Training

Training for Construction Site Inspectors

RIVERSIDE COUNTY
WATERSHED PROTECTION

Prepared for: Santa Margarita River Watershed Permittees
Presented By: CASC Engineering and Consulting, Inc.

V1

Training Goals

Upon completion of this course students will be able to

- Conduct construction site inspections as required by, and in compliance with the MS4 Permit;
- Properly document inspections; and
- Provide education and/or issue enforcement as applicable.

Copermittee Construction Management Programs

Begins with the San Diego Region MS4 Permit – Santa Margarita River Basin

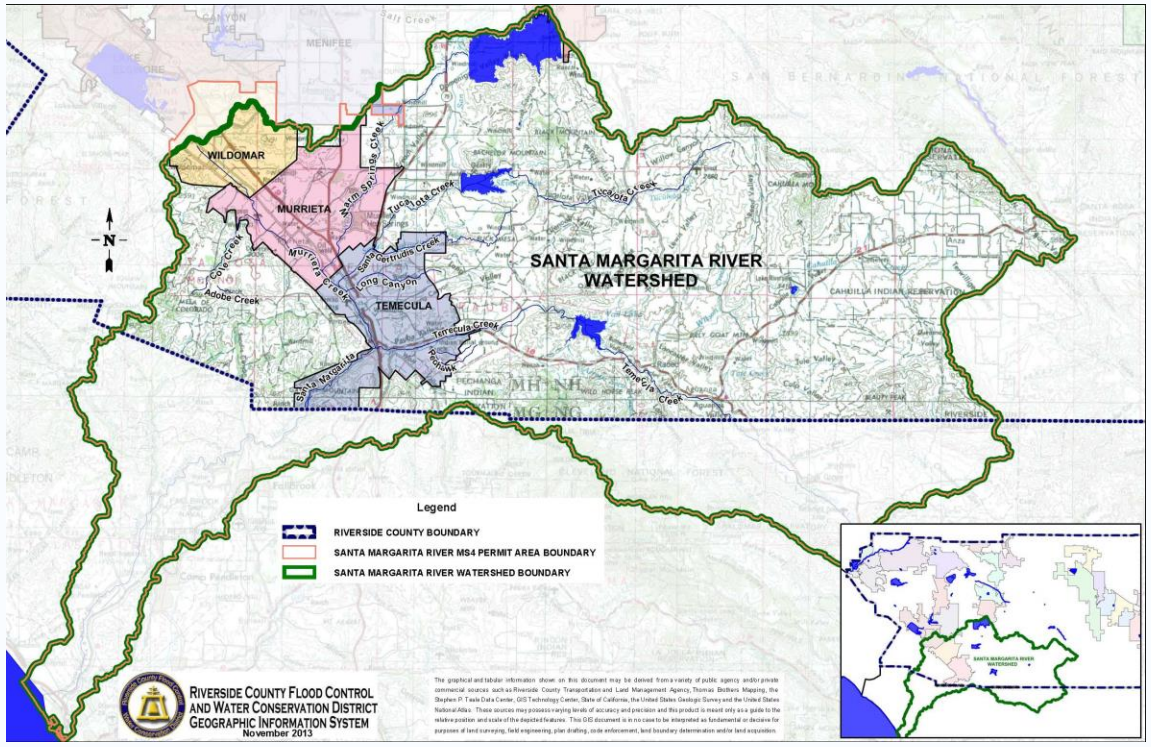
Purpose:

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

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

ORDER NO. R9-2013-0001,
AS AMENDED BY ORDER NOS. R9-2015-0001 AND R9-2015-0100
NPDES NO. CAS0109266

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s) DRAINING THE WATERSHEDS WITHIN THE SAN DIEGO REGION



Copermittees Covered by the MS4 for the SMR Watershed

- County of Riverside*
- Riverside County Flood Control and Water Conservation District*
- Murrieta
- Temecula
- Wildomar

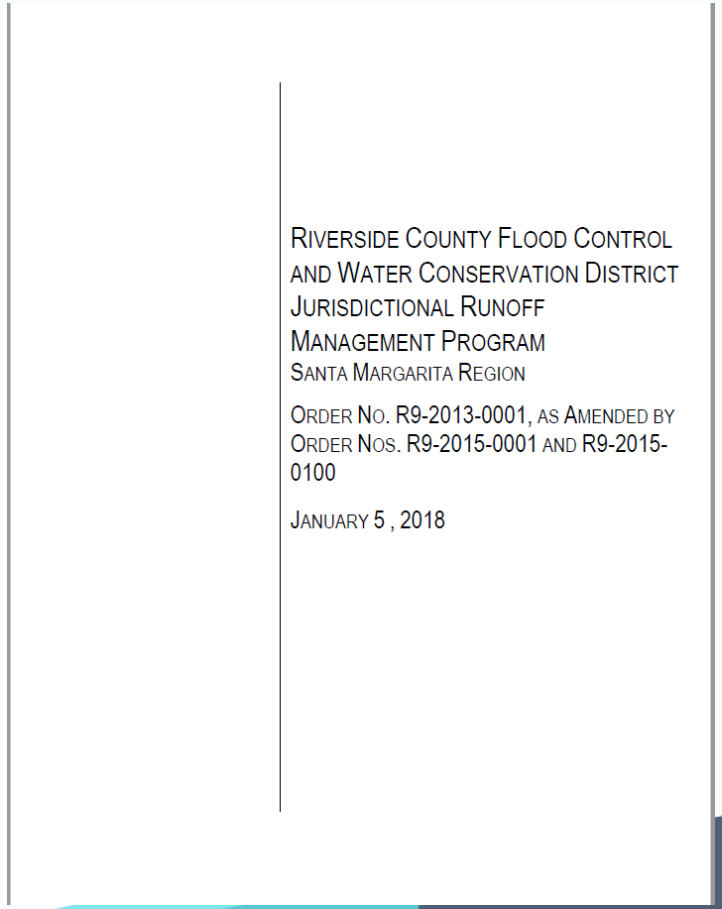
**Agencies also covered by separate MS4 Permits within Santa Ana and Colorado Regional Boards*

Jurisdictional Runoff Management Program (JRMP)

- The JRMP is the document that specifies how the local components of the permit program will be implemented within its jurisdictional area.
  - Translates MS4 Permit requirements
  - Reviewed annually and updated as needed
  - Each copermittee has a separate JRMP specific to their jurisdiction

The JRMP and other compliance documents can be found here:

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


RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM
SANTA MARGARITA REGION

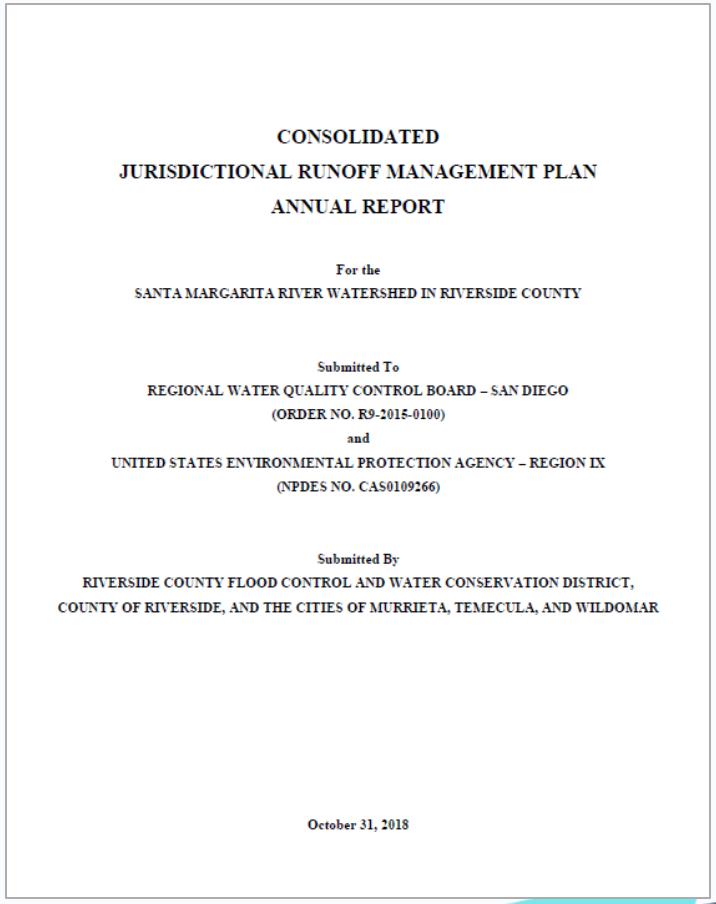
ORDER NO. R9-2013-0001, AS AMENDED BY ORDER NOS. R9-2015-0001 AND R9-2015-0100

JANUARY 5 , 2018

MS4 Permit Compliance - Annual Reporting for SMR Watershed

Annual reporting is a key element of MS4 compliance

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



CONSOLIDATED
JURISDICTIONAL RUNOFF MANAGEMENT PLAN
ANNUAL REPORT

For the
SANTA MARGARITA RIVER WATERSHED IN RIVERSIDE COUNTY

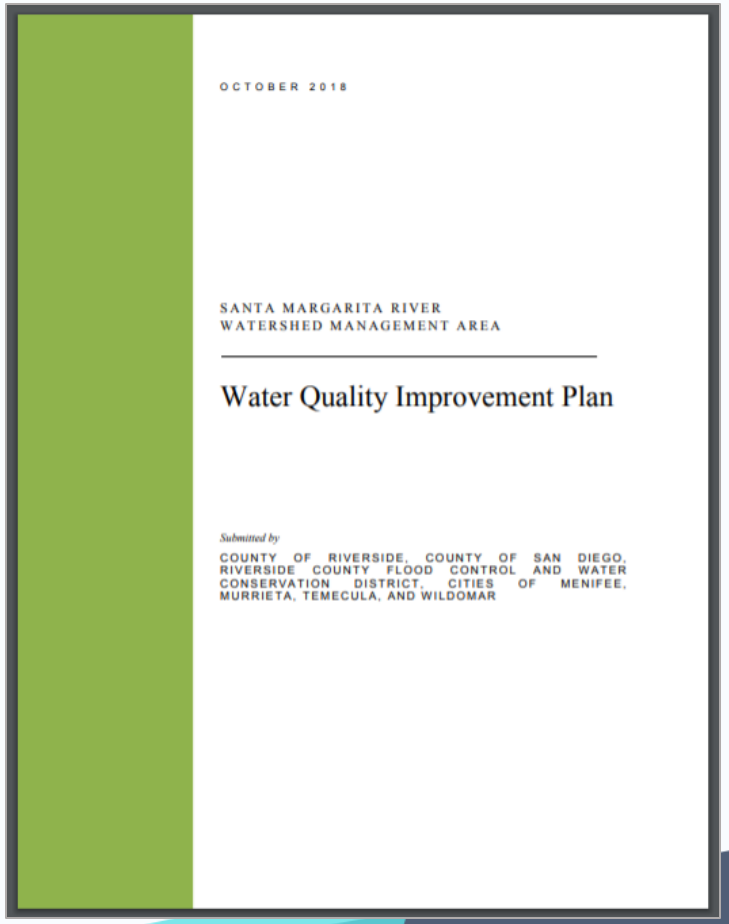
Submitted To
REGIONAL WATER QUALITY CONTROL BOARD – SAN DIEGO
(ORDER NO. R9-2015-0100)
and
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION IX
(NPDES NO. CAS0109266)

Submitted By
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT,
COUNTY OF RIVERSIDE, AND THE CITIES OF MURRIETA, TEMECULA, AND WILDOMAR

October 31, 2018

Water Quality Improvement Plan (WQIP)

- WQIP is a guide for the development of JRMPs
- Is required under the Regional MS4 Permit
- Developed on a watershed basis
- Identifies the highest priority water quality condition(s) (HPWQC(s)) in a watershed
- Identifies goals, strategies, and schedules to improve discharge and receiving water quality



Water Quality Improvement Plan (WQIP)

- Eutrophication impacts – elevated algal biomass
  - Causes: Nutrients reaching the storm drain
  - Sources: Nitrogen and Phosphorous
    - Erodible soils from construction sites transport these pollutants to receiving waters

Table ES-1. Highest Priority Water Quality Condition (Eutrophication)

Beneficial Use Category	Highest Priority Water Quality Condition	Temporal Extent	Geographic Extent
Aquatic Life: Eutrophication	Eutrophication impacts (elevated algal biomass)	Dry	SMR Estuary [1], Warm Springs, Redhawk Channel [2]
	Nutrient loading to TMDL waterbody	Dry	All Upper and Lower SMR Subwatershed subareas except Vail Lake, Fallbrook Creek and Sandia Creek[1]
		Wet	Rainbow Creek

1. Storm drain discharges within the following subareas may reach the SMR Estuary during dry weather and contribute to the Eutrophication HPWQC in the Santa Margarita River Estuary: Upper Murrieta Creek and Tributaries, Warm Springs, Santa Gertrudis, Murrieta Creek and Long Canyon, Temecula Creek and Redhawk Channel, Upper Santa Margarita River, Lower Santa Margarita River, Rainbow Creek and De Luz Creek.
2. Other areas may be added as result of TMDL Alternative development during adaptive management process.

Construction Program Requirements

The JRMP references the WQIP when discussing strategies that each Copermittee must implement. The construction management program, in accordance with those strategies in the WQIP, includes:

1. Project Approval Process
2. Inventory and Tracking
3. BMP Implementation
4. Inspections
5. Enforcement

Construction Program Requirements

Project Approval Process

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

Construction Site Inventory and Tracking

- Each Copermittee must maintain and update, at least quarterly
- Each Copermittee must identify all construction sites within its jurisdiction and prioritize the threat they represent to downstream surface water quality

Construction Program Requirement

Copermittees must implement, or require the implementation of, BMPs in the following categories:

- Project Planning
- Good Site Management
- Non-stormwater Management
- Erosion Control
- Sediment Control
- Run-on and Run-off Control
- Active/Passive Sediment Treatment Systems, where applicable

Construction Program Requirement

- Construction Site BMP Implementation
  - These BMPs must be site specific, seasonally appropriate, and construction phase appropriate.
  - BMPs must be implemented at each construction site year-round.
  - Dry season BMP implementation must plan for and address unseasonal rain events that may occur during the dry season (May 1 through September 30)

Construction Program Requirement

- Construction Site BMPs
  - The JRMP specifies minimum BMPs and provides references from a couple handbooks.
    - CASQA
    - Caltrans
- Permittees may consider other BMPs of equivalent or better performance on a case-by-case basis.

7.3.2 Minimum Management Measures {F.2.d(1)(a)}

BMP Name	Stormwater BMP Handbook Portal: Construction	Caltrans Construction Site BMP Manual	MS4 Permit Requirement Reference F.2.d.(1):
Stabilize Exposed Soils (one or more or the methods below will be used as needed)			
Chemical Stabilization (Soil Binders)	EC-5	SS-5	(a): (iv), (vii) (viii) (b): (i)
Polyacrylamide	SE-11		(a): (iv), (vii) (viii) b): (i)
Mulching			
Hydraulic Mulch	EC-3	SS-3	(a): (iv), (vii) (viii) b): (i)
Straw Mulch	EC-6	SS-6	(a): (iv), (vii) b): (i),
Wood Mulching	EC-8	SS-8	(a): (iv), (vii) b): (i)
Permanent Seeding			(a): (iv), (vii) b): (i) (iv)
Sodding			(a): (iv), (vii), (viii) b): (i) (iv)
Soil Roughening			
Temporary Seeding/Hydroseeding	EC-4	SS-4	(a): (iv), (vii) (viii) b): (i)
Protect Steep Slopes			
Earth Dikes/Drainage Swales/Lined Ditches	EC-9	SS-9	b): (i), (iii)
Fiber Roll	SE-5	SC-5	b): (i) (iii)
Geotextiles	EC-7	SS-7	b): (i) (iii)
Gradient Terraces			b): (i) (iii)
Soil Retention			b): (i) (iii)
Straw Bale Barrier	SE-9	SC-9	b): (i) (iii)
Temporary Slope Drain	EC-11	SS-11	b): (i) (iii)
Protect Waterways			
Check Dams	SE-4	SC-4	
Outlet Protection/Velocity Dissipation Devices	EC-10	SS-10	(a): (xii) b): (i)
Streambank Stabilization	EC-12	SS-12	(a): (xii)
Temporary Stream Crossings	NS-4	NS-4	b): (i)
Vegetated Buffer			

Phase Construction			
Construction Sequencing (Scheduling)			
Dust Control (Wind Erosion Control)			
Preserve Site Condition			
Entrance/Outlet Tire Wash			
Preservation of Existing Vegetation			
Stabilized Construction Entrance/Exit			
Stabilized Construction Roadway			
Scheduling			
Waste Management			
Waste Handling and Disposal			
Pollution Prevention			
Spill prevention, Control and Cleanup	SC-11		(a): (i.), (x)

Construction Program Requirement

- Inventory Database
  - Each Copermittee must maintain a database of construction sites

    which they have issued a building or grading permit, and

    where activities include soil disturbing activities including, but not limited to, clearing, grading, disturbances to ground such as stockpiling, and excavation.
  - Construction sites are included even if they are not subject to the Construction General Permit.
  - The Inventory Database must include project information outlined in the Copermittee's JRMP.

Construction Program Requirement

- Implement Enhanced Measures for construction
  - At sites that are tributary to waters impaired by sediment or turbidity
  - At sites that are adjacent to or discharging directly to receiving waters within environmentally sensitive areas

Construction Program Requirement - Training

- District staff and contractors responsible for implementing SMR MS4 Permit are required to attend annual training prior to the rainy season to understand:
  - Applicable local and state water quality laws and regulations;
  - Methods of minimizing impacts to receiving water quality by correctly scheduling construction site inspections;
  - Applicable notifications to state agencies; and
  - Compliance requirements of the General Construction Permit and Municipal Stormwater Permit.

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

Construction Management Program

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

  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	NOI Form	Attachments	Receipt Letter
513473	9 33C388334	Construction	Active	10/08/2019	Bx Construction LLC 11671 Sterling Avenue K Riverside California 92503	Precise Grading APN 935 290017 El Chaval Place Temecula California 92503	NOI Form	View Attachments	Receipt Letter
511667	9 33C387764	Construction	Active	08/13/2019	Ray Lyons	Lyons Residence 33955 Calle Vista Road Temecula California 92590		View Attachments	
511223	9 33C387651	Construction	Active	08/01/2019	Gosch Ford Temecula 26895 Ynez Road Temecula California 92591	Gosch Ford inventroy Parking Lot 42069 DRL Drive Temecula California 92591	NOI Form	View Attachments	Receipt Letter
510966	9 33C387655	Construction	Active	08/02/2019	Island Cuvee Wine Company 23445 Carancho Road Temecula California 92590	Jordan Parker Winery 35911 Rancho California Road Temecula California 92592	NOI Form	View Attachments	Receipt Letter
509546	9 33C387172	Construction	Active	06/11/2019	Temecula City 41000 Main Street Temecula California 92589-9033	Library Parking Phase II 30600 Pauba Rd Temecula California 92592	NOI Form	View Attachments	Receipt Letter
509401	9 33C387055	Construction	Active	05/31/2019	Temecula City 41000 Main Street Temecula California 92589-9033	Butterfield Stage Road Phase III Butterfield Stage Road Temecula California 92571	NOI Form	View Attachments	Receipt Letter

Construction Activity Program

- Copermittees must Prioritize Construction Sites based on High, Medium, and Low designations.
  - Priority criteria specified in copermittees' JRMP

Table 6-1: Construction Site Inspection Frequency

Priority	Supporting Criteria [a]	Rainy Season Inspection Frequency
High	• Sites located within a hydrologic subarea where sediment is known or suspected to contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan (E.4.b.(2)). • Sites surrounded by or previously used for agricultural operations. • Sites that disturb an area greater than 30 acres with rough grading or with active, unstabilized slopes occurring during the Rainy Season. • Sites disturbing an area greater than one (1) acre within the same hydrologic subarea and tributary to Receiving Waters with CWA Section 303(d) listed waters for sediment or turbidity Impairments or within, directly adjacent to, or discharging directly to a Receiving Water within an ESA. • Other sites determined by the District as a significant threat to water quality, considering the following factors: o Soil erosion potential (e.g. Hillside sites) o Project size and type o Sensitivity of and proximity to Receiving Waters (particularly ESAs since no Receiving Waters are 303(d) listed for sediment or turbidity) o History or presence of Illegal Non-Stormwater Discharges o Known past record of non-compliance by the operators of the Construction Site o Any other relevant factors.	Twice per Month
Medium	Project Size Sites disturbing an area of one acre or more.	Monthly
Low	Project Size Sites disturbing less than 1 acre.	As needed

Excerpt from Riverside County Flood Control and Water Conservation District JRMP

Construction Inspection Schedule

- Construction Site Inspections
  - Each Copermittee 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 April 30	As Needed	Monthly	Twice per Month
Dry Season May 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 6-1: Construction Site Inspection Frequency

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Medium	Project Size Sites disturbing an area of one acre or more.	Monthly
Low	Project Size Sites disturbing less than 1 acre.	As needed

Excerpt from Riverside County Flood Control and Water Conservation District JRMP

Construction Inspection Requirements

- Inspections of construction sites must include, at a minimum:
  - Inspection date,
  - Site name, location (address and hydrologic subarea), and WDID number (if applicable: Check for coverage under the Construction General Permit and/or WDID No. during initial inspections),
  - Approximate amount of rainfall since last inspection,
  - Assessment of compliance with the conditions listed within the Encroachment Permit and District Construction Contract Documents relating to Runoff issues, including the implementation and maintenance of designated minimum BMPs,
  - Assessment of BMP effectiveness,
  - Description of problems observed with BMPs and indication of need for BMP addition/repair/replacement and any scheduled re-inspection, and date of re-inspection,

Construction Inspection Requirements Cont.

- Inspections of construction sites must include, at a minimum:
  - Visual observations for Non-Stormwater discharges, potential Illicit Connections, and potential discharge of Pollutants in Stormwater Runoff,
  - Review of site monitoring data results, if the site monitors its Runoff,
  - Description of enforcement actions issued in accordance with the District's Enforcement Response Plan,
  - Resolution of problems noted, and date problems fixed,
  - Education and outreach on Stormwater Pollution prevention, as needed, and
  - Creation of a written or electronic inspection report.

Construction Program Enforcement

- Each Copermittee must enforce its legal authority established pursuant to the Permit for all its inventoried construction sites, as necessary, to achieve compliance with the requirements of this Order, in accordance with its Enforcement Response Plan.
- Enforcement Response Plans include:
  - Enforcement response approaches and options
  - Correction of violations
  - Escalated enforcement
  - Reporting of non-compliant sites

Regional Board Notification

- Each Copermittee must notify the San Diego Water Board in writing **within five (5) calendar days** of issuing escalated enforcement (as defined in the Copermittee's Enforcement Response Plan) to a construction site that poses a significant threat to water quality as a result of violations or other non-compliance with its permits and applicable local ordinances, and the requirements of this Order. Written notification may be provided electronically by email to the appropriate San Diego Water Board staff.

- Each Copermittee must notify the San Diego Water Board of any persons required to obtain coverage under the statewide Industrial General Permit and Construction General Permit and failing to do so, **within five (5) calendar days from the time the Copermittee become aware of the circumstances**. Written notification may be provided electronically by email to RB9_Nonfilers@waterboards.ca.gov

Santa Margarita River and its Reaches

- Inspectors need to know current water quality impairments to prioritize:
  - Inspection frequency
  - Enforcements
  - Violations

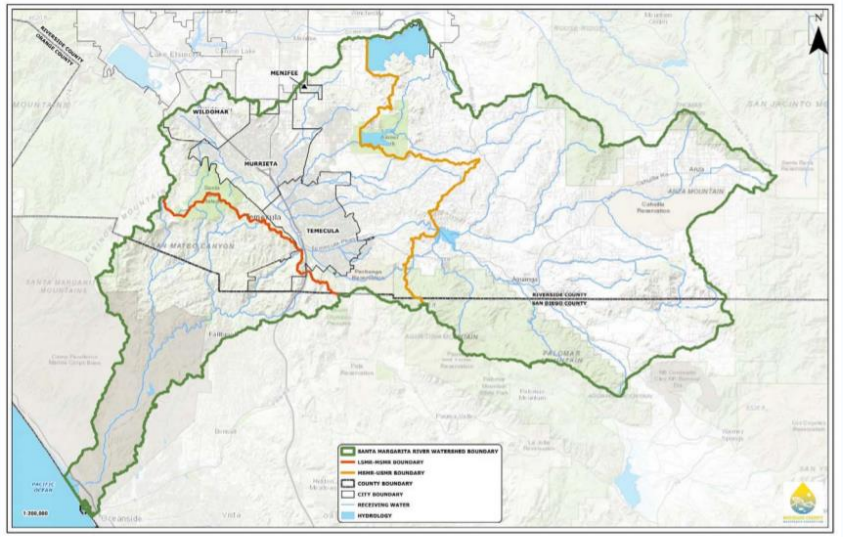


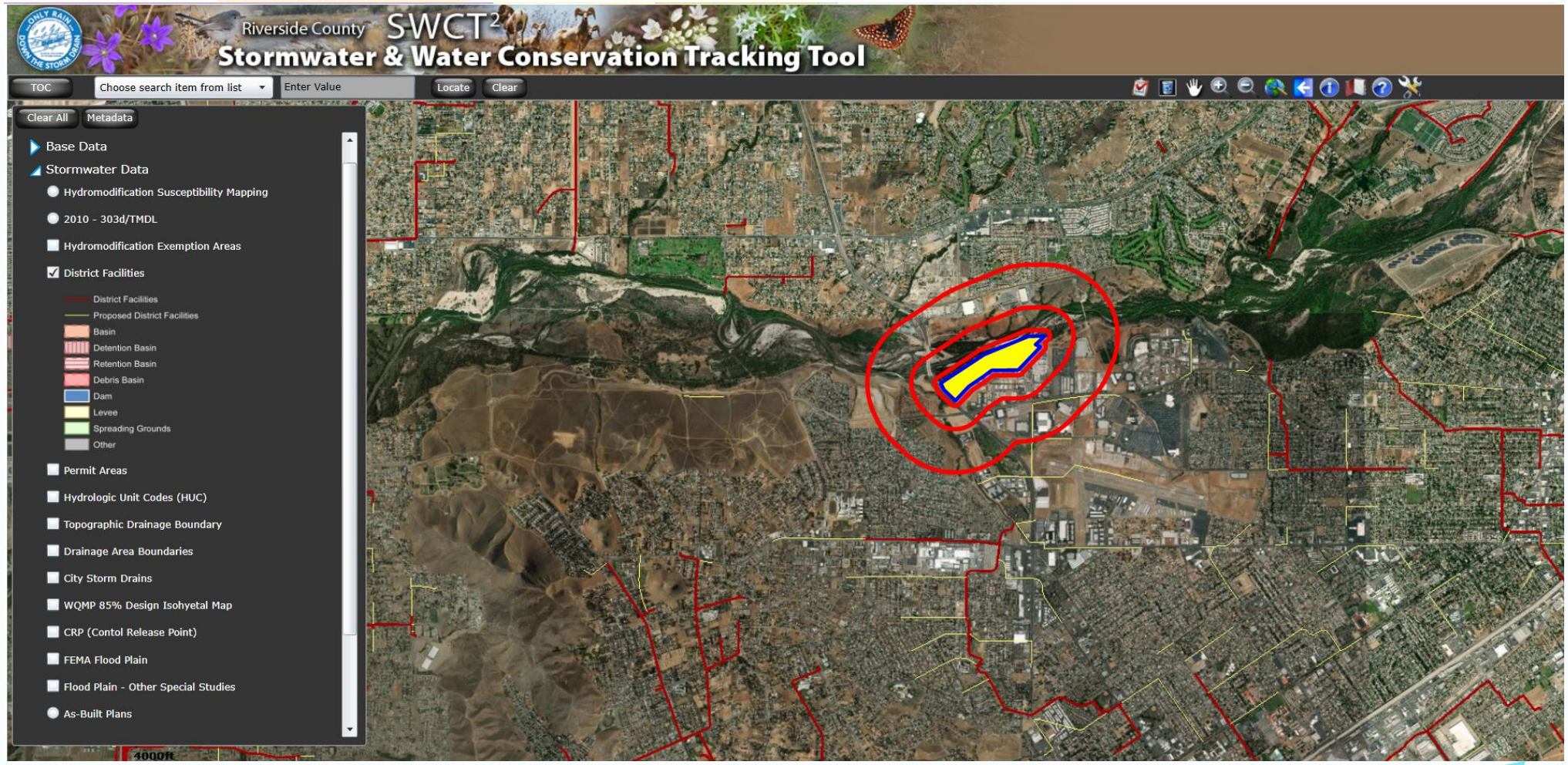
Figure 1-1. Santa Margarita River Watershed Management Area

Table 2-5. 303 (d) Listings for the SMR WMA

	Water Body Name [4]											
	Upper Santa Margarita Watershed						Lower Santa Margarita Watershed					
	Warm Springs	Long Canyon Creek [2]	Murrieta Creek [2]	Santa Gertrudis Creek	Temecula Creek [3]	Redhawk Channel [3]	Santa Margarita River Upper	Santa Margarita River Lower	Rainbow Creek	De Luz Creek	Sandia Creek	Santa Margarita Estuary
Chlorpyrifos	•	•	•	•	•	•						
Copper			•	•	•	•						
Diazinon						•						
Escherichia coli (E. coli)	•			•		•						
Enterococcus								•				
Eutrophic												•
Fecal Coliform	•	1		•		•		•				
Iron	•	•	•	•		•			•	•	•	
Manganese	•	•	•	•		•				•		
Nitrogen			•			•			•	•		
Phosphorus	•		•	•	•	•	•	•	•			
Sulfates									•	•	•	
Total Dissolved Solids					•	•			•		•	
Total Nitrogen as N	•							•				
Toxicity			•		•		•					

1. Proposed to be delisted on the Regional Water Board approved 2014 Clean Water Act Sections 305(b) and 303(d) Integrated Report for the San Diego Region. State Water Board approval is pending.
2. Both reaches are part of the Murrieta and Long Canyon Creeks subarea.
3. Both reaches are part of the Temecula Creek and Redhawk Channel subarea.
4. There are no 303(d) listings for any waterbodies in the Vail Lake and Pechanga Creek or Fallbrook Creek subareas.

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 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 as defined in the JRMP.

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. The JRMP 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
- Identifies 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 onsite and available for review (Risk level 2 and 3)
- 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/Public Developments

- The intent of inspections conducted for private/public developments is to comply with local NPDES ordinances for construction projects.
- Both private and public projects must follow the same NPDES prohibitions.

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 SWPPP document to be reviewed. The MS4 Permit only requires 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 only a recommendation that local jurisdictions review the SWPPP document to verify the document is kept onsite and is 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 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

- The stabilized construction entrance 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

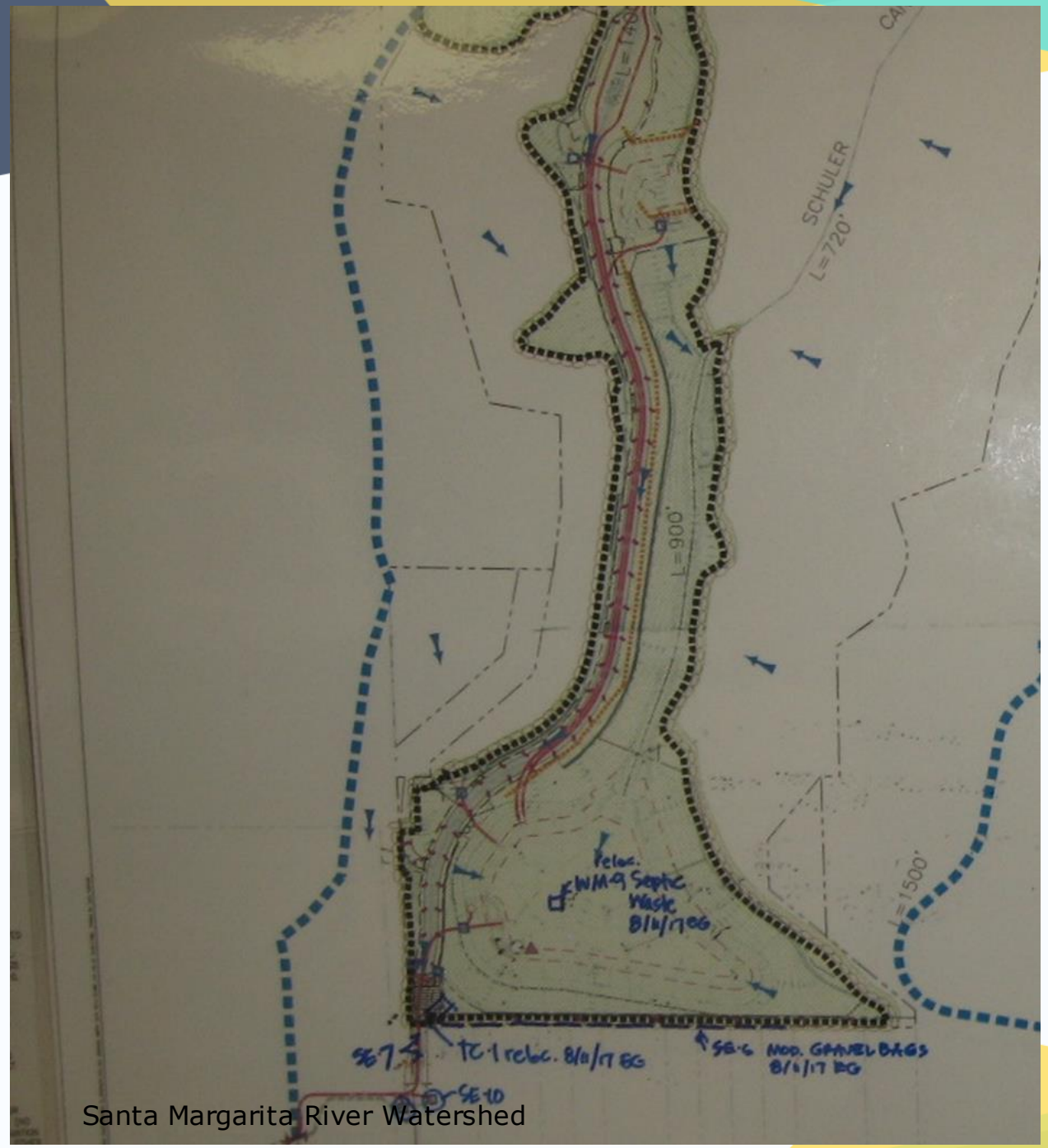
- Containment area for this sanitary facility is not properly implemented.
  - Fiber rolls or gravel bags should be placed under plastic barrier to contain discharge
  - Notify contractor of corrective actions
  - Note corrective actions on inspection report

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.

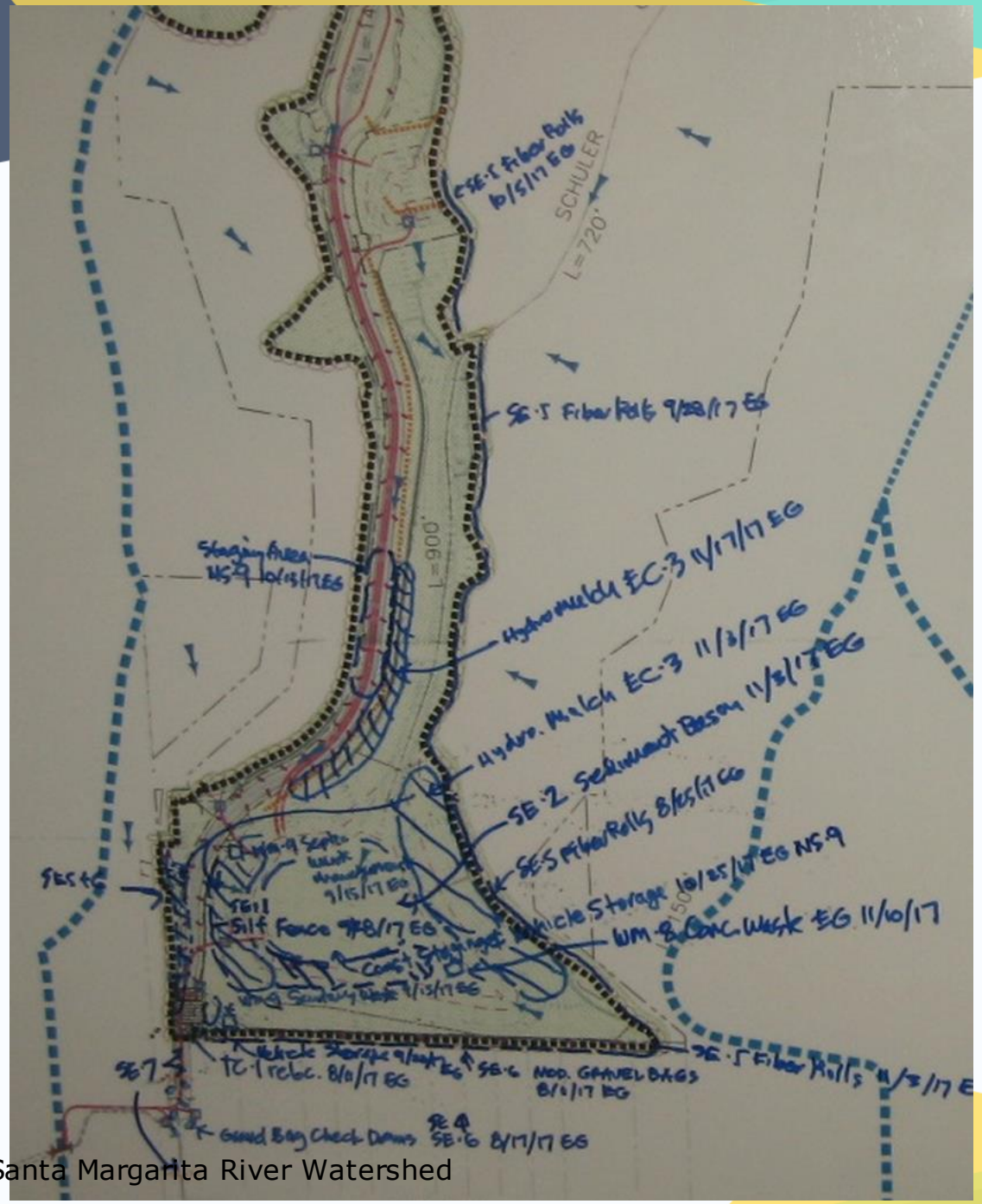
Site BMPs – Inlet Protection

- 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 JRMP
- Map updated to current field conditions; additional BMPs 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 onsite…

Site BMPs – Stockpile Management

- Dirt stockpile being actively used by construction crews
  - Must be covered and bermed prior to rain event
  - Must be covered and bermed 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; 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
  - Sign needs to be installed identifying the BMP location

Site BMPs – Sanitary Waste Management

- Portable waste facility with no containment pan is 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 are being 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

- The silt fencing is installed at the perimeter of exposed soil.
- The fencing has been trenched and keyed into the ground.
- Repairs will be required when lath and geotextile material show signs of damage or decay.

Site BMPs – Inlet Protection

- These gravel bags are stacked 2 bags high and 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 SMR Construction Training

Questions may be asked via:

- Contacting your NPDES Coordinator
- Contacting Charlene Warren at RCFC & WCD, cwarren@rivco.org
- Contacting the CASC presenter, msotelo@cascinc.com