Training

Training for Construction Site Inspectors

RIVERSIDE COUNTY
WATERSHED PROTECTION

Prepared for: Santa Ana River Watershed Permittees

Presented By: CASC Engineering and Consulting, Inc.

Fall 2019

Training Goals

Upon completion of this course students will be able to

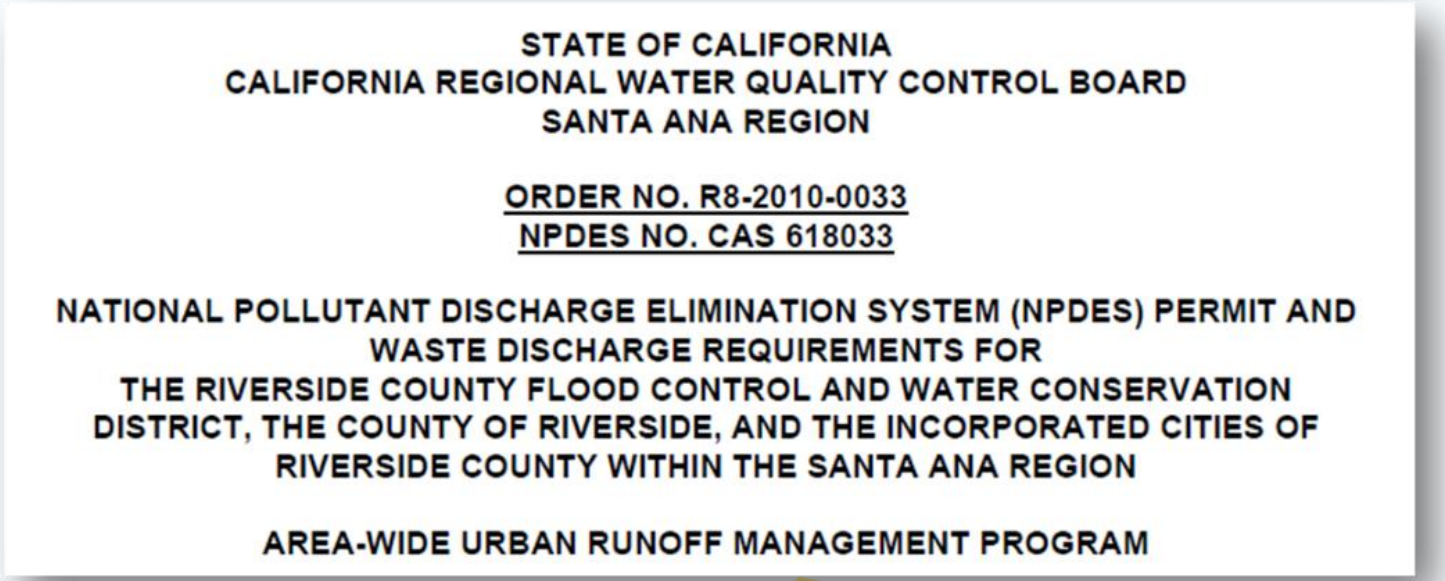
- Explain local and State requirements for construction activities for water quality protection,
- Correctly schedule construction site inspections,
- Prioritize violations and apply escalated enforcement,
- Make notifications to state agencies as required, and
- Ensure agency's compliance with General Construction Permit and Municipal Stormwater Permit.

Co-Permittee Construction Programs

Begins with the Santa Ana MS4 Permit

Purpose:

- Regulates the discharge of pollutants from Municipal Separate Storm Sewer Systems (MS4s)



STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

ORDER NO. R8-2010-0033
NPDES NO. CAS 618033

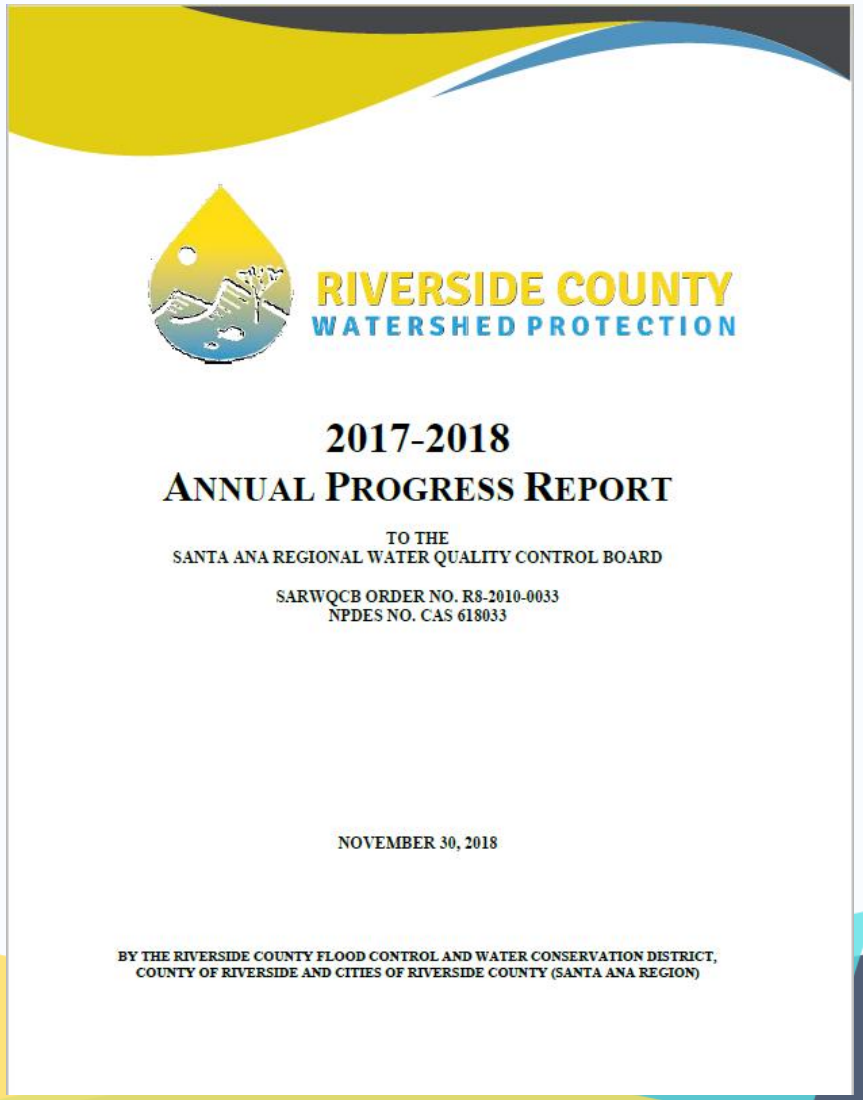
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND WASTE DISCHARGE REQUIREMENTS FOR
THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, THE COUNTY OF RIVERSIDE, AND THE INCORPORATED CITIES OF RIVERSIDE COUNTY WITHIN THE SANTA ANA REGION

AREA-WIDE URBAN RUNOFF MANAGEMENT PROGRAM

Begins with the Santa Ana MS4 Permit

Annual reporting is a key element of MS4 compliance

- to assess program effectiveness,
- highlight accomplishments, and
- changes to be implemented.


RIVERSIDE COUNTY
WATERSHED PROTECTION

2017-2018
ANNUAL PROGRESS REPORT

TO THE
SANTA ANA REGIONAL WATER QUALITY CONTROL BOARD

SARWQCB ORDER NO. R8-2010-0033
NPDES NO. CAS 618033

NOVEMBER 30, 2018

BY THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT,
COUNTY OF RIVERSIDE AND CITIES OF RIVERSIDE COUNTY (SANTA ANA REGION)

Permittees & Co-Permittees Covered by SAR MS4 Permit

- Riverside County Flood Control and Water Conservation District (RCFC&WCD)*
- County of Riverside*
- Beaumont
- Calimesa
- Canyon Lake
- Corona
- Eastvale
- Hemet
- Jurupa Valley
- Lake Elsinore
- Menifee
- Moreno Valley
- Norco
- Perris
- Riverside
- San Jacinto

**Agencies covered by multiple permits*

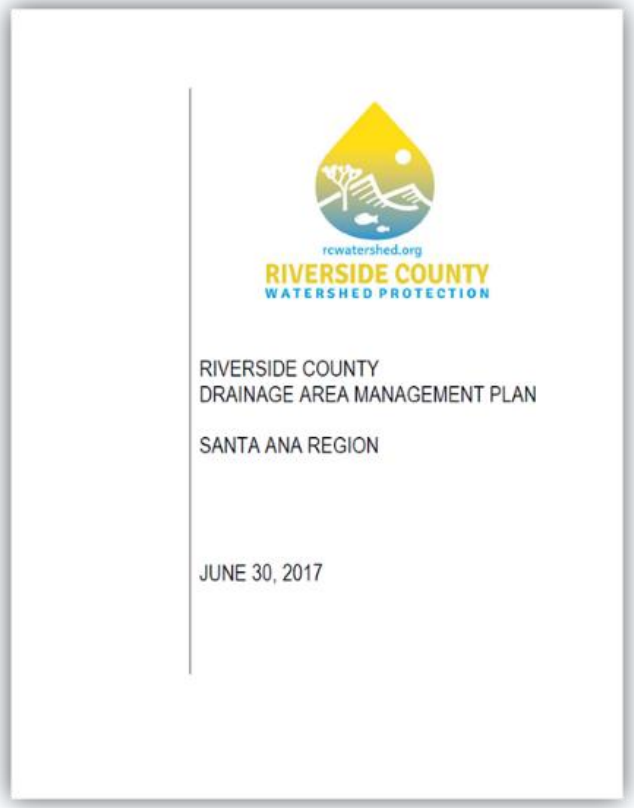
Drainage Area Management Plan (DAMP)

- The DAMP is the document that:

  provides guidance to the cities in the development and implementation of their Local Implementation Plans (LIP).

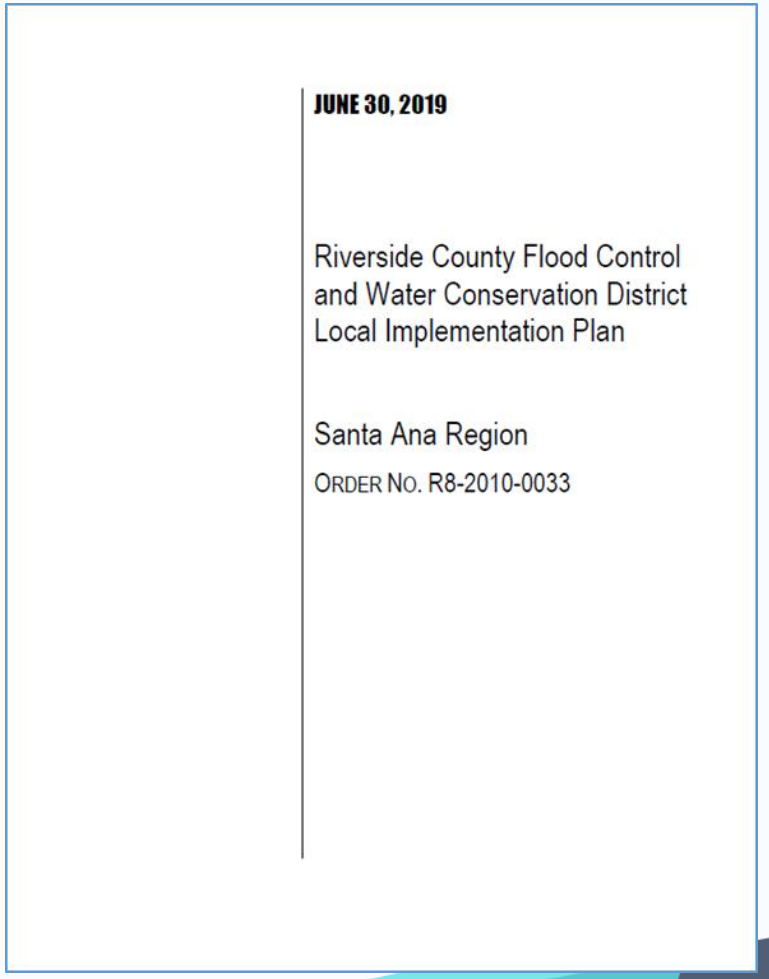
Compliance documents can be found here:

http://rcflood.org/npdes/SantaAnaWS.aspx



Local Implementation Plan (LIP)

- The LIP describes each City's specific runoff management (water quality) program and activities that will be implemented to comply with the requirements of the MS4 Permit.
  - LIP is reviewed annually
  - Updates as necessary


JUNE 30, 2019

Riverside County Flood Control and Water Conservation District Local Implementation Plan

Santa Ana Region

ORDER NO. R8-2010-0033

Construction Program Requirement

- Construction Site BMPs
  - The DAMP references appropriate BMPs from several handbooks.
  - Permittees may consider other BMPs of equivalent or better performance on a case-by-case basis.
    - CASQA
    - Caltrans

Table 7-1. Construction Site BMPs

BMP Name	Stormwater BMP Handbook Portal : Construction	Caltrans Construction Site BMP Manual	Included in USEPA Construction Site Menu of BMPs
Stabilize Exposed Soils			
Chemical Stabilization (Soil Binders)	EC-5	SS-5	X
Polyacrylamide	SE-11		
Mulching			
Hydraulic Mulch	EC-3	SS-3	X
Straw Mulch	EC-6	SS-6	X
Wood Mulching	EC-8	SS-8	X
Permanent Seeding			X
Sodding			X
Soil Roughening			X
Temporary Seeding/Hydroseeding	EC-4	SS-4	
Protect Steep Slopes			
Earth Dikes/Drainage Swales/Lined Ditches	EC-9	SS-9	
Fiber Roll	SE-5	SC-5	
Geotextiles	EC-7	SS-7	X
Gradient Terraces			X
Soil Retention			X
Straw Bale Barrier	SE-9	SC-9	
Temporary Slope Drain	EC-11	SS-11	X
Protect Waterways			
Check Dams	SE-4	SC-4	X
Outlet Protection/Velocity Dissipation Devices	EC-10	SS-10	
Streambank Stabilization	EC-12	SS-12	
Temporary Stream Crossings	NS-4	NS-4	X
Vegetated Buffer			X
Phase Construction			
Construction Sequencing (Scheduling)	EC-1	SS-1	X
Dust Control (Wind Erosion Control)	WE-1	WE-1	X
Preserve Site Condition			
Entrance/Outlet Tire Wash	TC-3	TC-3	
Preservation of Existing Vegetation	EC-2	SS-2	
Stabilized Construction Entrance/Exit	TC-1	TC-1	
Stabilized Construction Roadway	TC-2	TC-2	

Construction Program Requirement

- Inventory Database
  - Each Co-Permittee must maintain a database of construction sites

    which they have issued a building or grading permit, and

    where activities include soil movement, uncovered storage of materials or wastes, or exterior mixing of cementitious products
  - Construction sites are included even if they are not subject to the Construction General Permit.

Figure 7-2. Standardized Spreadsheet for Co-Permittee Construction Site Inspections

PROJECT GENERAL INFORMATION									MUNICIPAL PERMITS See Note C.		DEVELOPER INFORMATION						SITE CONTACT INFORMATION		ENFORCEMENT STATUS See Note D.					
Facility Name (dba) See Note A	Project Location							Project Type	Project Priority	No. of Stormwater Inspections	Site Size	WDID No. (General Permit)	Grading Permit No.(s)	Other Permits Specify: Building, Encroachment, Right-of-Way, etc.	Name	Contact Name	Mailing Address			Phone Number	Name (24 Hour)	Phone Number (24 Hour)	Satisfactory	Verbal Warning	Written Warning	Notice of Violation	Stop Work Order	Referred to RWQCB
	Street Address	Cross Street	City	Zip	Tract, Nos. or Assessor Parcel Nos. See Note B		Watershed										Street Address	City	Zip								

Construction Program Training Requirements

- The Riverside County Flood Control and Water Conservation District, County of Riverside, and incorporated cities in the Santa Ana River watershed have NPDES Stormwater Permits and various implementation plans.
- Construction Inspectors receive annual training regarding requirements applicable to inspection of private development and Permittee construction sites.
- Annually assess and revise training to continue to provide appropriate training to staff, consultants, vendors, etc.; any person that has the potential to impact the Co-Permittees NPDES compliance.

Training Timeline Requirements

Formal Trainings

- Required for applicable Co-Permittee staff once every 2 years
- Required for new staff within 1 year of hire
- Required for Inspection staff and Code Enforcement staff annually, prior to wet season (may be formal or informal)
- Required for all staff related to NPDES Permit implementation once per Permit Terms

Informal Trainings

- Required for all staff as needed
- Required for new staff within 6 months of hire
- Required for Inspection staff and Code Enforcement staff annually, prior to wet season (may be formal or informal)
- Required to verify BMP training of contract staff where applicable

Construction Program Inspections: Requirements/Tools/ Schedule/Frequency/Enforcement

Construction Activity Program

- Co-Permittees must implement a construction activity program in accordance with the DAMP.
- Prior to the issuance of grading or construction permits:

  Construction General Permit - Verify that the project applicant has obtained coverage under the statewide Construction General Permit (Order 2009-0009-DWQ or subsequent Order), if applicable

Water Boards Storm Water Multiple Application & Report Tracking System

Notice Of Intents Search Results

Following are the results that matched with your search criteria. To refine or start a new search, click Back button on the browser.

Export to Excel

App ID	WDID	Application Type	Status	Status Date	Owner/Operator Name & Address	Site/Facility Name & Address
512277	8 36C387928	Construction	Active	08/29/2019	Colonies Partners LP 10621 Civic Center Dr Rancho Cucamonga California 91730	20th Street Stockpile 20th Street/Campus Ave Upland California 91784
512244	8 36C387915	Construction	Active	08/28/2019	SC Fontana Development Company LLC 1156 N Mountain Avenue Upland California 91785	Shady Trails Tracts 17039 Southwest corner of Knox Avenue and Citrus Avenue Fontana California 92336
512059	8 36C387878	Construction	Active	08/23/2019	PSIP WR Rancho LLC 500 Newport Center Drive Suite 630 Newport Beach California 92660	Southwest Regional Operations Center 627 Agua Mansa Road Colton California 92324
512042	8 36C387883	Construction	Active	08/26/2019	B&P Oil Services Inc 866 Oak Valley Parkway Beaumont California 92223	Rialto Center 1103 W Casmalia St Rialto California 92377
511973	8 30C387861	Construction	Active	08/22/2019	Orange USD 1401 N Handy St Orange California 92867	Villa Park High School 18402 Taft Avenue Villa Park California 92861
511926	8 36C387904	Construction	Active	08/27/2019	PSIP SN Colton Distribution 901 Dove Street Newport Beach California 92660	Colton Distribution Center Tropica Rancho Road Colton California 92324
511906	8 33W004286	Construction	Active	08/21/2019	So Cal Sandbags 12620 Bosley Lane Corona California 92883	Hostettler Road Resoration Site 26675 Hostettler Road Corona California 92883
511884	8 33W004283	Construction	Active	08/20/2019	1982 32327 Mapleview Dr Winchester California 92596	Montazeri RV Storage 28558 Mapes Road Menifee California 92585
511845	8 33C387827	Construction	Active	08/20/2019	Heritage Square Menifee LLC 41391 Kalmia Street Ste 200 Murrieta California 92562	McCall Square NW CNR McCall Bl & Menifee Rd Menifee California 92585
511837	8 33C387814	Construction	Active	08/19/2019	Richmond American Homes 5171 California Ave Ste 120 Irvine California 92617	Summerwind Tract 32702 4 NW Corner of Engleman and Palmer Avenue Calimesa California 92320

Construction Activity Program

- Co-Permittees must Prioritize Construction Sites
  - High
    - Sites ≥ 50 ac; and
    - Sites > 1 ac discharging to sediment impaired waters
  - Medium
    - Sites ≥ 10 ac and < 50 ac
  - Low
    - Sites that are not Medium or High

Construction Program Tools – DAMP Figure 7-1

- Inspections are mandatory
- Inspection form

Insert Co-Permittee logo here

Construction Activity Compliance Inspection Notice
Public Works Department and/or Division
Insert Co-Permittee address here, CA

			Date:
TRACT/PARCEL #:	WDID#:	WEATHER:	SITE INSPECTION PRIORITY LEVEL: ☐ HIGH ☐ MEDIUM ☐ LOW
APN:	GRADING PERMIT #:	SIZE/DISTURBED ACREAGE:	OFFICE USE: ☐--PAID ☐--INVOICE
SITE NAME AND ADDRESS:		PROPERTY OWNER AND MAILING ADDRESS (IF DIFFERENT):	
CROSS STREETS:	INSPECTED BY:	PHONE #:	DATE FOR REINSPECTION:
FUTURE SITE USAGE: ☐ RESIDENTIAL ☐ INDUSTRIAL ☐ COMMERCIAL ☐ MIXED-USE		POST-CONSTRUCTION BMPs ON-SITE: ☐ YES ☐ NO NOTES-	

NOTICE: The [Insert Co-Permittee Name] performs a construction site inspection to determine if the site is in compliance or not in compliance with the [Insert Co-Permittee Name] Stormwater Ordinance, local permits, regulations, and codes.

1. PERMITS: (MS4 Permit Ref: Section IX.A.3.a)
- ☐ Copy of NOI located at the project site?
- ☐ Copy of WDID located at the project site?
- ☐ Copy of [Insert Co-Permittee Name] permit at project site?

2. STORM WATER POLLUTION PREVENTION PLAN (SWPPP): (MS4 Permit Ref: Section IX.A.3.b)
- ☐ Copy of SWPPP located at the project site? If not, Regional Board must be notified.

3. BEST MANAGEMENT PRACTICES (BMPS):
- ☐ BMPs installed in conformance with local permits and [Insert Co-Permittee Name] Stormwater Ordinance, i.e. perimeter controls, storm drain inlet protection, etc?
- ☐ BMPs in place for the various subcontractor trades, i.e. PCC cleanout, material storage, waste storage, etc?
- ☐ Project site BMPs effective?
- ☐ Effective combination of erosion and sediment controls on site?

4. EROSION CONTROL:
- ☐ No evidence of erosion present on manufactured and/or denuded slopes?
- ☐ No evidence of rill or gully erosion present?
- ☐ Erosion control BMPs installed in conformance with local permits and [Insert Co-Permittee Name] Stormwater Ordinance?

5. SEDIMENT CONTROL:
- ☐ No evidence of sediment outside the permit area or present on the site in an area that requires protection?
- ☐ No evidence of construction site sediment on City-maintained streets, downstream storm drains and/or drainage ways?
- ☐ No evidence of "Track-out" observed on surface streets adjoining the project site?
- ☐ Sediment controls installed and maintained in conformance with local permits and [Insert Co-Permittee Name] Stormwater Ordinance?

6. ILLEGAL/ILLICIT DISCHARGES:
- ☐ No evidence that structural controls are breached or failed under storm events of minor intensity?
- ☐ No evidence that active non-storm water discharges or potential illicit connections or illegal discharges to the streets or storm drains?

VIOLATIONS:	
☐ Verbal warning:	☐ Written warning: (attach copy)
☐ NOV: (attach copy)	☐ Stop Work: (attach copy)
☐ Other:	

ADDITIONAL:

RECEIVED BY:	NAME/SITE CONTACT (PRINT):	24-HOUR PHONE:
DATE:	VIOLATIONS: ☐ CORRECTED ☐ NOT CORRECTED	PAGE _____ OF _____
REGIONAL BOARD NOTFICIATION: ☐ YES ☐ NO	DATE: TIME:	CONTACT:

Construction Inspection Schedule

- Construction Site Inspections
  - Each Co-Permittee must conduct construction site inspections to require and confirm compliance with its local permits and applicable local ordinances, and the requirements of this Order.
  - Inspection Frequency differs from dry season to wet season.

Season	Low Priority	Medium Priority	High Priority
Wet Season Oct 1 to May 31	Once In Wet Season	Twice In Wet Season	Monthly
Dry Season Jun 1 to Sep 30	At Frequency Sufficient to Ensure Sediment and Other Pollutants are Properly Controlled and Unauthorized Non-Stormwater Discharges are Prevented		

Inspection Frequency – Wet Season

- After each inspection, re-assess the priority based on the matrix, and update the database.

Table 7-2. SAR Construction Site Prioritization Matrix

Priority	Supporting Criteria [a]	Wet Season[b] Inspection Frequency
High	Project Size Sites that disturb an area greater than 50 acres (initial inventory) Proximity and Sensitivity of Receiving Waters Sites disturbing an area greater than one (1) acre with Direct Discharge to Receiving Waters with CWA Section 303(d) listed waters for sediment or turbidity Impairments and site specific characteristics [d]. Soil Erosion Potential Hillside sites that disturb an area greater than five acres History of Compliance Sites that disturb an area greater than one (1) acre with a low-range (0-50%) compliance with respective city/County NPDES site inspection/verification checklists	Once monthly
Medium	Project Size Sites disturbing an area between 10 to less than 50 acres. History of Compliance Sites that received repeated verbal notification of non-compliance with respective city/County NPDES site inspection/verification checklists	Twice
Low	Project Size Sites disturbing 1 to less than 10 acres. History of Compliance Sites that are in compliance with respective city/County NPDES site inspection/verification checklists Sites that disturb an area of one (1) acre or greater	Once

Construction Program Enforcement

- Follow minimum inspection and enforcement procedures.
- Standardize the implementation and enforcement of the respective Storm Water Ordinances.
- Enforce the respective Storm Water Ordinances consistent with the DAMP and the local MS4 Permit.
- Includes educating construction crews.

Table 3-2. Severity of Violations

Factors Affecting the Severity of Violations	Severity Priority Level		
	High	Medium	Low
Pollutant characteristics	Hazardous Materials (e.g., pesticides and solvents)	Metals, nutrients, sediment, other non-Hazardous Materials	Trash and debris
Sensitivity of Receiving Waters	Drinking water source, wildlife refuge, Illegal Discharges containing Pollutants identified as Impairing the Receiving Water.	Recreational reservoir, riparian habitat	Dry, ephemeral stream
Proximity of Receiving Waters	Adjacent	Several hundred feet away	Several hundred yards away
Discharge magnitude	1000's of gallons	100's of gallons	10's of gallons
Responsiveness of discharger	No action to contain or mitigate discharge	Reactive to control discharge when requested (i.e., cooperative)	Implements spill control plan at own initiative or shows good faith effort to respond
Intent of violation	Intentional	Discharge due to lack of controls or negligence	Implemented and maintained controls that failed (i.e., accident)
Frequency of violation	Continuous	Intermittent	Isolated incident
Previous history of discharger	Enforcement and cleanup historically resisted and more than one previous violation	Enforcement and cleanup performed when threatened and one or less previous violations	Enforcement and cleanup performed when requested and no previous violations

Prioritizing Violations

- Enforcement Stages
  - Follow criteria for characterizing the significance of violations, prioritizing violations, appropriate response actions and enforcement/compliance responses.

Table 3-1. Prioritization Factors for Violations

Prioritization Factor	Description
Characteristics of the Potential Pollutant	Based on chemical characteristics and potential to impact Beneficial Uses of Receiving Waters. The more toxic, hazardous, or detrimental to the Beneficial Uses of the Receiving Waters a Pollutant is the higher priority the discharge.
Sensitivity of the Affected Receiving Waters	The sensitivity of the affected Receiving Waters should be considered directly proportional to the priority of the violation because, for example, a more sensitive Receiving Water may suffer severe adverse effects from the discharge of a particular Pollutant, whereas, a less sensitive Receiving Water may suffer no adverse effects from the same Pollutant discharge. It is also important to consider that a Receiving Water may be highly sensitive to one potential Pollutant discharge while, at the same time, completely insensitive to another potential Pollutant. Examples of Receiving Waters that may be particularly sensitive include those with municipal supply or wildlife habitat designated Beneficial Uses.
Proximity of Receiving Waters	The closer a Receiving Water is to the discharge, the less chance there is for dispersion, dilution, or degradation of the potential Pollutant. Therefore, the closer the discharge is to Receiving Waters, the higher priority of the violation.
Magnitude of Discharge (volume and mass)	A larger Illegal Discharge should be of a higher priority than a smaller Illegal Discharge because as the magnitude of the Pollutant discharge increases the extent of impact of the discharge on the environment increases as well.
Responsiveness of the Discharger in taking corrective actions	A discharger who is responsive and implements a good faith effort to correct a violation is more likely to minimize adverse impacts to surface water quality than a discharger who takes no action to correct a violation. Therefore, the priority of a violation should decrease as the responsiveness of the discharger increases.
Intent of the Discharger	Is the violation accidental or the result of an accident or a deliberate attempt to circumvent regulations?
Frequency of the Violation	Violations of local Stormwater Ordinances and erosion control ordinances that are continuous or reoccurring should be of a higher priority than isolated occurrences of violations. The more frequent a violation, the more likely it is that the discharge will impact surface water quality.
Previous History of Non-Compliance of the Responsible Party	A poor history of non-compliance of a discharger should result in a higher prioritization of subsequent violations as compared to a discharger with a good history of compliance because a history of non-compliance is evidence of a discharger's lack of concern for complying with local stormwater and erosion control ordinances.

Regional Board Notification Emergency Situations

- Each Co-Permittee must notify the Santa Ana Regional Board by telephone or email within 24 hours of events within their jurisdiction that are determined to be an emergency situation. A written report must follow within 10 days of notification.

  Examples may include:

  - Waste spillage into a jurisdictional waterway
  - Hazardous waste spills per 40CFR 117 and 302
  - Environmental damage from construction related accident

Regional Board Notification
Non Emergency Situations

- Each Co-Permittee must notify the Santa Ana Regional Board by telephone or email within two (2) working days of receiving notice of potential non-compliance with the Construction Activity permits of a non-emergency nature.

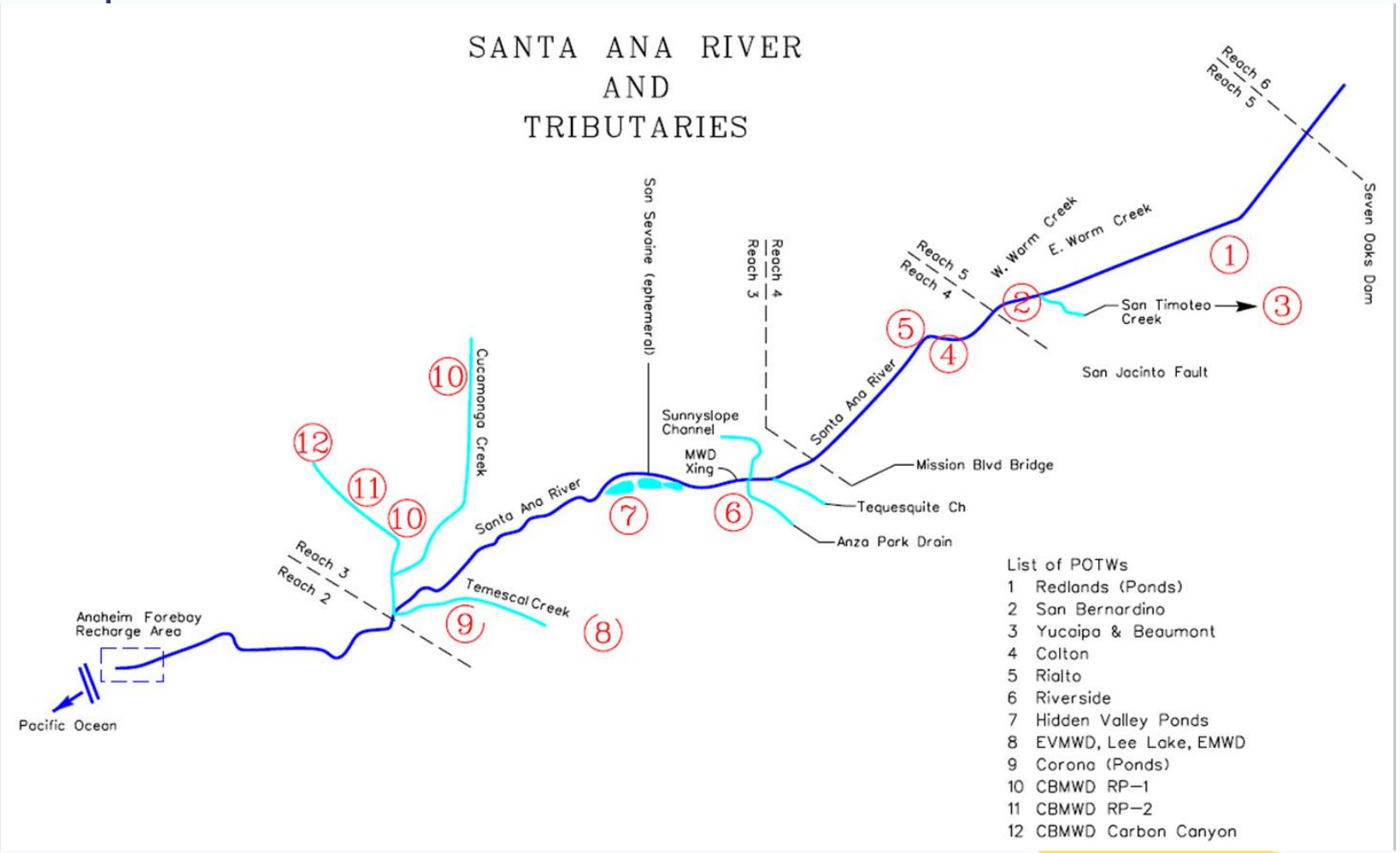
  Examples may include:

  - Site cannot demonstrate coverage under the applicable permit
  - Site does not have a SWPPP onsite
  - Site had not responded to escalating enforcement actions

Santa Ana River and its Reaches

- Inspectors need to know current water quality impairments to prioritize:
  - inspection frequency
  - enforcements
  - violations

Waterbody Impairments



- Santa Ana River, Reach 3

  Copper, Lead, Pathogens
- Temescal Creek, Reach 1

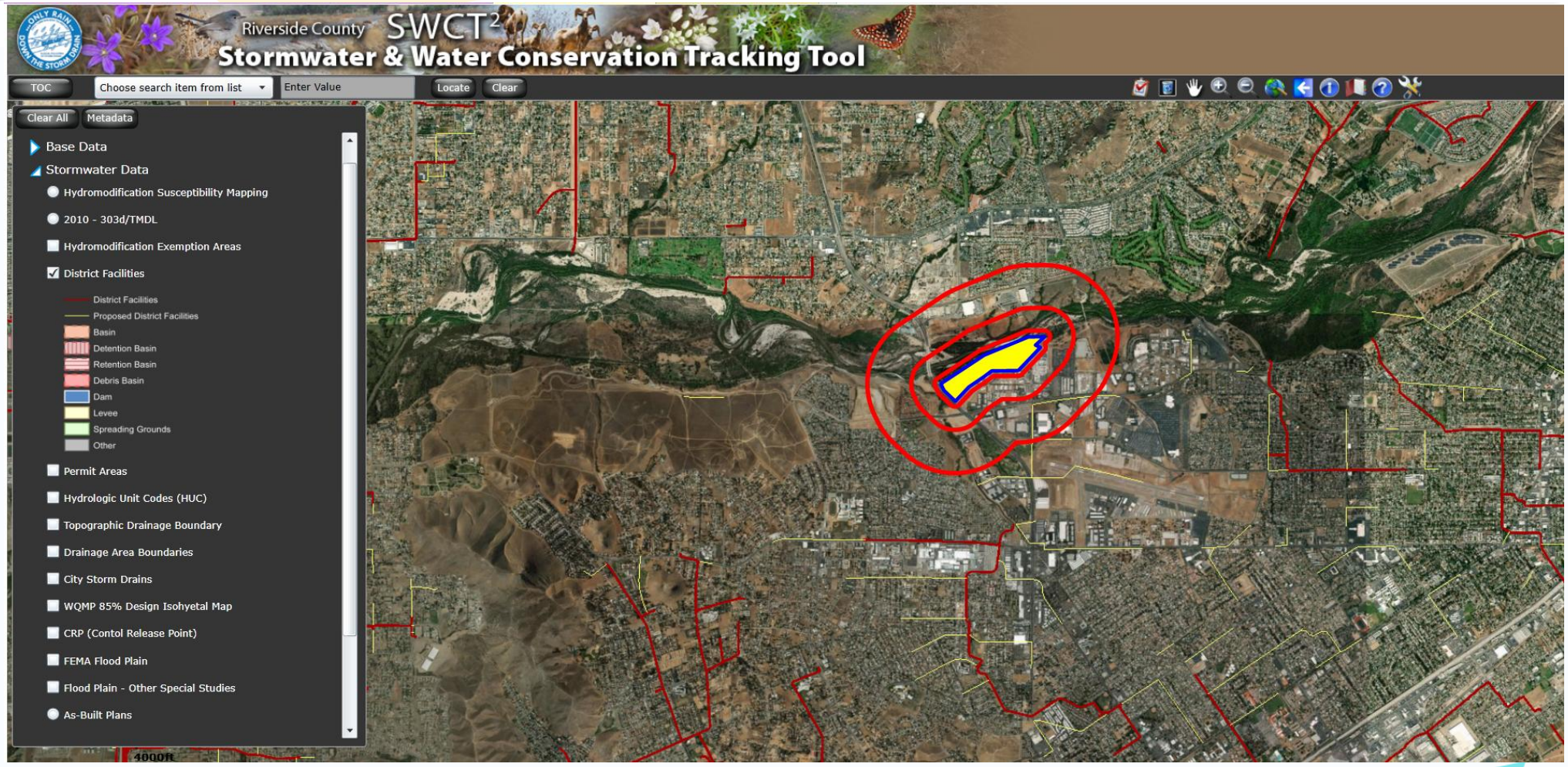
  pH
- Mill Creek (Prado Area)

  Nutrients, Pathogens, Turbidity
- Chino Creek

  Nutrients, Pathogens
- Santa Ana River, Reach 2

  Pathogens

Impairment Information Source



- Location: http://rivco.permitrack.com/

Common Construction Project Pollutants

Pesticides

Sediment (Turbidity)

Nutrients

Concrete Waste (High pH)

Bacteria

Common Construction Project Pollutants

Oil & Grease

Construction Program Overview
Question No. 1

Question: The CGP does not have wet season requirements. My jurisdiction does have wet season requirements. Why do I need to know about the wet season?

A. Because only perimeter control BMPs are required during the dry season.

B. Because construction inspection priorities and frequencies are based on wet and dry seasons for my jurisdiction.

C. Because inspections are only required during the wet season of my jurisdiction.

Background:

Construction inspections are performed based on the prioritization of construction sites, as well as on the wet season. Each local jurisdiction revises their LIPs to specify specific inspection frequencies, prioritizations, and enforcement processes for their construction programs.

Construction Program Overview
Question No. 2

Question: Concrete residue runoff can impact downstream waters. True or false?

- True
- False

Background:

Concrete residue runoff can combine with flows to increase the pH in runoff. PH is the measurement of acidity in water and can impact which organisms can grow in a waterbody.

Construction Program Overview
Question No. 3

Question: A dischargers intent to purposely ignore CGP requirements can cause the severity of the enforcement level to increase. True or false?

- True
- False

Background:

The intent of violation is a reason for increasing the enforcement level of a violation observed during a construction inspection. Your jurisdiction's LIP will detail the enforcement process and you should coordinate with your NPDES Coordinator if you observe intentional violations by a discharger.

Construction General Permit Overview

Construction General Permit (CGP)

- Covers construction or demolition activity or any other activity that results in a land disturbance of ≥ 1 ac
  - Includes smaller sites if part of a larger plan of development
  - Some sites may qualify for an erosivity waiver
    - ≥ 1 ac and ≤ 5 ac
- Covers both
  - Traditional Projects
  - Linear Utility Projects (e.g., Underground or Overhead Power Lines, Pipelines, Communication Lines, etc., but not roads)

CGP Requirement – Risk Levels

- Based on Risk Level for Traditional Projects or LUP Type for Linear Utility Projects

  Risk Level/ LUP Type 1

  - Less stringent - Erosion and Sediment Control BMPs required
  - Does not require sampling of discharge

CGP Requirement – Risk Levels

Risk Level 2 & 3/ LUP Type 2 & 3

- Additional BMPs required
- Requires sampling of discharge for NAL exceedances of pH and Turbidity

  pH: ≤6.5 Units or ≥8.5 Units

  Turbidity : 250 NTU

  When exceeded, requires actions to improve water quality
- Requires Receiving Water Monitoring (Risk Level 3/ LUP Type 3 ONLY)

See CGP for additional Risk Level/ LUP Type requirements.

CGP Requirement - Slope Face Barriers

- Risk Level 2 & 3 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths in accordance with Table 1 in Attachment D of the CGP.

Table 1 - Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not to exceed
0-25%	20 feet
25-50%	15 feet
Over 50%	10 feet

CGP REQUIREMENT – SLOPE FACE BARRIERS RISK LEVEL 2

Risk Level 2 Site

- Fiber rolls installed along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths.
- Hydroseeding, check dams, and plastic sheeting are also being implemented.

CGP Requirement - BMP Implementation

- The CGP identifies five categories of year-round minimum BMPs
    1. Good site management / housekeeping
    2. Non-Stormwater Management
    3. Erosion Control
    4. Sediment Controls
    5. Run-on / Run-off controls

CGP Requirement – Erosion Control BMPs

- CGP requires implementation of both erosion and sediment control BMPs.
- Erosion Control BMPs are
  - Any BMP that works to keep the soil in place from splash erosion, such as:
    - Track walking
    - Tackifier
    - Plastic
    - Mulch
    - Hydroseed with mulch or other matrix

CGP Requirement – Sediment Controls

- CGP requires implementation of both erosion and sediment control BMPs.
- Sediment Control BMPs are
  - Any BMP that works to keep dislodged soil from discharging, such as:
    - Silt fence
    - Sediment basin
    - Fiber roll
    - Inlet protection
    - Gravel bags/check dams

CGP Requirement - Stockpiles

- Permit requires loose material to be bermed and covered
  - When not being actively used

"*inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days*" - CGP

  - May include: spoils, aggregate, fly-ash, stucco, lime, etc.

CGP Requirement - Stockpiles

- Without proper planning of stockpile containment, erodible stockpile material could be discharged.
- This site has not properly managed erodible material stockpiles.

Proper Implementation of BMPs

- Can mitigate potential water quality impacts from construction sites
- Fiber roll under plastic barrier to contain discharge

CGP Requirement – SWPPP and BMPs

- SWPPP is prepared by Qualified SWPPP Developer (QSD) to verify:

  Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity.

CGP Requirement – SWPPPs

- Identifies the WDID #, Author, their credential and has signed Certification Statement by the QSD
- Calls out BMPs on the Plan
- Details proper installation
- Identify the run-on & run-off (discharge points) for monitoring & inspection
- Provide custom inspection checklist that meet the appropriate Attachment based on Risk/Type Level
- Rain Event Action Plans (REAP) must be on site and available for review (Risk level 2 and 3)
- The SWPPP is a "living document" that is amended/updated to reflect conditions & reduce pollutants. All amendments/updates are to be in the SWPPP

Inspection - SWPPP Assessment

- Items to verify during inspections:
  - Are the construction dates accurate?
  - Does the risk assessment reflect current construction dates?
  - What is the risk level of the project?
  - Are sediment and erosion controls being implemented?
  - Do BMPs comply with requirements of project risk level?

Inspection - SWPPP Assessment

- Items to verify during inspections (continued…):
  - Is the SWPPP being amended accordingly?
  - Are SWPPP maps reflective of current conditions?
  - If risk level 2 or 3, has sampling been performed?
    - Were there sampling exceedances?
    - If so, what corrective actions have been taken to reduce NALs?

Inspection - SWPPP Availability

- The SWPPP shall be available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector.

- When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, copies of BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone.

Inspection Goal – Private Development

- The intent of inspections conducted for private development is to control discharges into and out of the MS4 for your local jurisdiction.
- When inspecting onsite conditions, use the point of view of "*does this have the potential to impact our MS4 if precipitation was occurring*?"

Inspection Goal – Public Development

- The intent of inspections conducted for public projects is to meet CGP inspection and SWPPP requirements, while controlling discharges into and out of the MS4; and
- When inspecting public projects, use the point of view of "*Are we complying with the CGP and the MS4*?"

CGP Overview Question No. 1

Question: The CGP has a wet season and a dry season. The wet season begins October 1st. True or False?

A. True. The CGP has a wet and dry season. BMPs are only required during the wet season.

B. False. The CGP does not have a wet and dry season. BMPs are required all year round.

Background:

The CGP does not specify a wet or dry season, but instead requires minimum BMPs to be implemented all year long.

CGP Overview Question No. 2

Question: Which BMPs are required year round per the CGP?

A. Erosion Control BMPs

B. Sediment Control BMPs

C. Housekeeping BMPs

D. All of the above

Background:

The CGP requires that good housekeeping measures are implemented year round, including Non-Stormwater Management, Erosion Control, Sediment Controls, and Run-on / Run-off controls.

CGP Overview Question No. 3

Question: What is an erosion control BMP?

A. A BMP that collects and holds sediment onsite.

B. A BMP which filters sediments in runoff.

C. A BMP that protects the soil surface from raindrop splash erosion and keeps the soil in place.

D. All of the above

Background:

Erosion control BMPs, such as tackifier and mulches, work to keep the soil surface protected from splash erosion. This is different than sediment control BMPs which work to collect sediment once it has dislodged from the soil surface.

CGP Overview Question No. 4

- Question: How often should you conduct a SWPPP Assessment?
  A. Required each time you perform an inspection.
  B. Recommended every time you perform an inspection.
  C. Never. That is the contractor's responsibility.
  D. All of the above

Background:

The MS4 Permit does not specifically require the inspection of the SWPPP by local jurisdictions. The MS4 Permit does require that the local jurisdictions are to report to the Regional Board if a site does not have a SWPPP onsite or if it has an active WDID if 1 ac or more of disturbance. It is recommended that local jurisdictions review the SWPPP to verify that they are onsite and complete.

Construction Site Inspection Walk-Thru BMP Implementation

Let’s take a closer look at some other BMPs being implemented at this site…

Site BMPs - Scheduling

- Mass grading operations for this project are occurring in the dry months of the year.
- Scheduling mass grading operations during non-rainy periods:
  - Reduces the amount of time of soils are exposed to erosive elements, such as rain and wind.
  - Allows time to stabilize exposed surfaces with vegetation or other means.

Site BMPs – Construction Entrance

- Stabilized construction composed of rock base and rumble plates.
- Minor track out of sediments is observed and will need to be addressed with daily street sweeping activities.
  - Contractor may need to increase frequency of sweeping to address track out.
- Additional rock needs to be added to the entrance to improve BMP efficiency.
  - Per the CGP, contractor has 72 hours to begin repairs.
  - Any corrective action should be noted on the inspection report.

Site BMPs – Construction Entrance

- Contractor initiated repairs within 72 hours.
- Stabilized construction entrance complies with requirements.
  - Note any repairs / improvements for prior corrective actions.
  - If repairs / improvements are not addressed, stricter enforcement actions may be required.

Site BMPs – Waste Management

- The project generated large quantities of green waste. All green waste has been covered until it can be removed and disposed of.
- Some of the green waste can be mulched and used on the project as a final stabilization method in common area landscaping.

Site BMPs – Sanitary Waste Management

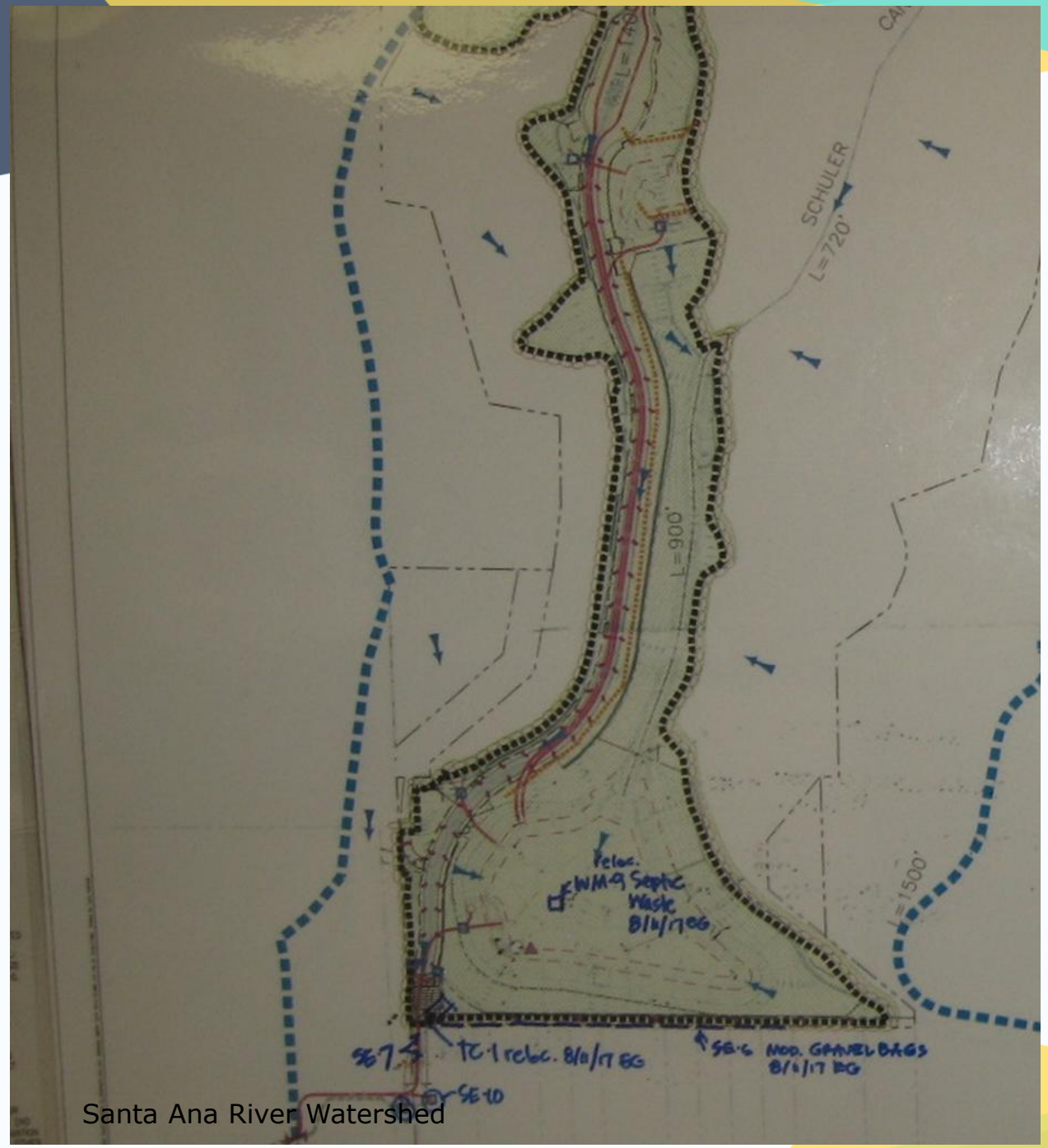
- Containment area for this sanitary facility is not properly implemented.
  - Fiber rolls or gravel bags should be placed under plastic barrier to contain discharge.
  - Notify contractor of corrective actions.
  - Note corrective actions on inspection report.

Site BMPs – Waste Management

- The project is utilizing kiddie pools as drip pans for equipment that is leaking fluids.
- Contractors should have drip pans readily available incase of leaking equipment.

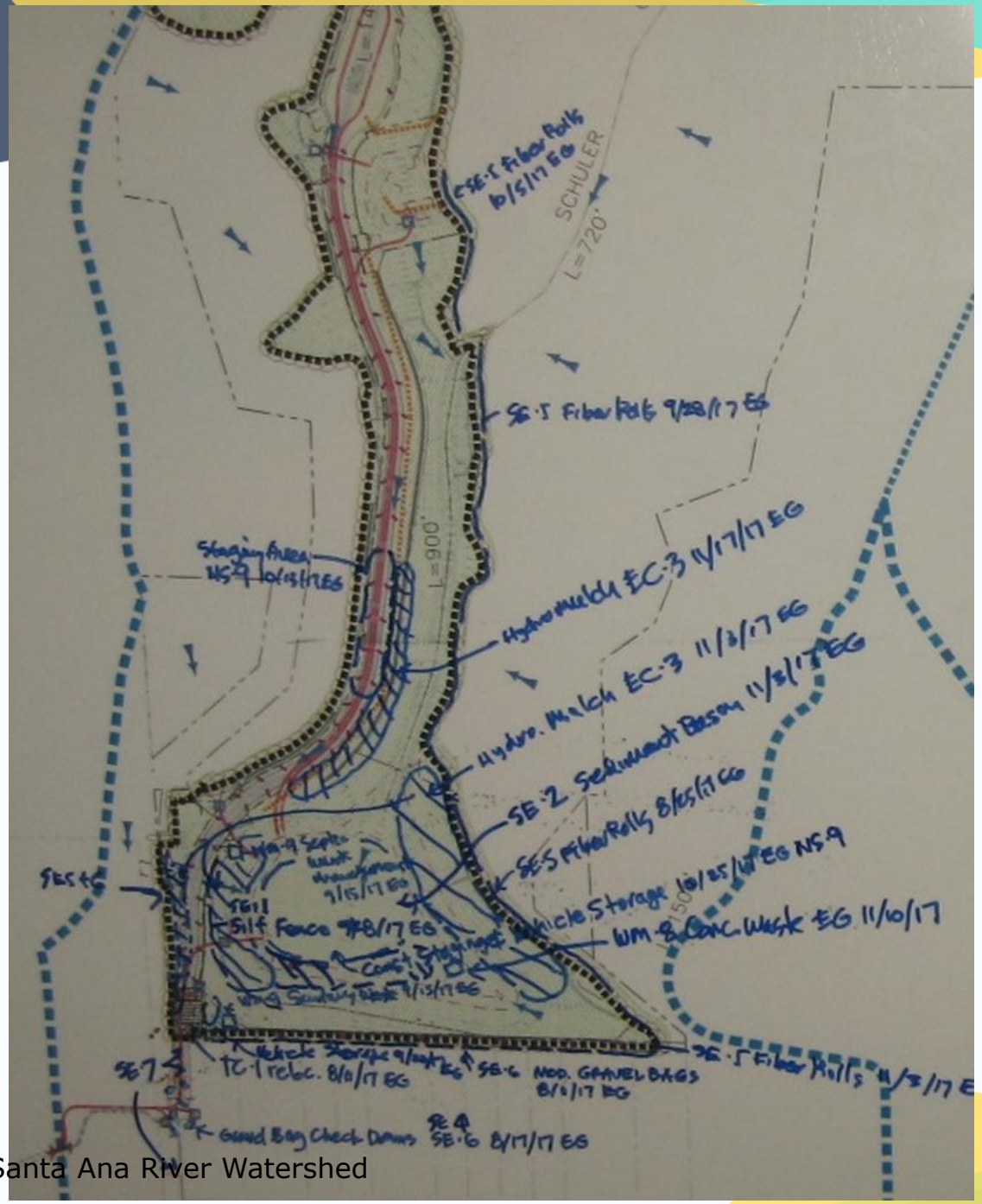
SITE BMPS – INLET PROTECTION

- Protection of existing inlets that may have the potential to receive project runoff must be implemented.
- The project is using a check dam as inlet protection for an offsite catch basin located in the street.
  - Minor sediments are observed
  - Contractor should be informed to have crews remove sediments during daily Housekeeping activities



SWPPP Map

- The project's SWPPP Map needs to be reflective of current field conditions.
- The contractor has laminated maps that are actively being updated.
- Is the map reflective of the current field conditions you observed in the video?



SWPPP Map

- The project's SWPPP Map a few months later
- Rainy season as defined by the DAMP
- Map has been updated to current field conditions. Additional BMPs have been added.
- Sediment basins, additional perimeter controls, vehicle storage areas
- What other BMPs can you identify?

Site BMPS – Soil Stabilization

- Soil stabilization has been implemented prior to forecasted rain events.
  - Project is using hydromulch as temporary erosion control.

Site BMPs – Check Dams

- Additional check dams have been implemented along the curb and gutter of an existing roadway.

Vertical and Precise Grading Phases

Let’s take a closer look at some other BMPs being implemented on-site…

Site BMPs – Stockpile Management

- Dirt stockpile being actively used by construction crews.
- Stockpile must be covered and bermed prior to a rain event or if inactive for 14 days.

Site BMPs – Concrete Washout Above Ground

- Above ground temporary concrete washout constructed with a plastic lining and gravel bag berm.
- Washout will need to be emptied or new washout constructed when it is 75% full.
- Washout area is missing signage. A sign needs to be installed within 30’ of the BMP.
- Trash and debris litter the site. Notify the contractor that clean-up will need to occur by the end of the day.

Site BMPs – Concrete Washout In-Ground

- In- ground temporary concrete washout constructed with a plastic lining only.
- Washout was not dug deep enough to hold volume and is inadequate for designated use.
- Concrete spoils evident beyond washout.
- Washout area is missing signage. A sign needs to be installed identifying the BMP location.

Site BMPs – Sanitary Waste Management

- Portable waste facility with no containment pan placed in the middle of a paved street adjacent to the curb and gutter at the job site.
- While this may be a convenient location for crews, sanitary facilities must:
  - be placed Minimum of 50’ from drainage courses;
  - have proper containment.

Site BMPs – Linear Barriers

- Fiber rolls and gravel bags used at the entrance of a driveway approach as perimeter control.
- During active work hours, barriers will be temporarily removed. Barriers must be reinstalled at the end of the work day.

Site BMPs – Linear Barriers

- Silt fencing installed at the perimeter of exposed soil.
- Fencing has been trenched and keyed in.
- Repairs will be required when lath and geotextile material show signs of damage or decay.

Site BMPs – Inlet Protection

- Gravel bags stacked 2 bags high line the apron of a catch basin.
- A fiber roll has also been placed in front of the inlet to act as second line of defense to prevent pollutants from entering the storm drain.

Training Class Interaction
Proper BMP Implementation

Class Interaction No. 1

- The inspector observed a well maintained stabilized construction entrance, but track out was observed in the street.
  - Is this violation of the permit?
  - What are some recommendations that you might provide to the contractor?

Interaction Question No. 1

Question: Is this a violation of the CGP?

A. Yes. All tracking is a violation of the CGP.

B. No. CGP allows up to 25’ for tracking before a violation occurs

C. No. The contractor just swept the area and that is the result.

D. No. The entrance requires sweeping but is not a violation.

Background:

The CGP requires implementation of BMPs to prevent sediment from leaving the construction site. Visual monitoring, or inspections, are intended to verify the effectiveness of the BMPs.

Recommendations: This site should implement corrective measures, such as sweeping and adding an additional rumble plate, because the existing measures are not sufficient.

Class Interaction Nos. 2 and 3

- What erosion and sediment control BMPs are being implemented?
- Are fiber rolls placed in compliance with Risk Level 2 requirements?

Interaction Question No. 2

Question: What were the erosion and sediment control BMPs implemented in the photo?

A. Track walking, fiber roll, plastic and gravel check dams

B. Track walking, fiber roll, plastic and gravel bag barrier

C. Track walking, fiber roll, and gravel bag barrier

Background:

Erosion control BMPs implemented in the photo include track walking of the slope and implementation of plastic liner at drainage inlet.

Sediment control BMPs implemented in the photo include fiber rolls and gravel bag barriers to keep dislodged sediment onsite.

Interaction Question No. 3

Question: Were the fiber rolls placed in compliance with Risk Level 2 requirements (assuming this is a risk level 2 site)?

A. Yes. Fiber rolls are placed at toe and top of slope.

B. Yes. Fiber rolls are placed every 15’ on face, and at toe and top.

C. No. Fiber rolls are placed on the slope but are missing from top of slope and have missing portions.

Background:

Risk level 2 & 3/ LUP Type 2 & 3 projects are required to follow the critical slope/sheet flow length combination requiring slope sediment BMPs at top, toe, and not to exceed 15’ in length along slope face.

Class Interaction No. 4

- What are the compliance issues in this photo?

Interaction Question No. 4

Question: What are the compliance issues in the photo?

A. Rills have formed and erosion is occurring onsite.

B. Rills have formed and BMPs are improperly placed.

C. Rills have formed because erosion control BMPs are missing.

D. BMPs are missing or improperly installed, and sediment is discharging from the construction site.

Background:

BMPs are onsite but are not properly placed. The sediment controls are not installed along the contour, and erosion control BMPs appear to be missing. Lack of proper implementation of both sediment and erosion control BMPs to control or prevent discharge of sediment from construction activities is an issue of non-compliance.

Class Interaction No. 5

- During your inspection you observe crews removing a damaged silt fence. Crews are replacing with a gravel bag barrier. The SWPPP does not call out gravel bags as part of the Project's BMPs…

Class Interaction No. 5 Continued….

- The barrier now looks like this.
- Can this be addressed in the SWPPP?

Interaction Question No. 5

Question: Gravel bags are not currently included in the SWPPP. Can the gravel bag BMP be used if its not currently in the SWPPP?

A. No. Only BMPs specified in the SWPPP may be used.

B. Yes. The QSP has the authority to edit the SWPPP in the field.

C. Yes. The QSP may prepare a formal SWPPP amendment and file it in SMARTS.

D. Yes. The QSD must prepare a formal SWPPP amendment and file it in SMARTS.

Background:

BMPs used onsite are limited to those specified on the SWPPP site map, listed for use in the body of the SWPPP, or included as BMP fact sheets in the SWPPP. If gravel bags were not included in the SWPPP, a formal amendment must be prepared and signed by a QSD, and then uploaded to the SMARTS system.

Class Interaction No. 6

- What corrective action recommendations would you provide to the contractor for this concrete washout?

Interaction Question No. 6

Question: What corrective action recommendations would you provide to the contractor for the concrete washout?

A. None. Use of inground concrete washouts are not allowed in the CGP.
B. Deepen the washout and add fiber rolls under the plastic around the entire perimeter, to allow sufficient containment.
C. Remove dried waste material in the washout and properly dispose of it. Add gravel bag barrier to hold plastic in place.
D. Responses for B, C and D are all correct.

Background:

The purpose of the concrete washout is to allow a water-tight barrier that has enough volume for use on the project. Washouts should only be used until they are 75% full to prevent overflowing of waste if precipitation occurs. Once material is dried out, wastes may be properly disposed of.

Class Interaction - Discussion

- Is this compliant with concrete washout maintenance requirements?

Class Interaction - Discussion

- What BMPs should be implemented here?

Class Interaction No. 7

- A QRE is predicted for the following day.
- The inspector tells the contractor that stockpile management BMPs need to be implemented. The contractor responds that the stockpile is being actively used and he does not need to implement any BMPs.
  - Who is correct?
  - Why?

Interaction Question No. 7

Question: The contractor responded that the stockpile is being actively used and he does not need to implement any BMPs. Who is correct and why?

A. Contractor is correct because it is actively being used.
B. The inspector is correct and the contractor must now implement BMPs.
C. The Contractor is correct at that moment. However, rain is expected and the stockpile must be covered and bermed at the end of the work day, making the inspector correct as well. The inspector should verify that the contractor has the appropriate BMPs onsite for implementation.

Background:

The CGP states that construction site discharger housekeeping activities must include "Contain and securely protecting stockpiled waste material from wind and rain at all times unless actively being used".

You Have Successfully Completed the SAR Construction Training

- Questions may be asked via:
  - Attending in-person presentation of this training is scheduled for October 1, 2019 at RCFC & WCD
  - Contacting your NPDES Coordinator
  - Contacting Charlene Warren at RCFC & WCD, cwarren@rivco.org
  - Contacting the CASC presenter, msotelo@cascinc.com