Control Measures Selection Table
- D. SWQP Examples



Photos: Gregg Bates

Purpose and Intent of the West Placer LID Manual

- Minimize the adverse impacts of storm water runoff
- Phase 2 MS4 compliance tool
- LID design standards and implementation guidance
- Efficient project application and approval process



Post-Construction Storm Water Quality Plan Template

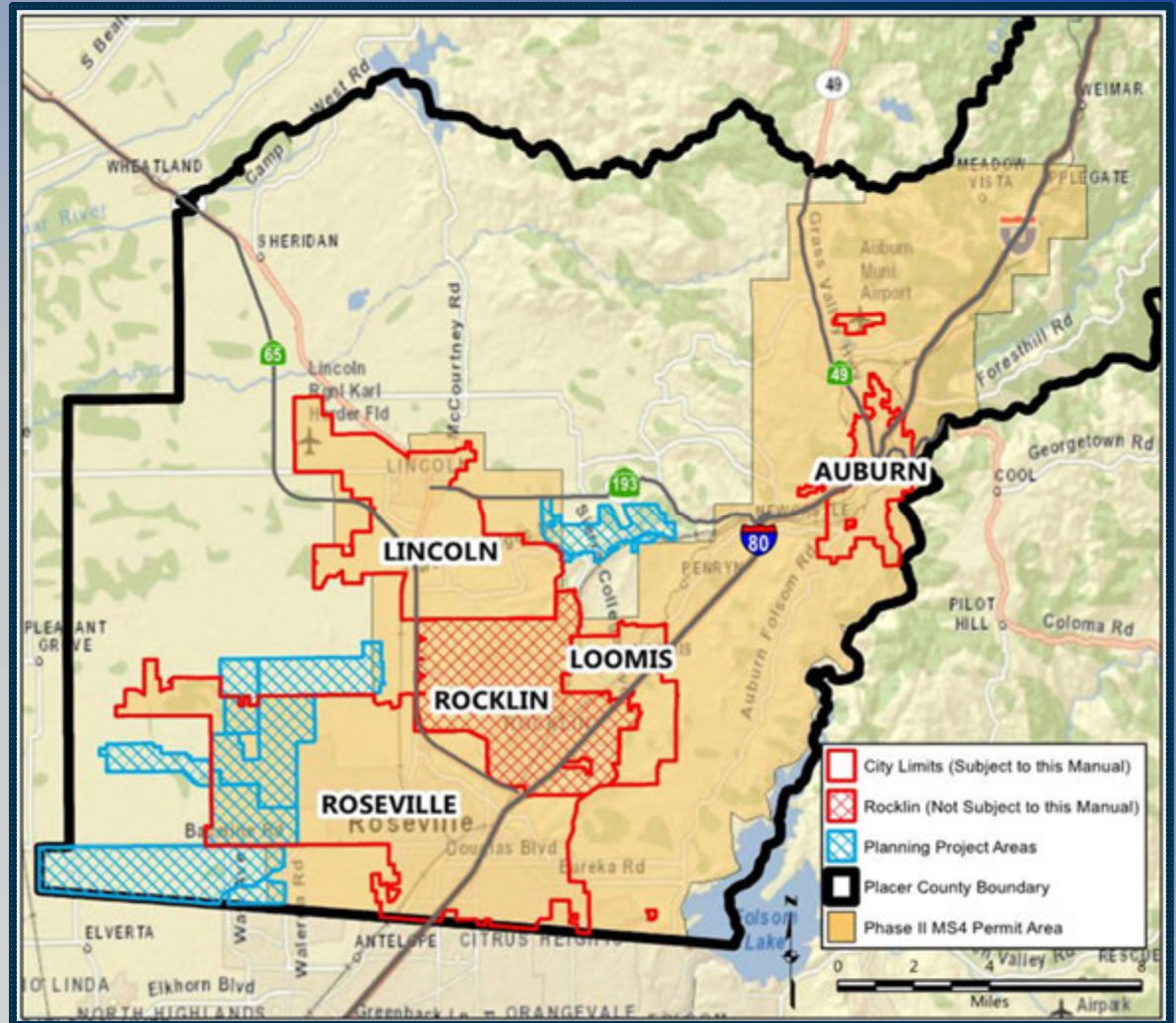
- MS Excel based permit compliance tool
- Documents implementation responsibilities and commitments
- Documents project information for permitting
- Guides BMP design and calculates runoff reductions
- Provide standard format to streamline reviews

Post-Construction Storm Water Quality Plan	
For:	
Insert Project Name	
Insert Permitting Jurisdiction	
<small>Where applicable, insert Planning Permit No., Improvement Plan No., Grading Permit No., Building Permit No., Subdivision Number</small>	
<small>Specify Lot Numbers if site is a portion of a Land Division (Subdivision or Parcel Map)</small>	
Prepared for:	
Insert Owner/Developer Name	
Insert Address	
Insert City, State, ZIP	
Insert Telephone	
Prepared by:	
Insert Consulting/Engineering Firm Name	
Insert Address	
Insert City, State, ZIP	
Insert Telephone	
Approval Date: _____	
Project Implementation Date: _____	

Boundaries and Areas Applicable to Manual

Manual Requirements apply within the following areas:

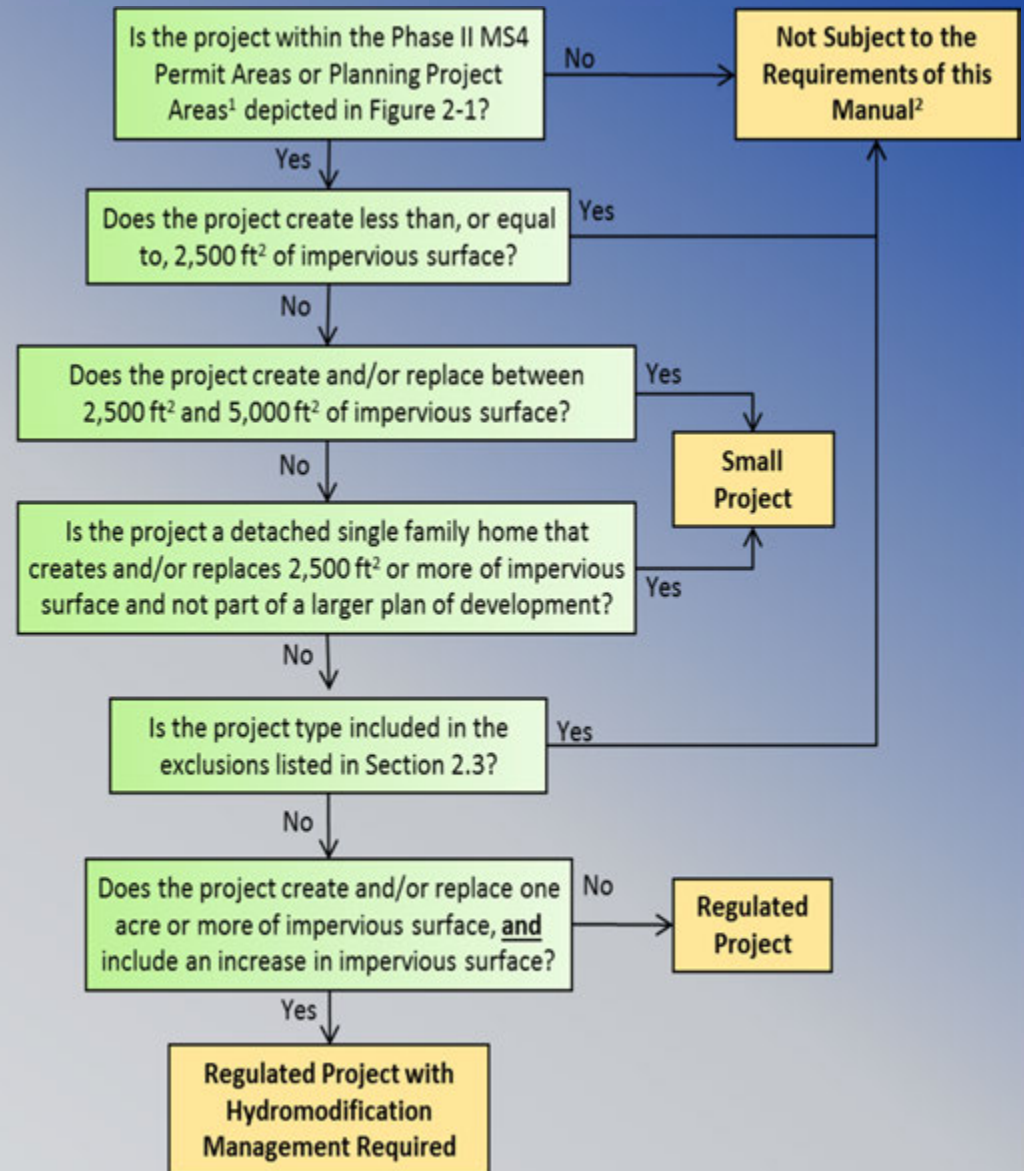
- Urbanized areas of west Placer County
- Roseville
- Lincoln
- Loomis
- Auburn
- Planning project areas



Manual Requirements

(Based on Phase 2 MS4 Permit)

- Requirements increase with impervious area
 - Small Projects (2,500 – 5,000 ft²)
 - Regulated Projects (>5,000 ft²)
 - New Development and Redevelopment
 - Regulated LUPs
 - Regulated Hydromodification Management Projects (> 1 Ac)



Template Site Categorization Form

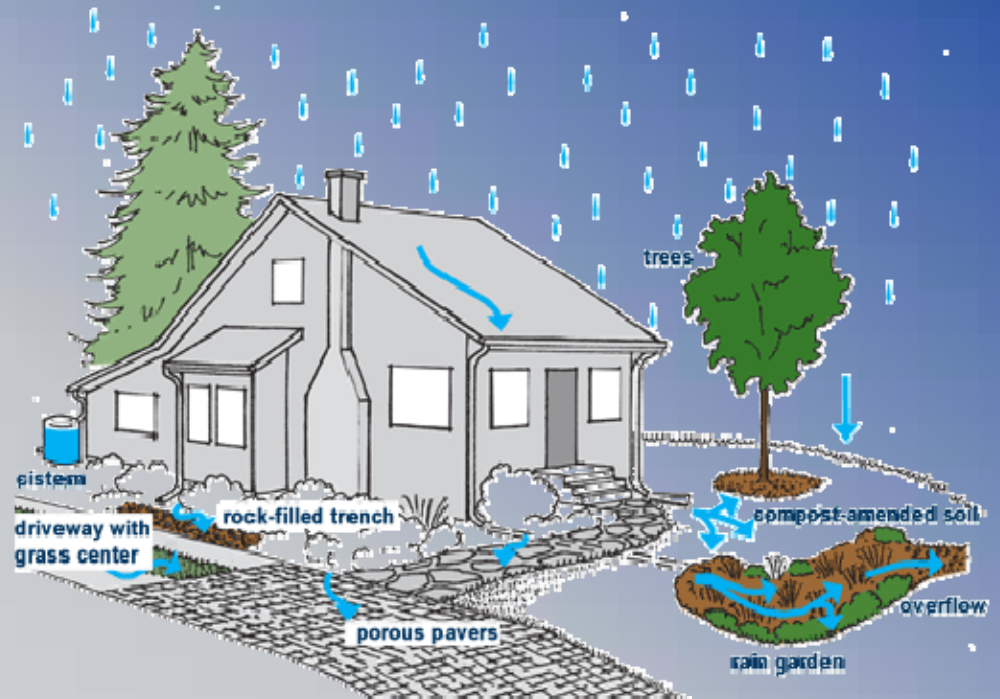
Form 1-2 Project Category	
Development Category (Select all that apply)	
¹ Small Project – All projects, except LUPs, that create and/or replace between 2,500-5,000 ft ² of impervious surface and detached single family homes that create and/or replace 2,500 ft ² or more of impervious surface and are not part of a larger plan of development.	
² Enter total new and/or replaced impervious surface (ft ²)	
³ Regulated Project – All projects that create and/or replace 5,000 ft ² or more of impervious surface.	
⁴ Regulated Redevelopment Project with equal to, or greater than 50 percent increase in impervious area	
⁵ Regulated Redevelopment Project with less than 50 percent increase in impervious area	
⁶ Enter total pre-project impervious surface (ft ²)	
⁷ Enter total new and/or replaced impervious surface (ft ²)	
⁸ Regulated Road or linear underground/overhead project (LUP) creating 5,000 ft ² or more of newly constructed contiguous impervious surface.	
⁹ Enter total new and/or replaced impervious surface (ft ²)	
¹⁰ Regulated Hydromodification Management Project – Regulated projects that create and/or replace 1 acre or more of impervious surface. A project that does not increase impervious surface are over the pre-project condition is not a hydromodification management project.	
¹¹ Enter total new and/or replaced impervious surface (ft ²)	

Requirements by Category

Categories and Requirements	
Project Category	Post-Construction Requirements
Small Projects	Consider LID layout Minimum of one site design measure
Regulated Projects	Optimized LID layout
	Source controls
	Site design measures
	Treatment and baseline hydromodification
Hydromodification Management Projects	Control 2-Yr, 24-Hr flows to pre-development rates

LID Site Assessment

- Evaluate existing conditions
- Identify opportunities and constraints
- Considerations
 - Soils, Geology
 - Topography,
 - Site Hydrology
 - Vegetation,
 - Contamination issues,
 - Existing Improvements and Easements.

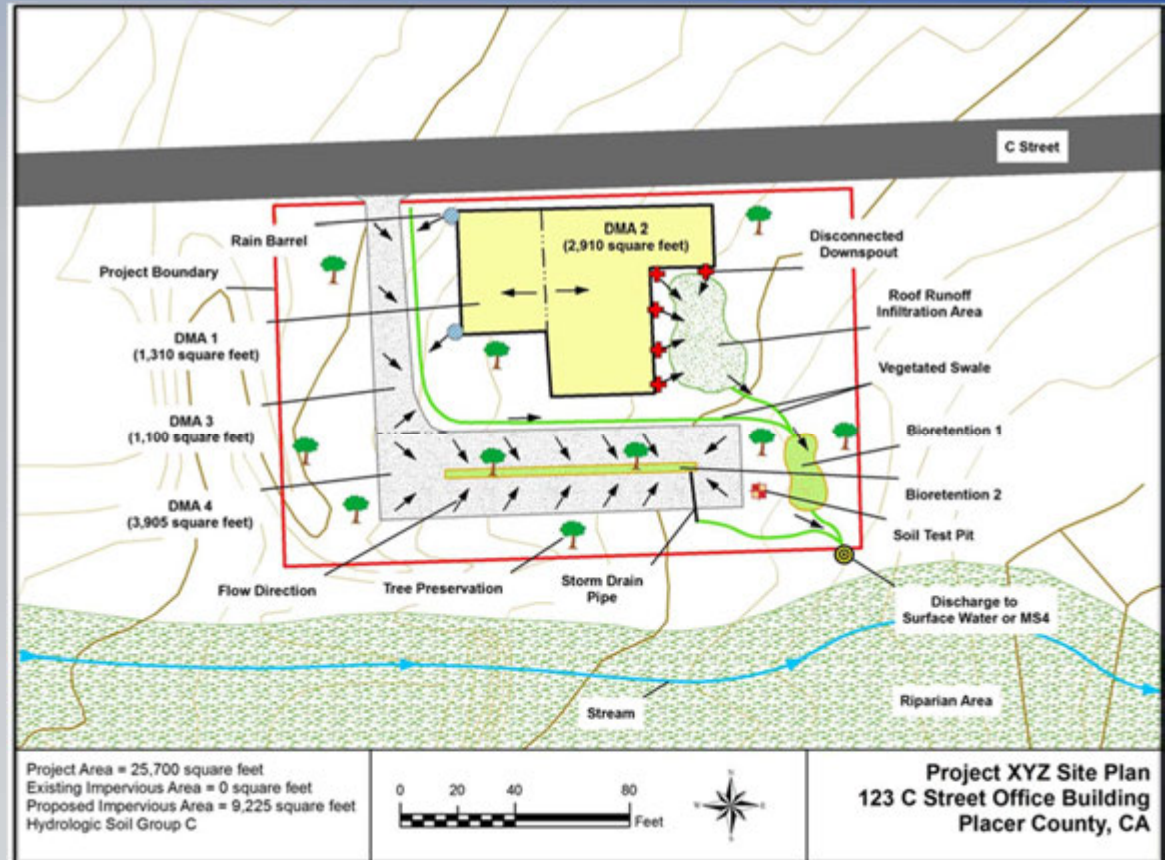


Template Site Assessment and Layout Form

Form 3-4 Site Assessment and Layout Documentation		
	Has this Item been considered in the Site Layout and depicted in the Site Plan?	
	Yes	Not Applicable (Include brief explanation)
Define the development envelope and protected areas, identifying areas that are most suitable for development areas to be left undisturbed.		
Concentrate development on portions of the site with less permeable soils and preserve areas that can promote infiltration.		
Limit overall impervious coverage of the site with paving and roofs.		
Set back development from creeks, wetlands, and riparian habitats.		
Preserve significant trees.		
Conform site layout along natural landforms.		
Avoid excessive grading and disturbance of vegetation and soils.		
Replicate the site's natural drainage patterns.		
Detain and retain runoff throughout the site.		
Attach a Site Plan that incorporates the applicable considerations above. Ensure that the following items are included in the Site Plan:		

Site Planning and BMP Selection

- Optimize layout
- Source Controls
- Site Design Measures
- Treatment and Baseline Hydromodification
- Hydromodification Management



Source Controls

Potential Pollutant Source or Activity	Source Control Measure and General Implementation Protocols	CASQA BMP Handbook with Additional Information	CASQA Fact Sheet No.
Accidental spills or leaks	<p>Spill Prevention, Control and Cleanup</p> <ul style="list-style-type: none"> Develop procedures to prevent/mitigate spills to storm drain systems. Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures. Establish procedures and/or controls to minimize spills and leaks. Recycle, reclaim, or reuse materials whenever possible. 	Industrial and Commercial (2014)	SC-11
Interior floor drains	<p>Non-Stormwater Discharges</p> <ul style="list-style-type: none"> Visually inspect and inventory all interior floor drains. Do not connect to MS4. Floor drains should discharge to sumps for pumping and disposal or to the sanitary sewer in compliance with local agency requirements. For redevelopment, identify and disconnect interior floor drains from the MS4. Isolate problem areas and plug illicit discharge points. 	Industrial and Commercial (2014)	SC-10
Parking/Storage Areas and Maintenance	<p>Parking/Storage Area Maintenance</p> <ul style="list-style-type: none"> Encourage advanced designs and maintenance strategies for impervious parking lots. Keep accurate maintenance logs to evaluate BMP implementation. 	Industrial and Commercial (2014)	SC-43
Indoor and structural pest control	<p>Building and Grounds Maintenance</p> <ul style="list-style-type: none"> Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of pesticides. Do not mix, prepare, or apply pesticides near storm drain inlets. Encourage use of Integrated Pest Management techniques for pest control. 	Industrial and Commercial (2014)	SC-41
	<p>Safer Alternative Products</p> <ul style="list-style-type: none"> Use less toxic pesticides that will do the job when applicable. Avoid use of copper-based pesticides if possible. 	Industrial and Commercial (2014)	SC-35

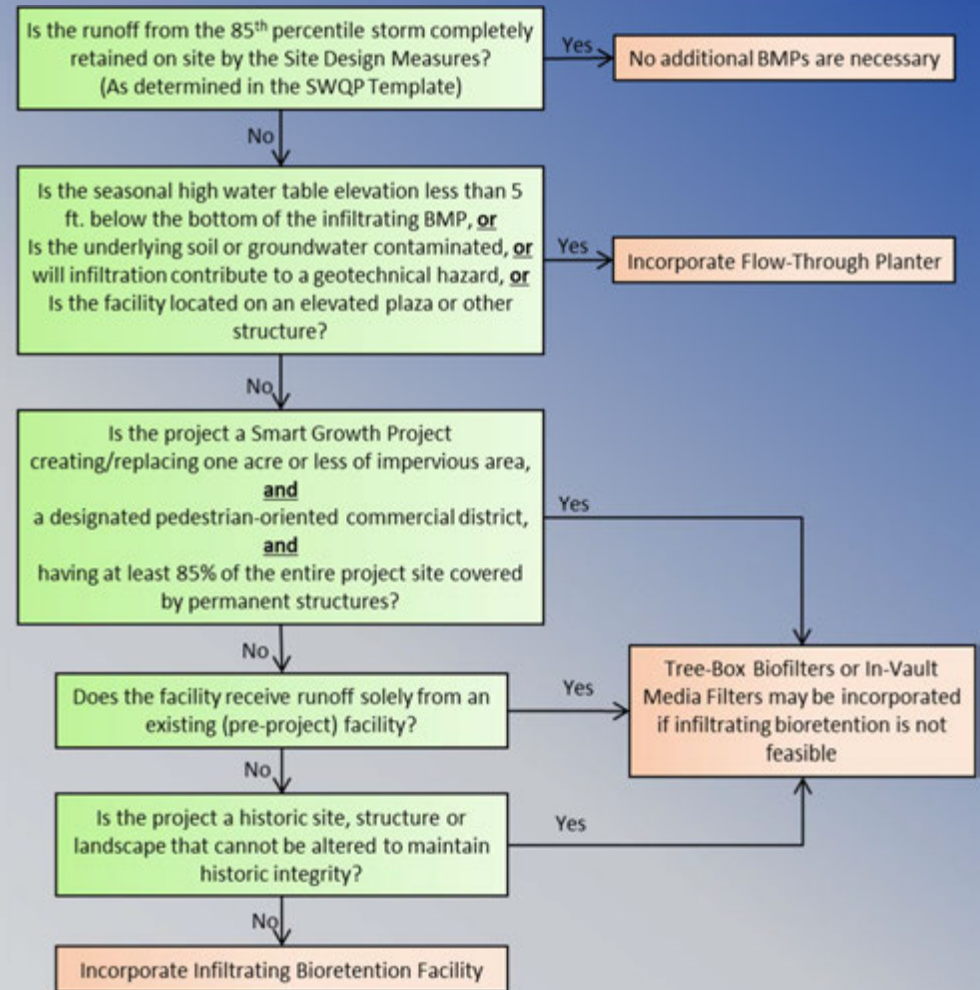
Site Design Measures

- Stream Setbacks and Buffers
- Soil Quality Improvement and Maintenance
- Tree Planting and Preservation
- Rooftop and Impervious Area Disconnection
- Porous Pavement
- Vegetated Swales
- Rain Barrels and Cisterns



Storm Water Treatment and Baseline Hydromodification Management

- Manage runoff remaining after Site Design Measures
- Bioretention and/or Biotreatment Facilities
- Infiltrating or lined flow-through systems
- Selection based on site characteristics



Hydromodification Management

- Large projects adding 1 acre or more of impervious surface
- Match pre-development flow rates from 2-Yr, 24-hr Storm
- May require additional detention



Photo: Wikipedia

Manual Development Schedule

- Public review draft in December
 - 30-day review period
 - Public outreach meeting (Date TBD)
- Final manual in early 2016
- www.placer.ca.gov/lowimpactdevelopment
 - Public draft and other information will be posted on website
 - Comments can be submitted via the website
- Local are available staff for more information



Questions?