

Transportation and Storm Water

Storm Water Standards Manual Draft Part 2 Update

**Public Outreach Meeting
December 13, 2017**

Agenda

- ❖ Opening Remarks
- ❖ Part 2 Update
- ❖ Part 1 Update
- ❖ Closing



Storm Water Standards Overview

PART 1

BMP Design Manual For Permanent Site Design, Storm Water Treatment, and Hydromodification

- Complies with the Regional MS4 Permit regulating post-construction storm water discharges onsite

PART 2

Construction BMP Standards

- Complies with the Regional MS4 Permit and the CGP regulating construction-phase storm water discharges

PART 3

Offsite Storm Water Alternative Compliance Program

- Complies with the Regional MS4 Permit regulating post-construction storm water discharges offsite

Part 2 Update Drivers

- ❖ Continual improvement to construction storm water guidance
- ❖ Provide added clarity for project applicants and reviewers
- ❖ Consistency of BMP implementation and inspection between projects
- ❖ Improved communication between the City and development industry
- ❖ Protection of receiving waters

Part 2 Update Timeline

Date	Activity
December 13, 2017	First public meeting to present recommended updates to Part 2 Public comment process begins
January 16, 2018	End of initial public comment review period
March 22, 2018	Beginning of 30-day public review of final draft
April 23, 2018	End of 30-day public review of final draft
May 1, 2018	Effective date of Part 2 update (i.e., to be posted on City website)

Part 2 Update Overview

Part 2 Update Overview

- ❖ No significant changes to structure.
- ❖ Changes to content within specific chapters, including BMPs.
- ❖ Goal is to provide enhanced guidance to promote compliance with City MS4 requirements.



Part 2 Significant Updates (*)

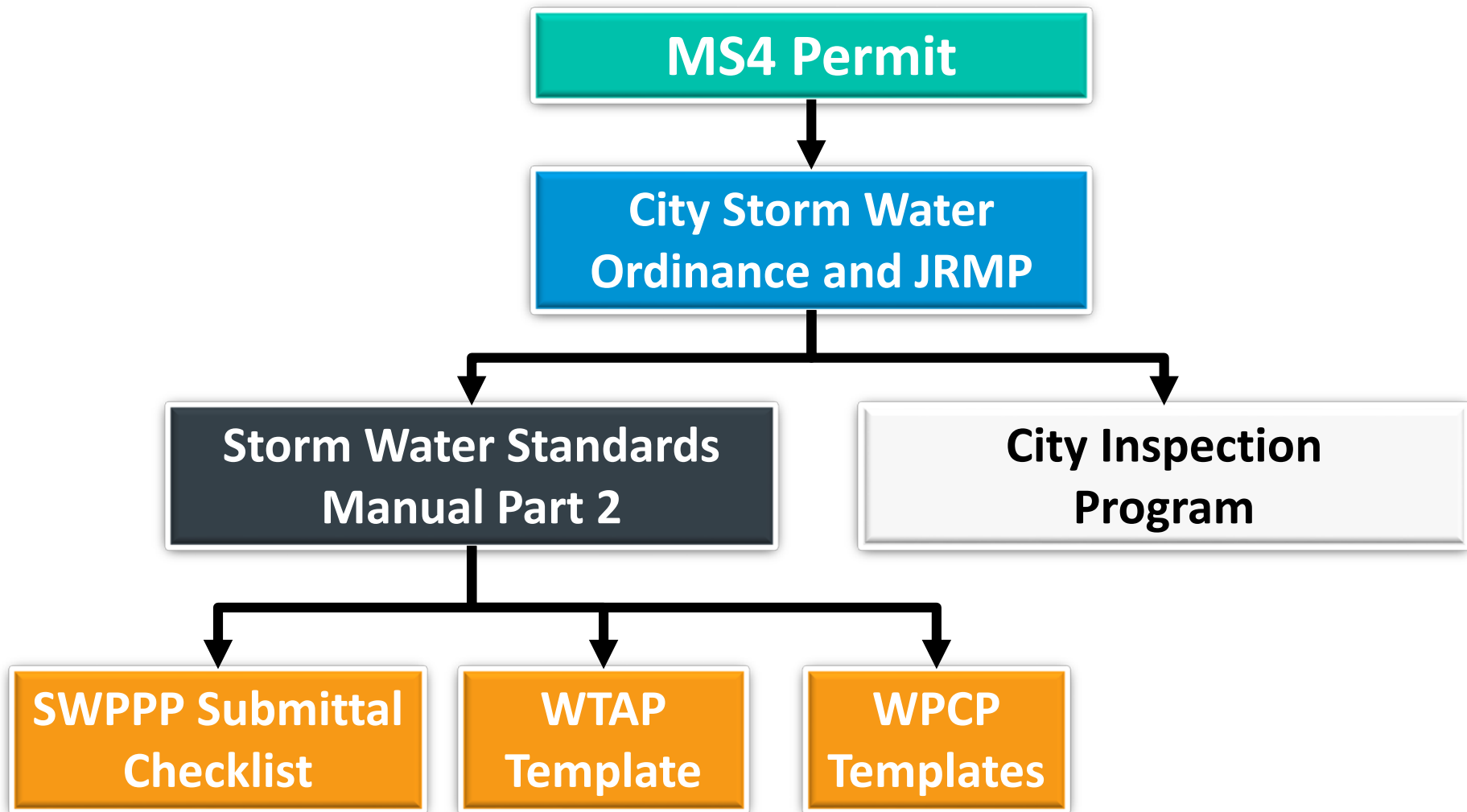
Chapter	Significant New Requirements
1 Introduction	
2 Storm Water Regulations	
3 Non-SW Regulations	
4 Pollution Control Plan Requirements (*)	SWPPP Submittal Checklist Weather Triggered Action Plan (WTAP) Qualified WPCP Preparer
5 BMPs (*)	Project planning and scheduling; Enhanced stockpile and erosion control requirements.
6 Permanent BMP Inspections	
7 Compliance Verification and Enforcement	

Part 2 Significant Updates (*)

Appendix	Significant New Requirements
A ASBS Maps	
B BMPs (*)	Updated example BMPs to correspond with updated Chapter 5 BMPs.
C Municipal Inspector Checklist	
D Templates and Forms (*)	Updated WPCP templates. Added WTAP Template. Added SWPPP Submittal Checklist
E Construction BMP General Notes (*)	Updated required BMP general notes to correspond with Part 2 text.

Applicable Regulations

Storm Water Regulations



Pollution Control Plan Requirements Chapter 4

Chapter 4: Pollution Control Plan Requirements

Required Plan	New Form or Template (Appendix D)
<u>CGP Projects</u> SWPPP (CASQA or Caltrans Template)	SWPPP Submittal Checklist WTAP Required
<u>Non-CGP Projects:</u> WPCP Template Linear Utility (Group Job) WPCP Template Minor WPCP Template Demolition WPCP Checklist	Templates (Appendix D) updated to reflect SWSM Part 2 Update WTAP Required

Chapter 4: SWPPP Submittal Checklist

SWPPP Submittal Checklist

Project Name: _____

SWPPP Date: _____ WDD: _____

Project Address: _____

Total Disturbed Area: _____

Project Owner: _____ Qualified SWPPP Developer: _____

Address: _____ Address: _____

Email: _____ Email: _____

Phone: _____ Phone: _____

The following checklist is required to be completed by the Qualified SWPPP Developer (QSD) preparing the Storm Water Pollution Prevention Plan (SWPPP) for submittal to the City of San Diego prior to the issuance of applicable grading or building permits. It is the responsibility of the QSD to ensure that the SWPPP is prepared within the guidance set forth in the City of San Diego Storm Water Standards Part 2 Construction BMP Standards. This checklist does not alleviate the QSD's responsibility to determine the appropriate level of BMP planning and implementation to prevent pollution discharges. The SWPPP must be prepared using California Stormwater Quality Association (CASQA) or Caltrans Template.

Complete the checklist by identifying the applicable page or section of the SWPPP for each set of requirements below.

I. General Requirements	
Page or Section	
	Contact information, including phone number and email address, for Project Owner, QSD, and Qualified Contact Person.
	Project and site description, including construction activities, existing site conditions, and relevant prior land use.
	Construction Schedule information, including the anticipated start and end dates of construction, phases of significant grading activities, and work near drainages or receiving waters.
	City's Weather-Triggered Action Plan (WTAP) Template (for all projects) that addresses the City's WTAP requirements.
	Risk Factors and check-up for site-specific factors (if required).
	Vicinity Maps showing project area and major crossroads.
	SWPPP Maps which meet requirements of the Construction General Permit and include an access route for the Resident Engineer.
II. BMP Phasing Plan	
Page or Section	
	Disturbed area is limited to 10 acres at any given time without approval of the Department of Development Services (DSD) (private projects) or the Public Works Department (PWD) (public projects). Refer to Table 5.1 in Part 2 of the Stormwater Standards Manual for instruction on obtaining approval of expanded grading limits.
	Phasing plan must address work activities and BMP sequencing for each phase (i.e., demolition, grading, streets and utilities, vertical construction, and landscaping). An example phasing plan is provided at the end of this checklist.
	Identify steps the project will implement to reduce the amount of soil exposed at any one time and during periods of high precipitation potential; maintain stabilized areas; and minimize work areas, staging areas, and construction roads.
Phasing Plan Approval	
Name (Resident Engineer)	Date

- ❖ Projects requiring SWPPPs for CGP coverage must include a SWPPP Submittal Checklist (Prepared by QSD).
- ❖ DSD and PWD use checklist verify that MS4-specific construction requirements described in Part 2 are included in SWPPP submittal.

Chapter 4: WTAP Added

- ❖ Added a weather triggered action plan (WTAP) requirement for **all** projects.
- ❖ Deploy additional BMPs prior to rain.
 - BMP deployment and active area stabilization timing is based on National Weather Service probability of precipitation (<http://www.weather.gov/sgx/>).
 - Use project location and hourly forecast.

Chapter 4: WTAP Requirements

Project Status	Trigger	WTAP Plan Done	WTAP BMPs In Place
All Compliant Projects WTAP Trigger A	50% POP	48 hours prior to rain	Prior to Rain
Enhanced WTAP Triggers per City Inspection Results:			
WTAP Trigger B	40% POP	72 hours	12 hours
WTAP Trigger C	40% POP	72 hours	24 hours
WTAP Trigger D	30% POP	72 hours	24 hours
WTAP Trigger E	30% POP	72 hours	36 hours

Chapter 4: WTAP Template

Weather Triggered Action Plan (WTAP) Exhibit

Instructions: A WTAP Exhibit identifying BMPs currently in place and BMPs which will be implemented prior to rain must be prepared with each WTAP. The WTAP Exhibit and WTAP Exhibit Legend shall be posted in the construction trailer (or otherwise available on-site if a trailer is not present). The QCP (or QSD/QSP if the project has a SWPPP) must update the current SWPPP/WPCP Site Map by hand or prepare current representative photographs (aerial or other) to depict BMPs. Contractor may develop their own WTAP Exhibit Legend under the following conditions:

- The exhibit must clearly depict installed BMPs;
- The exhibit must clearly depict BMPs to be installed prior to the rain event; and
- The legend must be posted with the WTAP Exhibit.

Example symbols for the WTAP Exhibit Legend are provided below.

Drainage Patterns and Monitoring (Show in Black or Blue on Exhibit)

Symbol	Description
→	Flow Direction
★	Discharge Locations

BMPs Currently Installed (Highlight BMPs on SWPPP / WPCP Site Map or Depict on Aerial Photo to create WTAP Exhibit)

Symbol	BMP	Installed	Condition*	Repairs Completed for BMP in Poor Condition
⊘	Erosion Control	<input type="checkbox"/> Yes <input type="checkbox"/> NA	Good <input type="checkbox"/> Poor	
⊙	Sediment Basin/Traps	<input type="checkbox"/> Yes <input type="checkbox"/> NA	Good <input type="checkbox"/> Poor	
---	Perimeter/Linear Controls	<input type="checkbox"/> Yes <input type="checkbox"/> NA	Good <input type="checkbox"/> Poor	
⊗	Inlet Protection	<input type="checkbox"/> Yes <input type="checkbox"/> NA	Good <input type="checkbox"/> Poor	
∞	Check Dams	<input type="checkbox"/> Yes <input type="checkbox"/> NA	Good <input type="checkbox"/> Poor	
≡	Tracking Control	<input type="checkbox"/> Yes <input type="checkbox"/> NA	Good <input type="checkbox"/> Poor	
⚡	Dike, Swales, Slope Drains	<input type="checkbox"/> Yes <input type="checkbox"/> NA	Good <input type="checkbox"/> Poor	
WM	Waste Management	<input type="checkbox"/> Yes <input type="checkbox"/> NA	Good <input type="checkbox"/> Poor	
MM	Materials Management	<input type="checkbox"/> Yes <input type="checkbox"/> NA	Good <input type="checkbox"/> Poor	
SM	Stockpile Management	<input type="checkbox"/> Yes <input type="checkbox"/> NA	Good <input type="checkbox"/> Poor	
	Other	<input type="checkbox"/> Yes <input type="checkbox"/> NA	Good <input type="checkbox"/> Poor	

* BMPs in poor conditions must be repaired at least 48 hours prior to a storm event.

BMPs to be Installed (Show in Red on Exhibit)

Symbol	BMP	Description/Type/Product	Installation Date (must be consistent with WTAP implementation schedule)
⊘	Erosion Control		
⊙	Sediment Basin/Traps		
---	Perimeter/Linear Controls		
⊗	Inlet Protection		
∞	Check Dams		
≡	Tracking Control		
⚡	Dike, Swales, Slope Drains		
WM	Waste Management		
MM	Materials Management		
SM	Stockpile Management		
	Other		

- ❖ WTAP Template included in Appendix D is similar to the CGP template.
- ❖ Requires an exhibit that illustrates BMPs to be deployed prior to the rain event.

Chapter 4: WPCP Requirements

- ❖ WPCPs must be prepared by a Qualified WPCP Preparer who holds one of the following:

California Registered, Civil Engineer	California Registered, Geologist
California Registered, Landscape Architect	Professional Hydrologist
Certified Professional Soil Scientist	CPESC
CPSWQ	

Questions and Answers

Best Management Practices

Chapter 5

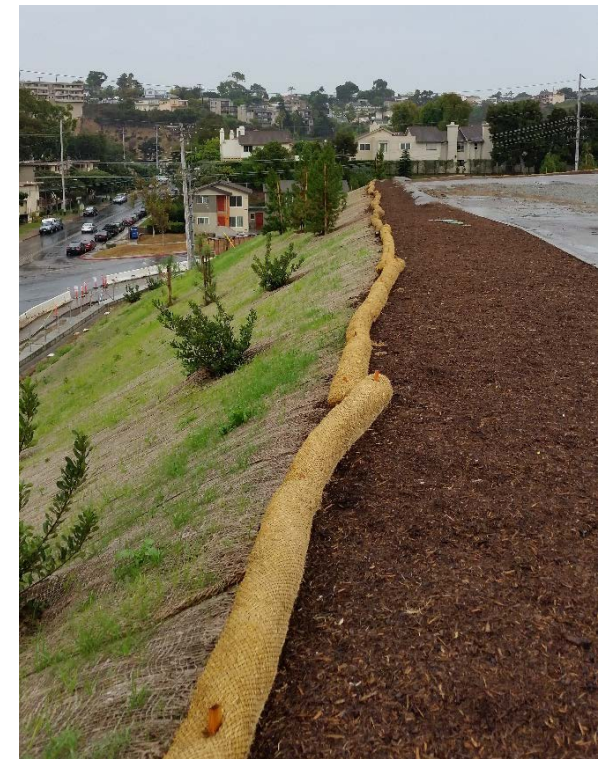
Chapter 5: Best Management Requirements



Chapter 5: BMP Key Requirements

BMPs:

- ❖ Must be implemented, installed, and maintained per SWPPP/WPCP requirements.
- ❖ Must use CASQA/Caltrans BMP fact sheets as guidance where applicable.



Project Planning: Plan BMP

Water Pollution Control Plan for Project:

Located at:

Address:

WPCP Prepared by:

Company:

Individual:

Address:

Preparation Date:**Prepared for:**

City of San Diego

Department:

Address:

DRAFT

- ❖ SWPPP (CGP projects)
 - Use CASQA or Caltrans templates.
 - Require a City SWPPP Submittal Checklist.
 - Require a Scheduling/Phasing Plan.
- ❖ WPCP (non-CGP projects)
 - Use updated City WPCP templates.

Project Planning: Plan BMP

❖ Active vs. Inactive Areas

- Active: Areas undergoing land disturbance such as grading, trenching, and landscaping.
- Inactive: Areas of construction activity that have been disturbed and are not re-disturbed for 14 days.

Track walking alone does not allow an area to be considered active.



Project Planning: Scheduling BMP

❖ Scheduling/Phasing Plan required for all projects.

- Must demonstrate integration of work activities and BMP sequencing for each phase of construction.
- Must include BMPs for active and inactive areas.
- Example in SWPPP Submittal Checklist.

SWPPP Submittal Checklist

A Phasing Plan must be developed for each project to address the major construction phases and activities included in the project and the implementation of BMPs in relation to construction activities. It is the responsibility of the QSD to develop a project-specific Phasing Plan clearly denoting BMP installation activities. Activities must be presented in the order (sequence) they are expected to be completed, with BMP installation activities indicated in *italics*. Note: Construction activities and BMPs may occur or reoccur at different times throughout some projects. An example sequence of BMP installation activities for each phase is provided below for reference.

Example SWPPP Phase 1 - Mobilization and Grading

Activity	Start Date	End Date
1. Survey and flag construction and laydown area boundaries		
2. <i>Install perimeter control BMPs as shown on the SWPPP Map</i>		
3. <i>Install construction entrances (rock) as shown on SWPPP Map</i>		
4. Prepare temporary parking and staging areas		
5. <i>Install inlet protection as shown on SWPPP Map</i>		
6. Begin clearing and grubbing		
7. Temporarily stabilize disturbed areas throughout construction		
8. <i>Begin permanent stabilization as areas are brought to final grade</i>		

Example SWPPP Phase 2 - Foundations, Utilities, & Roadways Construction

Activity	Start Date	End Date
1. Implement material management and waste management BMPs		
2. <i>Inspect and maintain Phase 1 BMPs</i>		
3. <i>Stabilize disturbed areas that will be inactive for 14 days or more</i>		
4. <i>Install concrete washout</i>		
5. Begin excavations for utilities and foundations		
6. <i>Install utilities and storm drains</i>		
7. <i>Install inlet protection devices as inlets are completed</i>		
8. Start construction of roadways		
9. Stabilize access roadways with asphalt pavement		

Example SWPPP Phase 3 - Vertical Construction and Final Stabilization

Activity	Start Date	End Date
1. <i>Inspect and maintain Phase 1 and Phase 2 BMPs</i>		
2. <i>Stabilize disturbed areas that will be inactive for 14 days</i>		
3. Pave site		
4. Perform vertical construction activities		
5. Complete grading of site and install permanent stabilization at all disturbed areas		

Project Planning: Scheduling BMP

- ❖ Disturbed area >10 acres at any time requires approval of an expanded plan that:
 - Is approved by DSD (private) or PWD (public);
 - Illustrates how a complementary set of BMPs will protect the site during each phase, transition, or significant milestone within phases; and
 - Is prepared by a QSD.



Erosion Control: Erosion Control BMP

- ❖ Scheduling/Phasing Plan is required.
- ❖ Soil preparation is required prior to soil stabilization unless there is a conflict with specifications or otherwise not feasible.
- ❖ Temporary erosion control must be provided until permanent stabilization is achieved.
- ❖ Inactive areas must be stabilized prior to the 14th day of inactivity.



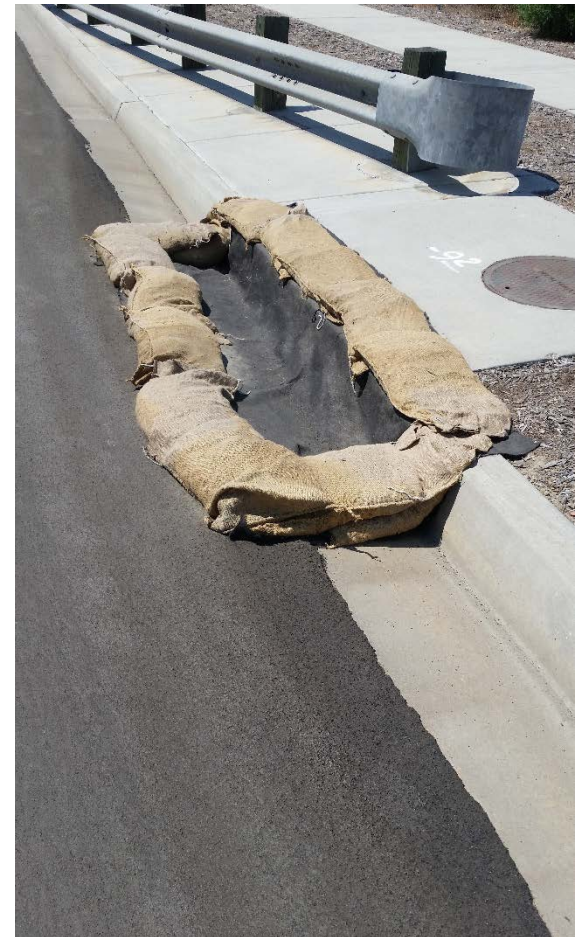
Erosion Control: Erosion Control BMP

- ❖ Construction support areas must be stabilized and maintained by periodic re-application.
- ❖ Pre-rain stabilization is required for all areas per WTAP implementation criteria (Table 4-2).
- ❖ End-of-day stabilization required for work in the City ROW.



Sediment Control: Storm Drain Inlet Protection BMP

- ❖ **Dry Weather** – implement at all inlets receiving runoff from active construction areas.
- ❖ **City ROW** – remove prior to rain or during emergency water main breaks to prevent flooding. Remove prior to end of day or weekend if rain is forecast and replace prior to restarting construction.



Sediment Control: Storm Drain Inlet Protection BMP



- ❖ **Interior to grading activities and draining to the MS4 –** protect at all times except where there is potential for by-pass impacting public inlets downstream.
- ❖ **Inspect all inlet protection daily and maintain per fact sheets.**

Sediment Control: Sediment Trap/Basin BMP

- ❖ Implement Sediment Traps/Basins when appropriate.
- ❖ Use in combination with other BMPs to protect site.
- ❖ Design and maintain function per CASQA Fact sheets SE-2 and SE-3 and dewater within 96 hours.
- ❖ SWPPP/WPCP must include site-specific dewatering protocols.



Sediment Control: Tracking Control/Street Sweeping BMP

- ❖ Stabilized entrances required at all projects.
- ❖ Rumble plates to be added for additional sediment removal.
- ❖ Sweeping and vacuuming must be implemented on all paved areas within and adjacent to construction sites.
- ❖ Use methods that collect and remove sediment instead of methods that spread sediment around.



Sediment Control: Tracking Control/Street Sweeping BMP

- ❖ Observable track out requires additional BMPs to control tracking (e.g., wheel wash, re-directing traffic).
- ❖ Tracking must be cleaned until sediment cannot be dislodged by brushing by hand.



- ❖ Inlets must be sealed and wash water collected immediately if hosing down or power washing streets to clean up tracking.
- ❖ Limit points of entrance/exit and speed to/from the site.

Housekeeping: Stockpile Management BMP

- ❖ Applies to all stockpiled materials, not only soil.
- ❖ Must be at least 50 feet from storm drain structures and greater than 18" from curb face. Stockpiles are prohibited where they obstruct flow.
- ❖ Active stockpiles – berm using perimeter controls at the end of every day. Cover per WTAP implementation schedule.
- ❖ Inactive stockpiles (14 days of no planned activity) – cover or stabilize and berm prior to 14th day of inactivity.



Housekeeping: Stockpile Management BMP

- ❖ For stockpiles with inactive “faces,” faces must be designated and stabilized.
- ❖ Plastic cover can only be used for small stockpiles for less than one month.



- ❖ Raw materials stored on a pervious surface must be placed on a barrier, and covered and bermed at the end of every day.
- ❖ Additional requirements in City ROW: All stockpiles must be placed on a barrier and covered and bermed at the end of every day.

Non-Storm Water Management: Non-Storm Water Discharges BMP

- ❖ Non-storm water discharges are any discharge to the MS4 that is not composed entirely of storm water.
- ❖ Non-storm water discharges:
 - Must be eliminated or controlled immediately using appropriate BMPs.
 - If found to be leaving the site, must be stopped by the contractor and reported to the RE.
 - If conveying materials, sediment, or debris, those must be collected and disposed of properly.



Questions and Answers

Part 1 Update

Part 1 Update Status

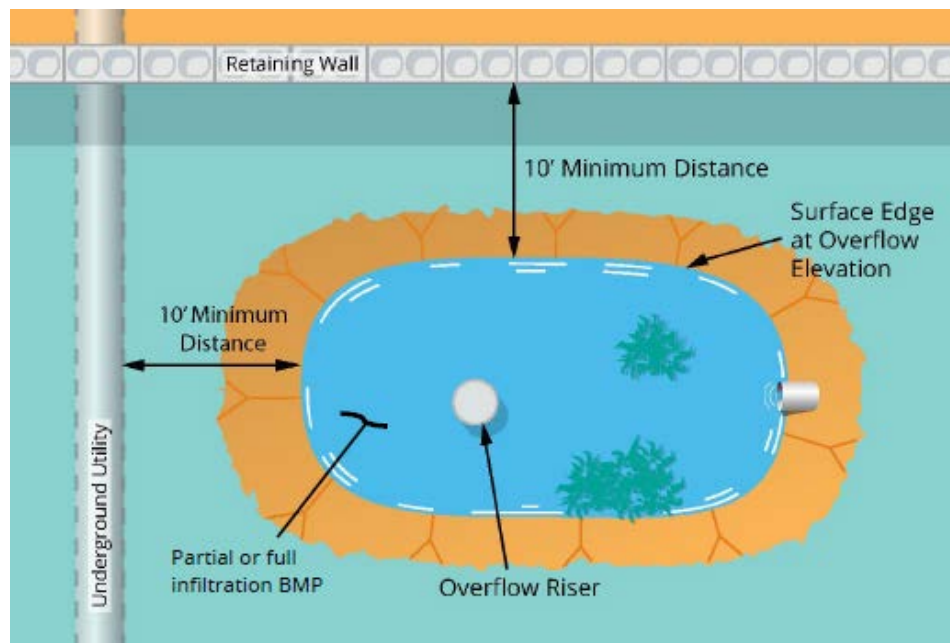
- ❖ Minor amendment to the February 16, 2016 edition to provide additional design guidance for project applicants (*both private and public*) and project reviewers.
- ❖ 30-day Public Review
 - November 20, 2017 to December 20, 2017

Summary of Part 1 Updates

- ❖ Geotechnical guidance to determine infiltration feasibility
- ❖ Biofiltration design standards (retention standard)
- ❖ Critical coarse sediment yield area guidance
- ❖ Hydromodification sizing factors

Summary of Part 1 Updates

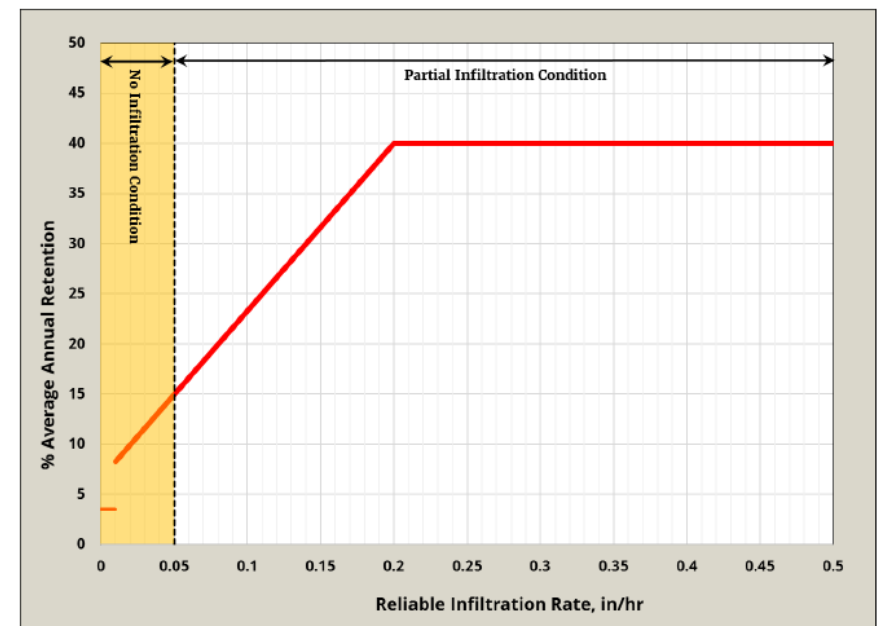
- ❖ Updated geotechnical guidance to assist applicants in determining a project's infiltration feasibility



*** This guidance was vetted through industry groups, and the San Diego Regional Water Quality Control Board (RWQCB).**

Summary of Part 1 Updates

- ❖ Updated biofiltration design standards (Retention Standard)
 - Provides greater design flexibility and allows use of proprietary BMPs
 - Requires that site design BMP thresholds are attained when proprietary BMPs are proposed.

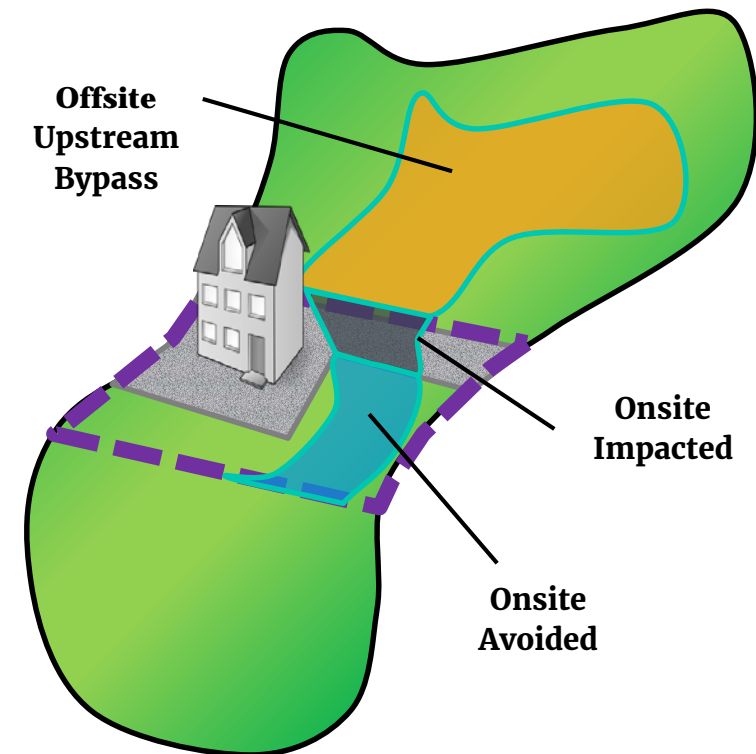
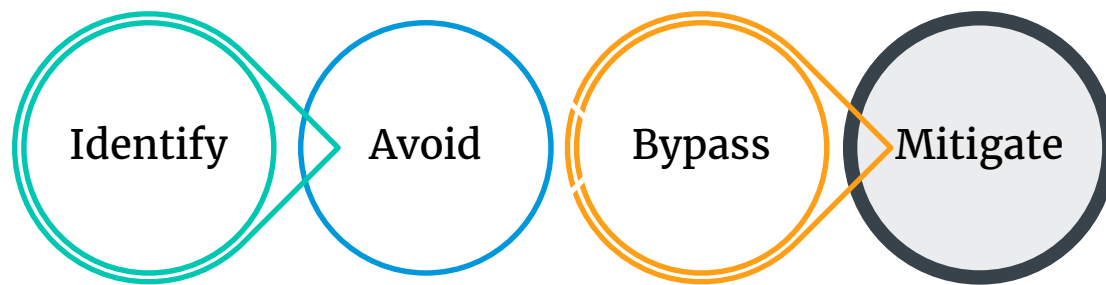


$$\text{Biofiltration} = \text{Proprietary BMP} + \text{Site Design}_{\text{Retention}}$$

* This guidance was vetted through industry groups, and the RWQCB.

Summary of Part 1 Updates

- ❖ Updated critical coarse sediment yield area guidance



Developed through a regional Copermitttee Technical Advisory Committee (TAC) effort that included Copermitttees, RWQCB and stakeholders.

Summary of Part 1 Updates

- ❖ Updated hydromodification sizing factors, based on a Copermittee-funded analysis
 - Based on SWMM continuous simulation modeling
 - The typical outcome results in smaller hydromodification management facilities

*Analysis was directed by the San Diego regional Copermittee group, and is planned for inclusion in the upcoming San Diego Region BMP Design Manual.

Part 2 Update Timeline

Date	Activity
December 13, 2017	First public meeting to present recommended updates to Part 2 Public comment process begins
January 16, 2018	End of initial public comment review period
March 22, 2018	Beginning of 30-day public review of final draft
April 23, 2018	End of 30-day public review of final draft
May 1, 2018	Effective date of Part 2 update (i.e., to be posted on City website)



Program Contact

Eric Mosolgo, P.E.

EMosolgo@sandiego.gov

858-541-4337