RIVERSIDE COUNTY
WATERSHED PROTECTION

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Training for Construction Site Inspectors

1

Prepared For: Whitewater River Watershed Permittees

Presented By: CASC Engineering and Consulting

Spring 2019

Training Objectives

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- To comply with Construction Program requirements of the MS4 Permit
- Annual Training for Construction Staff:
  - MS4 Permit requirements applicable to construction projects
  - Construction General Permit requirements
  - Pollution prevention at construction sites
  - BMP implementation

NPDES/MS4 Stormwater Permit Training Requirements

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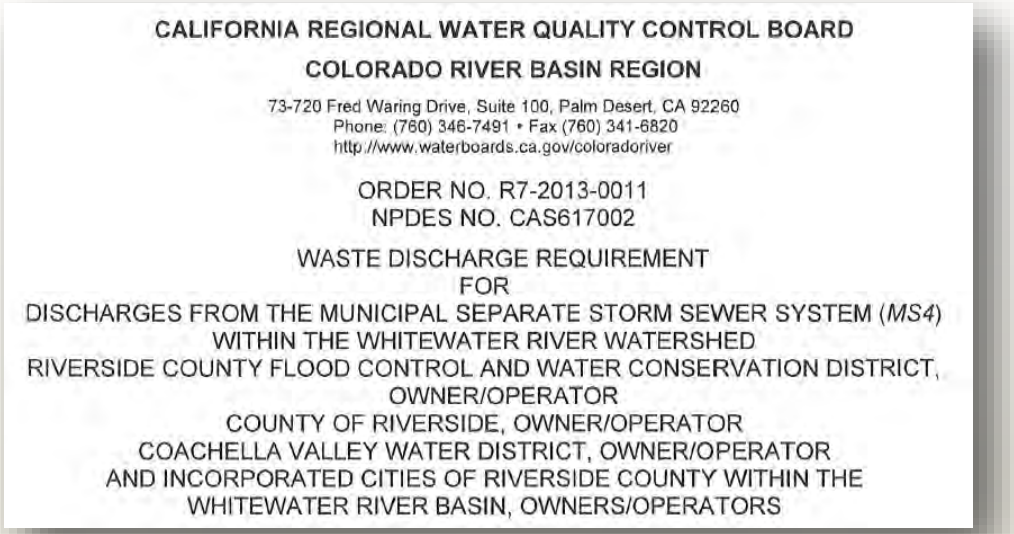

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

COLORADO RIVER BASIN REGION

73-720 Fred Waring Drive, Suite 100, Palm Desert, CA 92260
Phone: (760) 346-7491 • Fax (760) 341-6820
http://www.waterboards.ca.gov/coloradoriver

ORDER NO. R7-2013-0011
NPDES NO. CAS617002

WASTE DISCHARGE REQUIREMENT
FOR
DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEM (*MS4*)
WITHIN THE WHITEWATER RIVER WATERSHED
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT,
OWNER/OPERATOR
COUNTY OF RIVERSIDE, OWNER/OPERATOR
COACHELLA VALLEY WATER DISTRICT, OWNER/OPERATOR
AND INCORPORATED CITIES OF RIVERSIDE COUNTY WITHIN THE
WHITEWATER RIVER BASIN, OWNERS/OPERATORS

- The Permittees shall continue to *develop and implement training programs* for the following categories of their employees: Maintenance staff, Industrial/Commercial inspectors, *New Development/Redevelopment staff, and Construction inspectors*

SWMP Training Requirements

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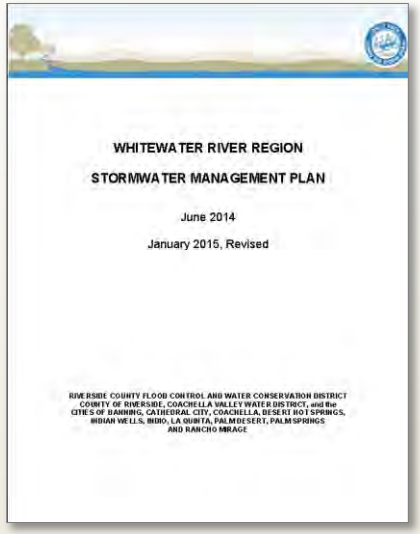
- 5.8 Training Requirements (SWMP Pg. 5-5)
- Annual training will address the following topics:
  - MS4 Permit requirements,
  - Proper BMP implementation,
  - General Permit-Construction requirements,
  - Identification of IC/IDs,
  - Site inspection criteria and priorities.



Stormwater Management Plan Training Requirements

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- Inspection staff attends at least one training annually.
- Where inspection staff are unable to attend one of the semi-annual training workshops, in-house or tailgate may also be provided which addresses the training topics detailed above.
- The Permittees individually maintain a log of trained staff and report training in their annual reports.

Significant MS4 Permit Requirement for Inspections

(Permit Section F.1.d)

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- The Permittees shall…
  - Continue to implement and enforce a program to reduce pollutants in urban runoff to the MS4 from construction activities that result in a land disturbance of ≥ 1 acre
  - The program must continue implementation of…
    - Ordinances and regulatory mechanisms to require erosion and sediment controls, and sanctions to ensure compliance
    - Requirements for construction site operators to control Wastes
    - Site plan reviews which consider potential water quality impacts
    - Procedures for **site inspections and enforcement** of ordinances, codes, and the WQMP

What will Today's Training Accomplish?

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- Meets MS4 Permit requirements to implement a training program for construction inspectors and other staff
- Fulfills SWMP commitments to provide construction staff with annual training
- Provides construction staff with training on
  - MS4 Permit requirements
  - CGP requirements
  - Pollution prevention
  - BMP implementation

What do we Inspect?

(Permit Section F.1.d)

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- **Site inspections** shall, at a minimum…
  - Verify coverage under the CGP where applicable
  - Confirm that a SWPPP is on site where applicable
  - Confirm compliance with the Permittee's codes and CGP
  - Check for active non-storm water discharges or potential IC/IDs to the MS4

When do we Inspect?

(SWMP Section 5.3, Pg. 5-2)

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Criteria	High Priority	Low Priority
Project Size	> 50 Ac	≥ 1Ac and ≤ 50 Ac
Project Location	Sites disturbing 1 Ac and directly discharging to a 303(d) water listed for sediment, siltation, or turbidity	Sites disturbing ≥ 1 Ac and ≤ 50 Ac and not directly discharging to a 303(d) water listed for sediment, siltation, or turbidity
Erosion Potential	Hillsides disturbing > 5 Ac	-
History of Compliance	Sites disturbing > 1 Ac with a low range (0-50%) compliance history noted on Permittee construction site inspection forms or databases	Sites noted as being predominantly in compliance on Permittee construction site inspection forms or databases
Wet Season Inspection Frequency	Once each month	Once per wet season

Wet season: August 1 – October 1 and November 1 – May 1

CGP Coverage Continues for Other Projects

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- Private and Non-Permittee construction within or outside the Whitewater River Region
- Construction covered by the CGP for projects that **qualify**
- CGP requires
  - Reporting construction to the SWRCB via SMARTS
  - A QSD Develop the SWPPP
    - CGP specifies the minimum BMPs
  - A QSP oversee SWPPP implementation
  - Conducting monitoring
    - Inspections
    - Sampling
  - Submitting Annual Reports

Requirements for Permittee, Private, and Non-Permittee Projects are Essentially the Same

Inspector Discussion:

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- A site is shown in SMARTS to be outside City limits of your jurisdiction. However, site is actually within your jurisdiction's limits.
  - Is your jurisdiction required to inspect this Project?
  - **YES! Information can be incorrectly placed in SMARTS by the data submitter.**

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Construction General Permit Overview

Construction General Permit

Effective Dates & Type of Projects Covered

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- Construction General Permit (CGP)
  - Order No. 2009-0009-DWQ
  - Adopted September 1, 2009, Effective July 1, 2010
  - Amended by Orders
    - 2010-0014-DWQ - Clarified definition of LRP
    - 2012-0006-DWQ - Removed non ATS NELs
  - 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 ≥ 1 ac and ≤ 5 ac may qualify for an erosivity waiver
  - Covers both
    - Traditional Projects
    - Linear Utility Projects (e.g., Underground or Overhead Power Lines, Pipelines, Communication Lines, etc., but not roads)

Construction General Permit
Obtaining Coverage

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- Construction General Permit, Continued…
  - CGP coverage is obtained by filing for coverage via SMARTS
    - Electronically submit Permit Registration Documents (PRDs)
      - Notice of Intent (NOI)
      - Risk Assessment
      - Site Map
      - Storm Water Pollution Prevention Plan (SWPPP)
      - Certification by the Legally Responsible Party (LRP)
    - Annual fees submitted to State Water Board
    - Proof of coverage is the Waste Discharge Identification (WDID) issued electronically after fees are received
      - Construction may not begin until the WDID is obtained and can be presented on demand

Construction General Permit

Important Provisions – Waivers and Exceptions

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- Construction General Permit, Continued…
  - Rainfall Erosivity Waiver
    - Exempts qualified projects from coverage under the CGP
    - Applies to small construction sites between 1 acre and 5 acres
    - Requires a Rainfall Erosivity less than 5
  - Emergency Construction
    - Provides a temporary exception to CGP coverage
    - Applies to public emergencies that require immediate construction activities
    - Requires the discharger shall submit a brief description of the emergency construction activity within five days of the onset of construction
    - Requires submittal of all PRDs within thirty days.

Construction General Permit

Important Provisions – Risk Based Permit

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- Construction General Permit, Continued…
  - A Risk-Based Permit
    - Risk is based on two factors
      - Project's Sediment Risk (Low, Medium, High)
      - Project's Receiving Water Risk (Low, High)

		Project Sediment Risk		
		LOW	MED	HIGH
Receiving Water Risk	LOW	Level 1	Level 2	
	HIGH	Level 2		Level 3

Construction General Permit

Receiving Waters' Risk

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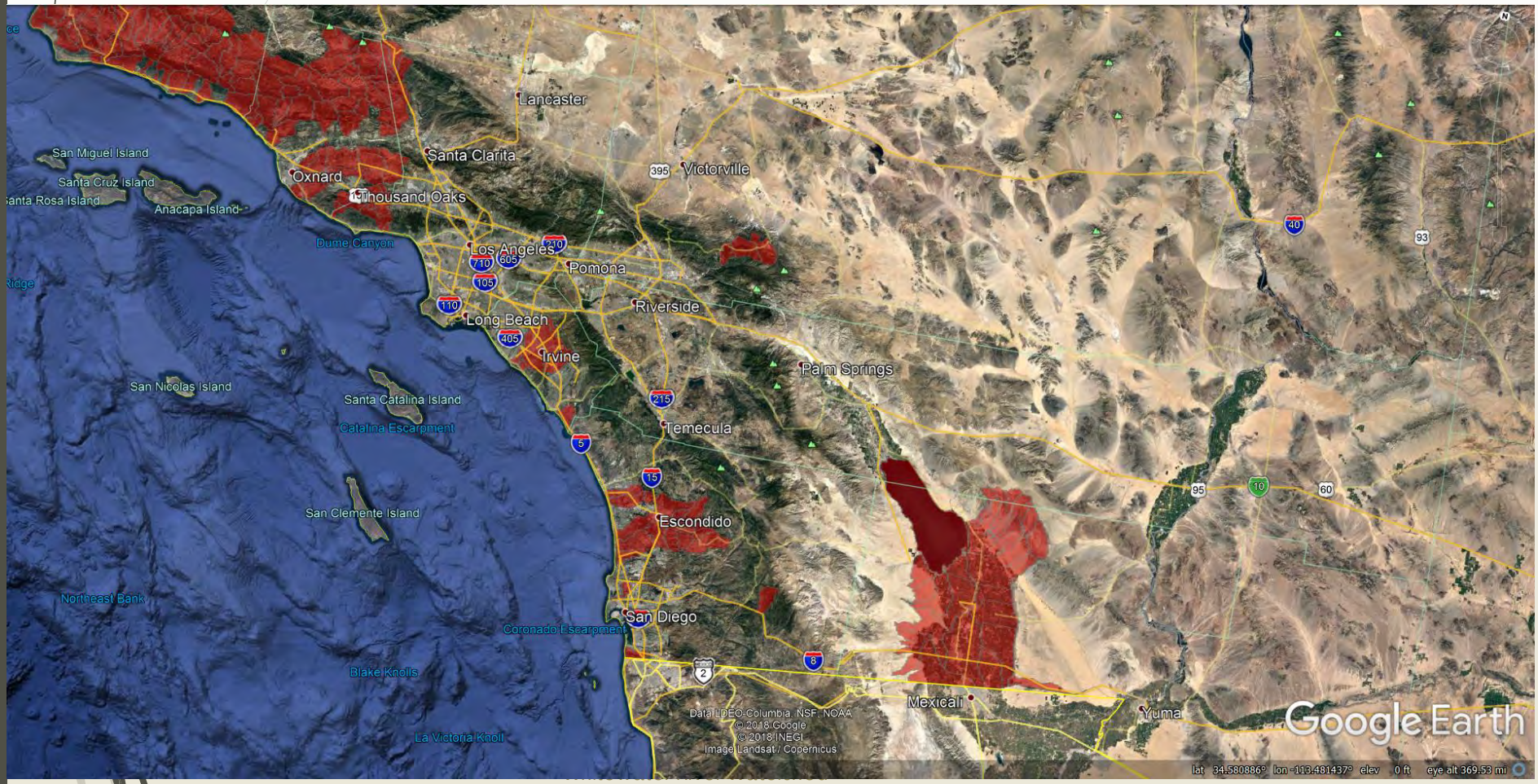

Construction General Permit

Important Provisions – Risk Based Permit

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- Construction General Permit, Continued…
  - Specifies essential minimums that are additive and increase with project risk
    - BMP requirements
    - Visual Observation (Inspection) requirements
    - Discharge Monitoring (Sampling) requirements
    - Receiving Water Monitoring (Sampling) requirements

Construction General Permit

Important Provisions – Risk Based Permit

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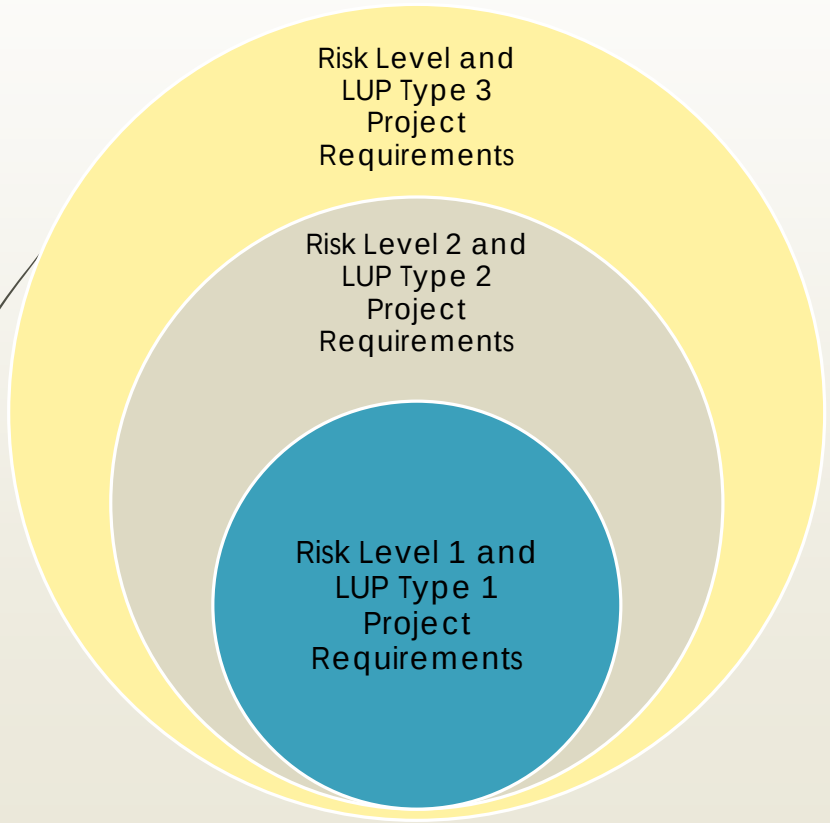

Additive Requirements

Risk Level 1
Risk Level 2
+ Added Requirements
= Risk Level 3

Risk Level 1
+ Added Requirements
= Risk Level 2

+ Base Requirements
= Risk Level 1

Construction General Permit

Important Provisions – Monitoring

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- Construction General Permit, Continued…
  - Requires Visual Monitoring (Inspections):
    - Weekly;
    - Within 48-hours prior to a Qualifying Rain Event;
    - Once each 24-hours during extended storms;
    - Within 48-hours after a Qualifying Rain Event; and
    - When stored storm water from a Qualifying Rain Event is released.
    - Exceptions:
      - During dangerous weather conditions such as flooding and electrical storms; and
      - Outside of scheduled business hours.
      - When exceptions are utilized, they must be explained in the SWPPP and Annual Report.

Construction General Permit

Important Provisions – Monitoring

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- **Construction General Permit, Continued…**
  - **Requires Water Quality Monitoring**
    - **Sampling & Analysis of Construction Site Discharges**
    - **Sampling & Analysis of Receiving Waters**
      - Risk Level 3 and LUP Type 3 projects are unlikely in the Coachella Valley, so Permittees are unlikely to have projects requiring Receiving Water monitoring

Site Risk Level	Non-Visible Pollutant Sampling	Quarterly Non-Storm Water Discharge Sampling	Storm Water Discharge Sampling	Receiving Water Sampling
1	✓			
2	✓	✓	✓	
3	✓	✓	✓	✓

Construction General Permit

Important Provisions – NALs and NELs

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- Construction General Permit, Continued…
  - Sets Numeric Action Levels
    - pH: ≤6.5 Units or ≥8.5 Units
    - Turbidity : 250 NTU
    - When exceeded, requires actions to improve water quality
    - Applies to Risk Level 2 and 3 and LUP Type 2 and 3 Projects
  - Sets Numeric Effluent Limitations (NELs)*
    - Turbidity: 10 NTU daily average, 20 NTU any one sample.
    - Applies to Active Treatment Systems (ATS).
  - Set a Receiving Water Monitoring Triggers.
    - pH: ≤6.0 Units or ≥9.0 Units.
    - Turbidity : ≥500 mg/L.
    - Applies to Risk Level 3 and LUP Type 3 Projects.

*NELs for construction site discharges **only** were removed by Order 2012-0006-DWQ

Construction General Permit

Important Provisions – Qualifications & Certifications

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- Construction General Permit, Continued…
  - Establishes specific training and certification requirements
    - Qualified SWPPP Developer (QSD) responsible for
      - Preparing the SWPPP
      - Preparing the Construction Site Monitoring and Program (CSMP) or the Monitoring and Reporting Program (M&RP)
    - Qualified SWPPP Practitioner (QSP) responsible for
      - Implementing BMPs required by the CGP
      - Making stormwater and non-stormwater visual observations (inspections)
      - Sampling and analysis
      - Preparing Rain Event Action Plans (REAPs)
      - QSPs can delegate the execution, but not the responsibility for these items

Construction General Permit

Important Provisions – Qualifications & Certifications

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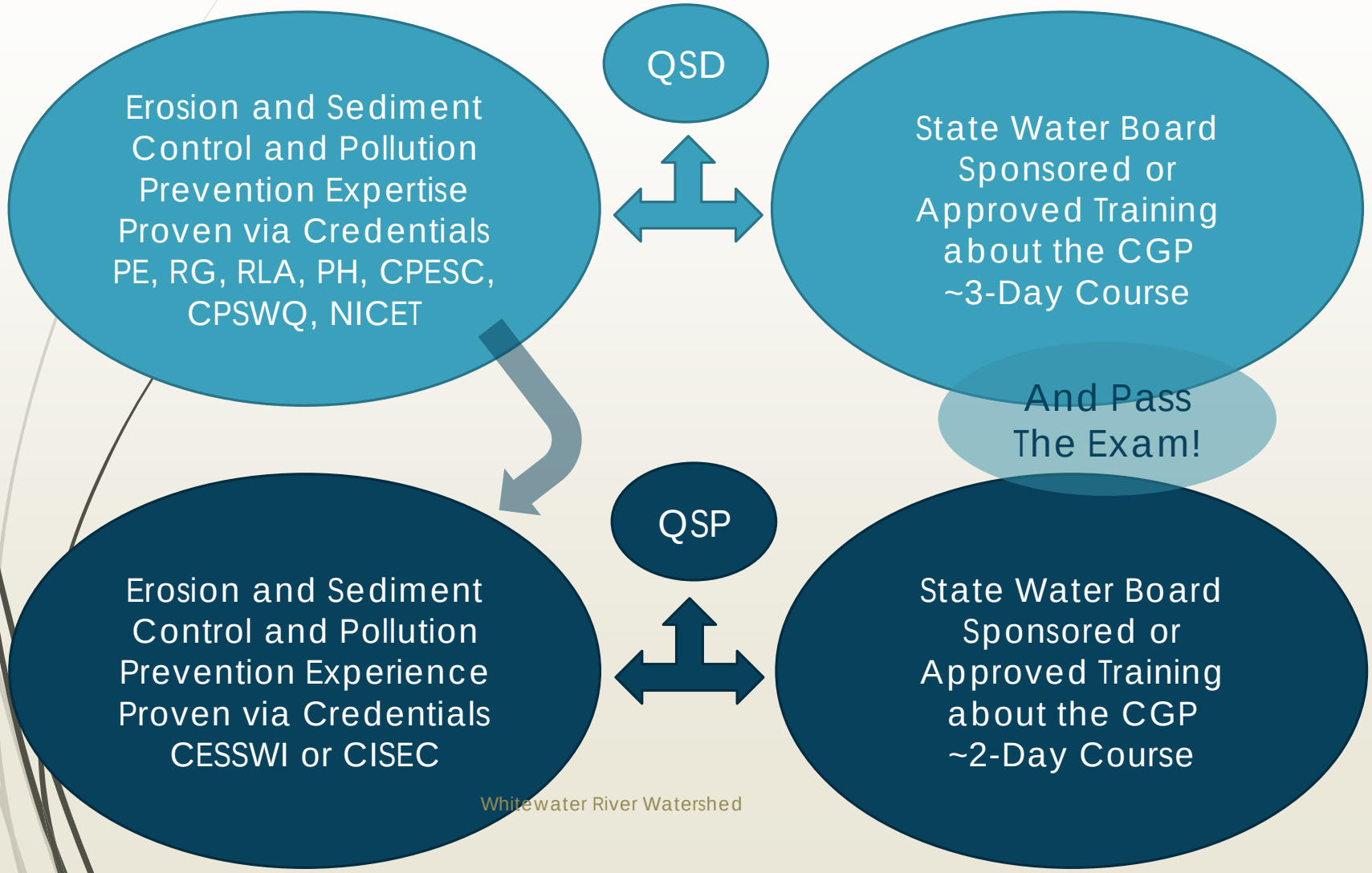

Construction General Permit

Minimum BMP Categories

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- Good Site Management (Housekeeping)
  - Construction Materials Management
  - Waste Material Management
  - Vehicle Storage and Equipment Management
  - Landscape Materials Management
  - Air Deposition of Site Materials Management
- Non-Stormwater Management
  - Non-Stormwater Discharge Control
  - Vehicle Washing Controls
  - Street Cleaning Controls
- Erosion Control
  - Wind Erosion Control
  - Erosion Control (Soil Cover) for Inactive Areas
  - Limited Use of Plastic

Construction General Permit

Minimum BMP Categories

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- Sediment Control
  - Perimeter Controls
  - Entrance and Exit Controls
  - Sediment Basin Management
  - Erosion and Sediment Control for Active Areas
  - Linear Sediment Controls at Toe/Along Face of Slopes
  - Construction Traffic Management
  - Perimeter Controls and DI Protection at Entrances/Exits
  - Access Road Management
- Runon and Runoff Control
- Inspection, Maintenance, and Repair
- Rain Event Action Plans

Is all this "prevention" really necessary?

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- Yes!
- The agency that you work for must comply with its NPDES Stormwater Permit.
  - Including the requirement to control discharges from construction sites (both agency and permitted sites).

Identifying Polluted Waters

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- Polluted waters include lakes, creeks, streams, rivers, and oceans, that can't be used to their highest capabilities due to pollution
- These waters are listed on the 303(d) list. The list shows what pollutants are causing the problems

Receiving Water Pollutant Stressors

Common Construction Site Pollutants

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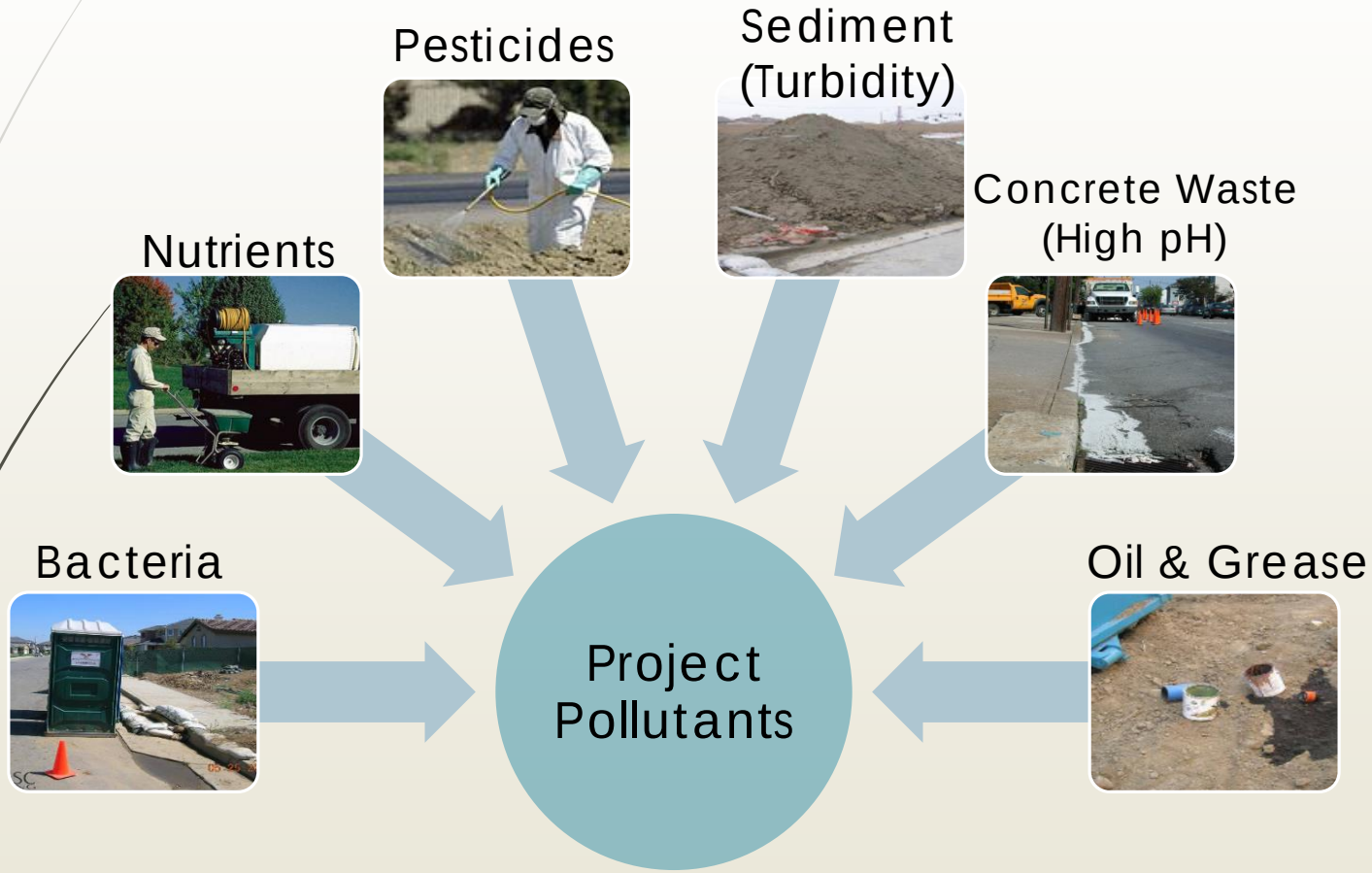

As We Continue Today

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- Consider what the Pollutants of Concern might be in a particular situation.
- Consider what's needed to keep those Pollutants of Concern from leaving the construction site.
- Let's discuss things as we go along!
- Remember the Common Construction Site Pollutants
  - Bacteria
  - Nutrients
  - Pesticides
  - Oil and Grease
  - Sediment and Cement Waste (Potential Monitoring)

Construction Site BMP Implementation

Construction Site BMP Implementation

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- Co-permittees must implement, or require, the implementation of BMPs in the following categories:
  - Project Planning
  - Good Site Management “Housekeeping”, including waste management
  - Non-storm Water Management
  - Erosion Control
  - Sediment Control
  - Run-on and Run-off Control
  - Active/Passive Sediment Treatment Systems, where applicable

Good Site Management "Housekeeping"

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- What is Housekeeping?
  - Managing the following on a construction site:
    - Construction Materials
    - Waste
    - Vehicle Storage and Maintenance
    - Landscape Materials
    - Potential Pollutant Sources
    - Air Deposition of Site Materials and Operations

Management of Construction Materials

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- Stockpiles
  - Soils
  - Spoils
  - Aggregate
  - Fly-ash
  - Stucco
  - Hydrated Lime
- What's wrong here?
- What's missing?

Management of Construction Materials

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- Are stockpiled materials covered and bermed?

[Not actively being used]

Management of Construction Materials

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- Are stockpiles out of flow lines, away from water courses?
  - 50 feet recommended

Drainage swale to inlet

Management of Construction Materials

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- Are stockpiles protected from stormwater run-on using temporary sediment barriers?
  - Silt fence
  - Fiber rolls
  - Gravel bag berm

Management of Construction Materials

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- Are cold mix stockpiles
  - Placed on plastic sheeting?
  - Covered & bermed?

Management of Construction Materials

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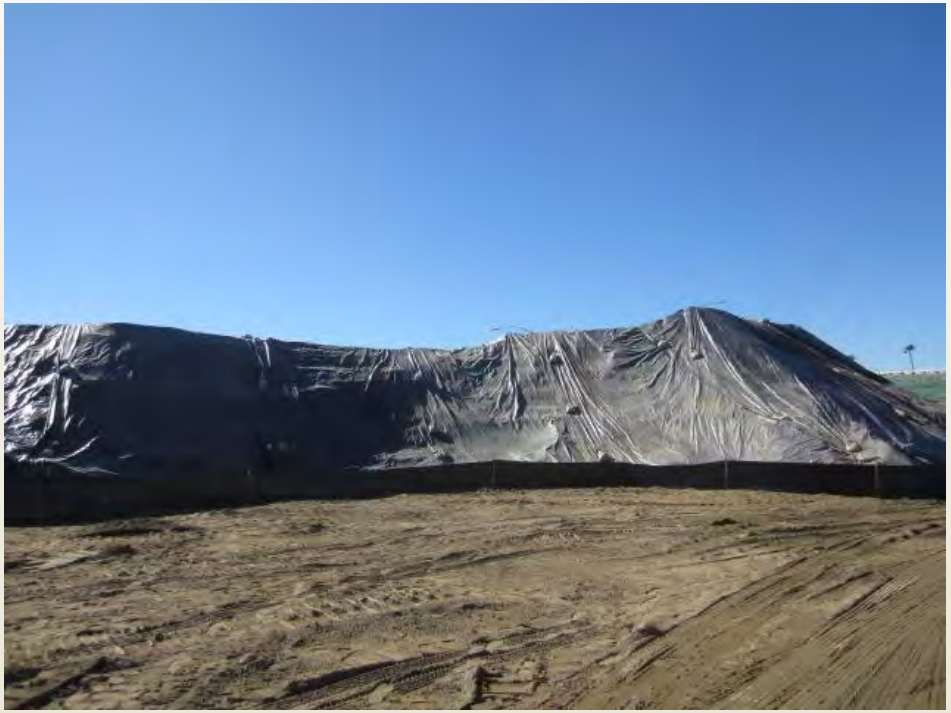
- Are wind erosion controls implemented on soil stockpiles:
  - Water
  - Hydraulic mulch
  - Geo-textiles
  - Soil binders



Management of Construction Materials

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- Are Stockpiles Covered and bermed?
  - Stockpiles of materials that may raise the pH of runoff.
    - Important for Risk Level 2 sites.
  - Stockpiles of pressure treated wood.
    - Treated with copper or zinc arsenate.

Management of Construction Materials

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- Are chemicals stored in watertight containers with secondary containment?

Oops Hazardous!

Management of Construction Materials

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- Are chemicals stored in watertight containers with secondary containment?
  - Fuels
  - Oils
  - Hydraulic Fluids

Management of Construction Materials

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- Are chemicals stored in watertight containers with secondary containment?
  - Curing compound
  - Concrete Admixtures

Whitewater River Watershed

Management of Construction Materials

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- Are chemicals stored in a completely enclosed storage shed?

Management of Construction Materials

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- Are portable tanks in a lined and bermed area?

Management of Construction Materials

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- Is the exposure of materials to precipitation minimized?

Minimize exposure of materials to precipitation.

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- Are bagged and boxed materials stored on pallets and under cover?

Waste Management

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- Is the contractor preventing disposal of rinse or wash waters or materials?
  - on impervious
  - or pervious site surfaces
  - or into the storm drain system
- Covers the whole site!

Waste Management

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- Are washout bins watertight and plastic lined?

Cover during a rain event.

Waste Management

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- Is concrete washout contained?

Not so good!

Waste Management

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- Do concrete washout areas
  - Provide leak-proof bins?
  - Adequately sized?

Waste Management

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- Are concrete washout areas designated?

Could use a sign

Watch for Tracking

Tracking Control may be needed

Waste Management

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- Are concrete washout areas
  - Located at least 50 ft. from inlets and water courses?

Waste Management

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- Ensure the containment of sanitation facilities (e.g., portable toilets)

Spill containment pans

Waste Management

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- Ensure the containment of sanitation facilities (e.g., portable toilets)

Bermed containment area Gravel with a plastic liner

Waste Management

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- Are sanitation facilities clean?
- Inspect them for leaks and spills

Area around facility is neat and clean

No signs of paper waste

Waste Management

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- Are sanitation facilities out of streets?
- And away from inlets and water courses?

Waste Management

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- Are stockpiled waste materials contained?

Neatly stockpiled but a steel bin is more secure.

Waste Management

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- Are waste disposal containers covered at the end of every business day and during a rain event?

Trash receptacles should be equipped with attached lids

Waste Management

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- Are discharges from waste disposal containers prevented from reaching the storm water drainage system or receiving water?

Adequate size for job

Silt fence linear barrier

Trash picked up on a regular basis

Waste Management

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- Are hazardous wastes
  - Stored in sealed containers
  - Properly labeled
  - In secondary containment
    - Properly sized
    - Impervious for 72 hour contact
    - Adequate spacing of containers

Waste Management

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- Are procedures established for potential hazardous and non-hazardous spills?
- Is there a spill response and implementation element in the SWPPP?
  - Equipment and materials for cleanup
  - Appropriate spill personnel
    - Designate a point of contact
  - TRAINING!

Vehicle Storage and Maintenance

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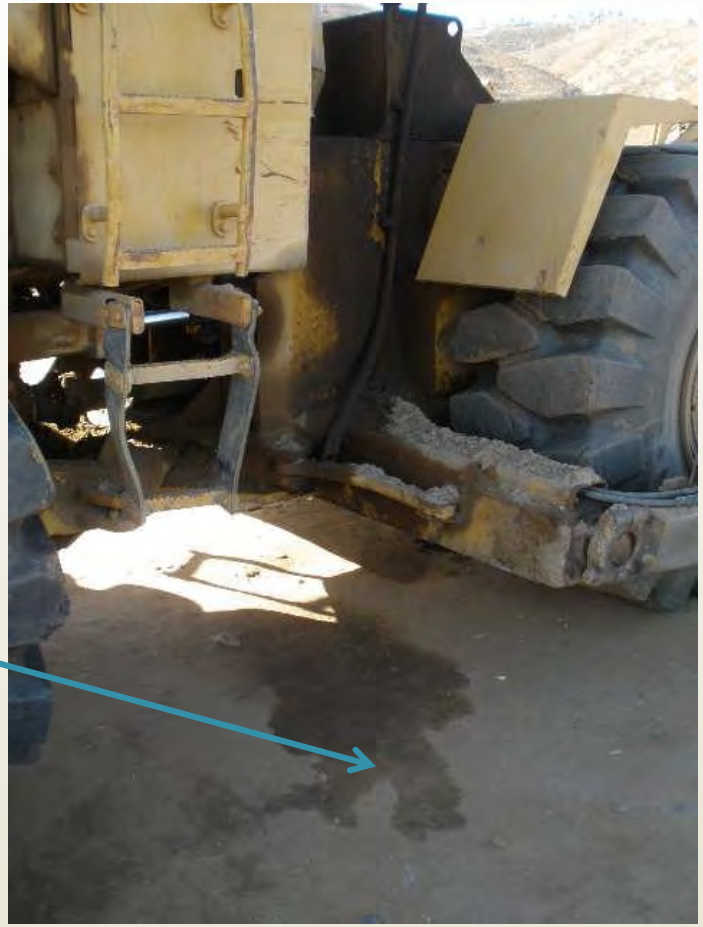
- Is oil, grease, or fuel prevented from leaking?

Contaminated soil is now a Hazardous Waste!



Vehicle Storage and Maintenance

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- Are there plastic barriers under maintenance operations?

Vehicle Storage and Maintenance

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- Are equipment or vehicles stored in a designated area fitted with appropriate BMPs?

Impervious surface
Bermed area

Vehicle Storage and Maintenance

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- Are leaks cleaned up immediately and wastes properly disposed?
  - If hazardous, then handle and store in accordance with Federal, State, and local requirements.

Landscape Materials

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- Are stockpiled landscape materials properly contained?
  - Mulches
  - Topsoil
  - Fertilizers

Too close to an inlet & improper implementation of BMP at inlet.

Not actively being used

Landscape Materials

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- Are landscape materials stacked on pallets and covered when not being used.

Needs to be covered
Potential for pollutant to contaminate storm water run-off

Landscape Materials

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- Application of erodible landscape materials should be discontinued 48 hours prior to forecasted rain event.
- Erodible landscape materials should be applied per manufacturers specifications or written specifications by certified personnel.

Potential Pollutant Sources

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- When inspecting BMPs consider the following:
  - Quantity and physical characteristic of material
    - Liquid
    - Powders
    - Solid

How will it react with Stormwater flows?

  - Locations of potential pollutant sources
    - How close are materials stored to drainage inlets or pathways?

Potential Pollutant Sources

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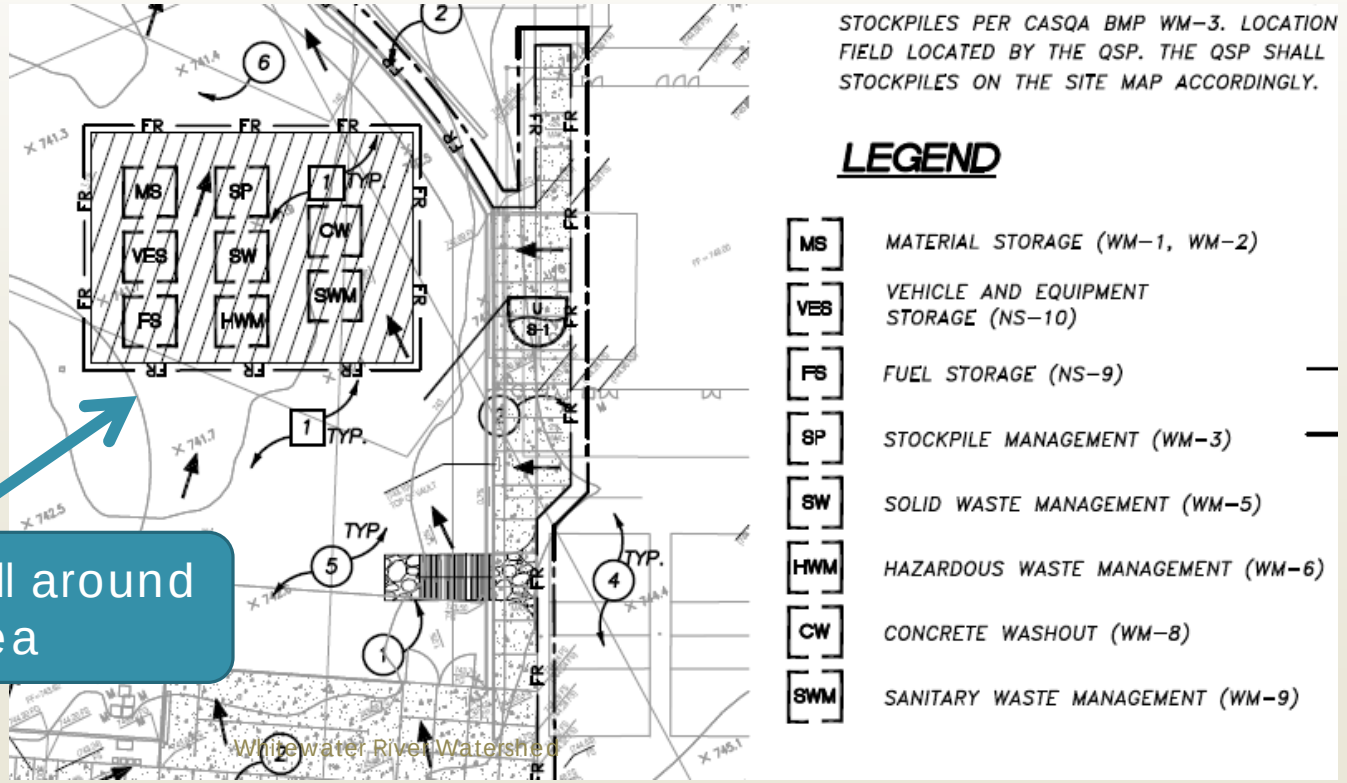
- Identify any areas of the site where additional BMPS are necessary



Additional fiber roll around Staging Area

Air Deposition of Site Materials and Operations

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- Pollutant particulates can include:
  - Sediment
  - Nutrients
  - Trash
  - Metals
  - Bacteria
  - Oil
  - Grease
  - Organics

Air Deposition of Site Materials and Operations

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- Pollutant particulates:
  - Nutrients
  - Metals
  - Bacteria
  - Oil
  - Grease
  - Organics
- Are materials
  - Covered
  - Contained
  - Stored in an enclosure

Air Deposition of Site Materials and Operations

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- Pollutant particulates: Sediment
  - Soils easily dry out in our California climate
  - During Windy Conditions
  - Earth moving operations
- Are contractors applying:
  - Water to dry soils
  - Soil binders
  - Mulch

Air Deposition of Site Materials and Operations

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- Pollutant particulates: Trash
  - Is all trash contained?
  - Is there a wind fence?

Non-Storm Water Management

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- Are contractors:
  - Implementing measures to control all non-storm water dischargers during construction.
  - Washing vehicles in a manner to prevent discharges to surface waters or MS4 drainage systems.
  - Cleaning streets without discharges.

Non-Stormwater Management

Non-Stormwater Discharge Control

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Non-Storm Water Discharges

Control generally means to prevent or eliminate the discharge of non-stormwater from the construction site.

Exceptions

The CGP authorizes certain non-storm water discharges:

- Dechlorinated potable water;
- Fire hydrant flush water;
- Irrigation water from vegetative erosion controls;
- Pipe flushing and testing;
- Dust control water;
- Uncontaminated groundwater from dewatering; and
- Other discharges not subject to a separate NPDES permit.

Discharges must comply with CGP conditions.

Erosion Control

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- Has effective wind erosion control been implemented?
- Has effective soil cover been provided for inactive areas and all finished slopes, open space, utility backfill, and completed lots? (CGP Requirement).
- Dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist.

Inactive Areas

Areas of construction activity
that have been disturbed
and are not scheduled to be re-disturbed
for at least 14 days.

Erosion Control

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Is effective wind erosion control implemented?

Dust Control

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Erosion Controls

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Soil binder in high wind areas.

Surface roughening

Erosion Control

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Hydraulic Mulch evenly applied (No shadowing)

Are contractors providing effective soil cover for inactive areas and all finished slopes, open space, utility backfill, and completed lots?

Erosion Control

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Erosion Control Blankets

Sediment Controls

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- Are controls installed, maintained, and effective?
  - Perimeters
  - Construction entrance and exits
  - Drain inlets
- Are basins designed per CASQA BMP Manual?

Sediment Controls

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Multi-layer gravel bag linear barrier.

The ends of the bags should overlap.

Sediment Controls

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Fiber roll linear barriers. Properly staked and overlapped.

Perimeter Controls

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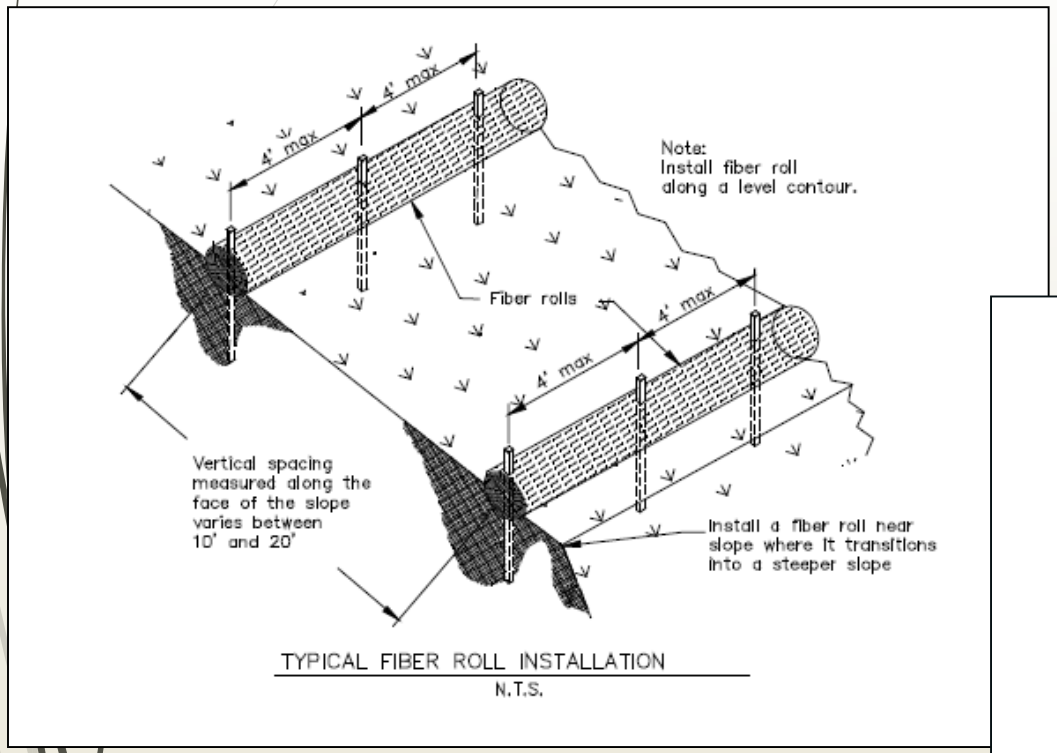

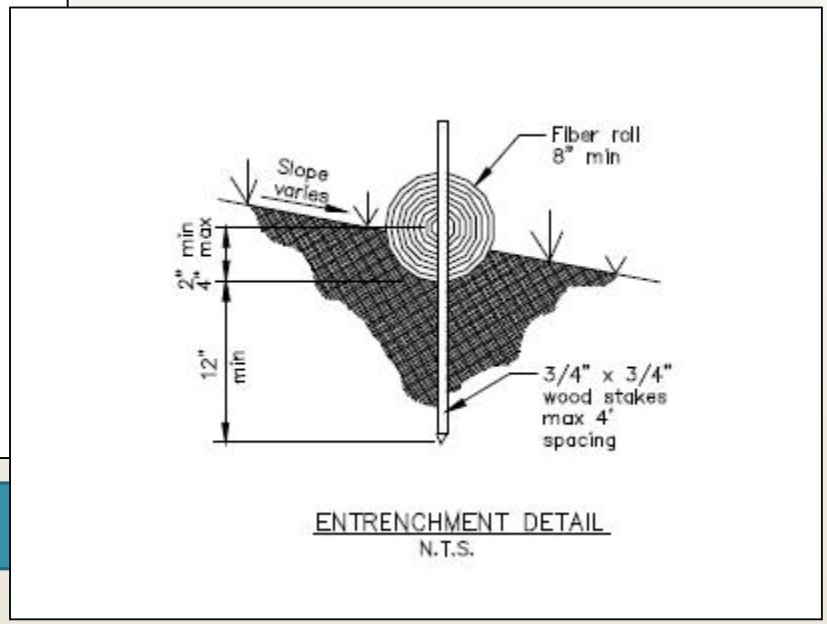

Fiber roll installation.

Perimeter Controls

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Silt fence linear barriers.
Stakes are on the downgrade side.

Perimeter Controls

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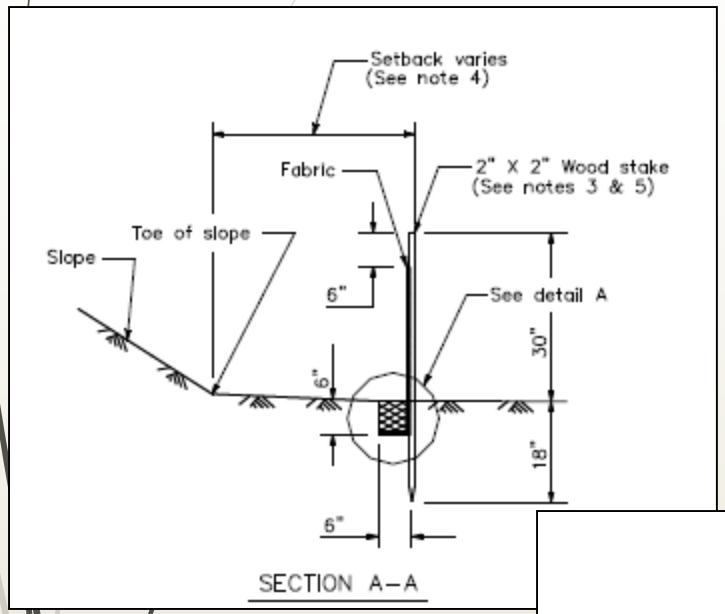

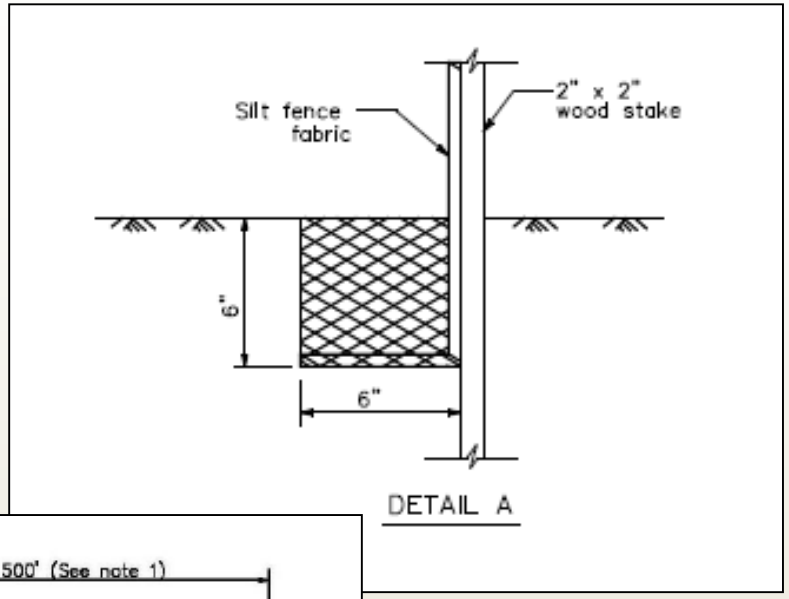

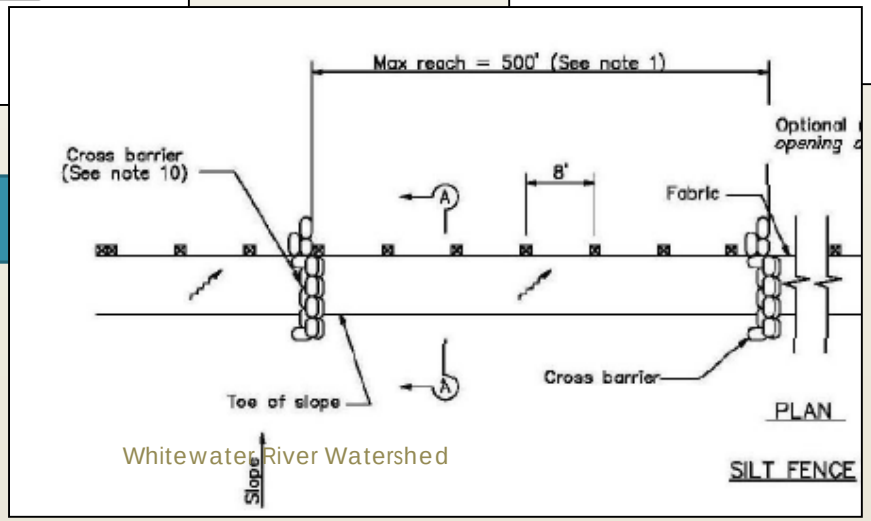

Silt fence installation.

Perimeter Control

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Sediment Controls

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Drain Inlets are considered a perimeter where storm water could leave the site.

Sediment Controls at Drain Inlet

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Sediment Controls

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Are construction entrances and exits stabilized to sufficiently control erosion and sediment discharges from the site?

Sediment Controls

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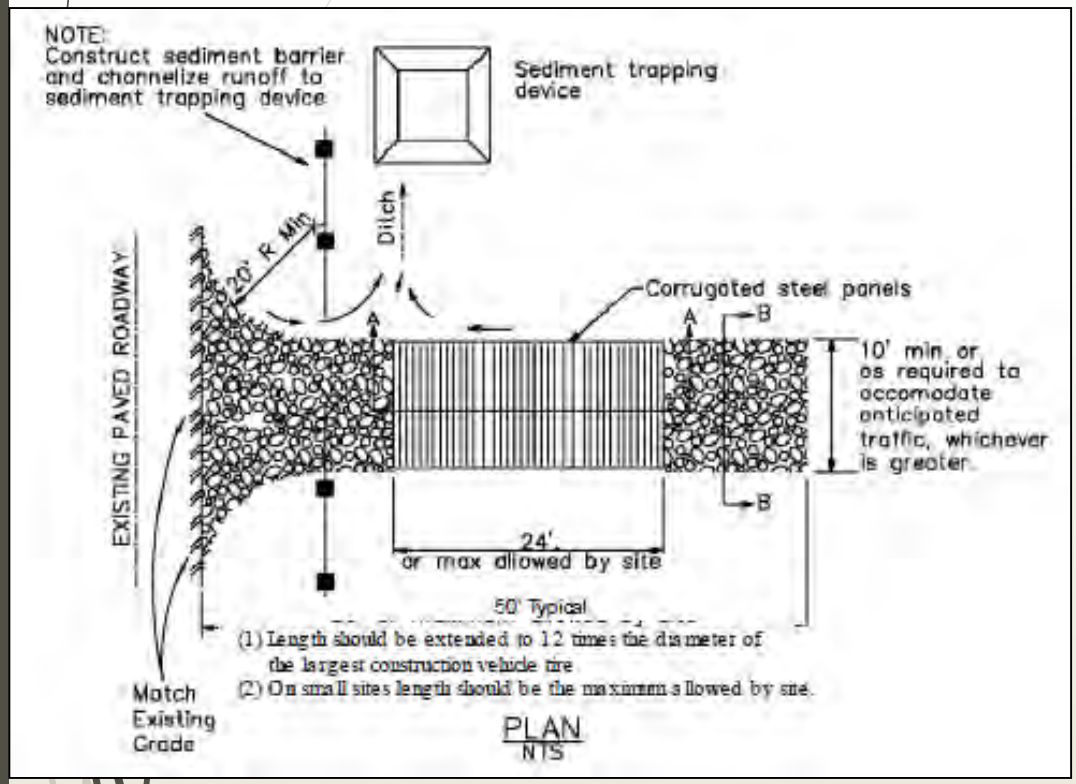

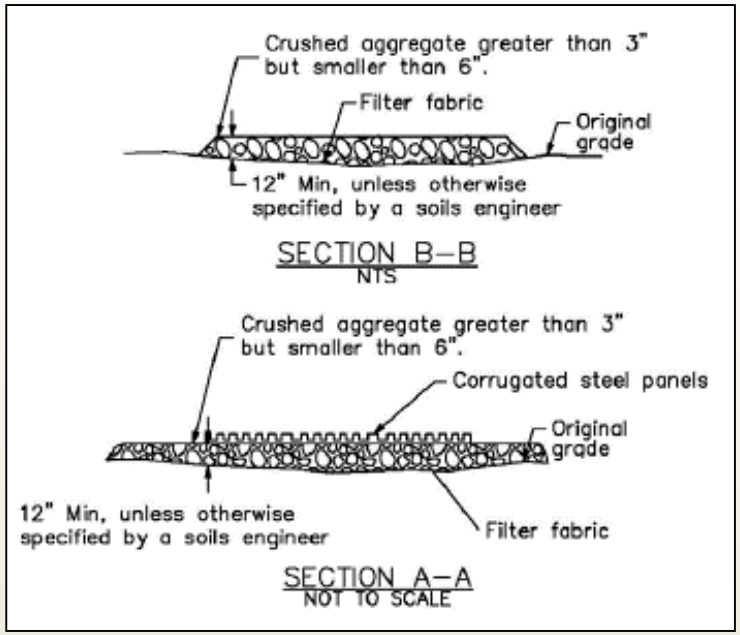

CASQA Stabilized Construction Entrance/Exit Installation

Sediment Controls

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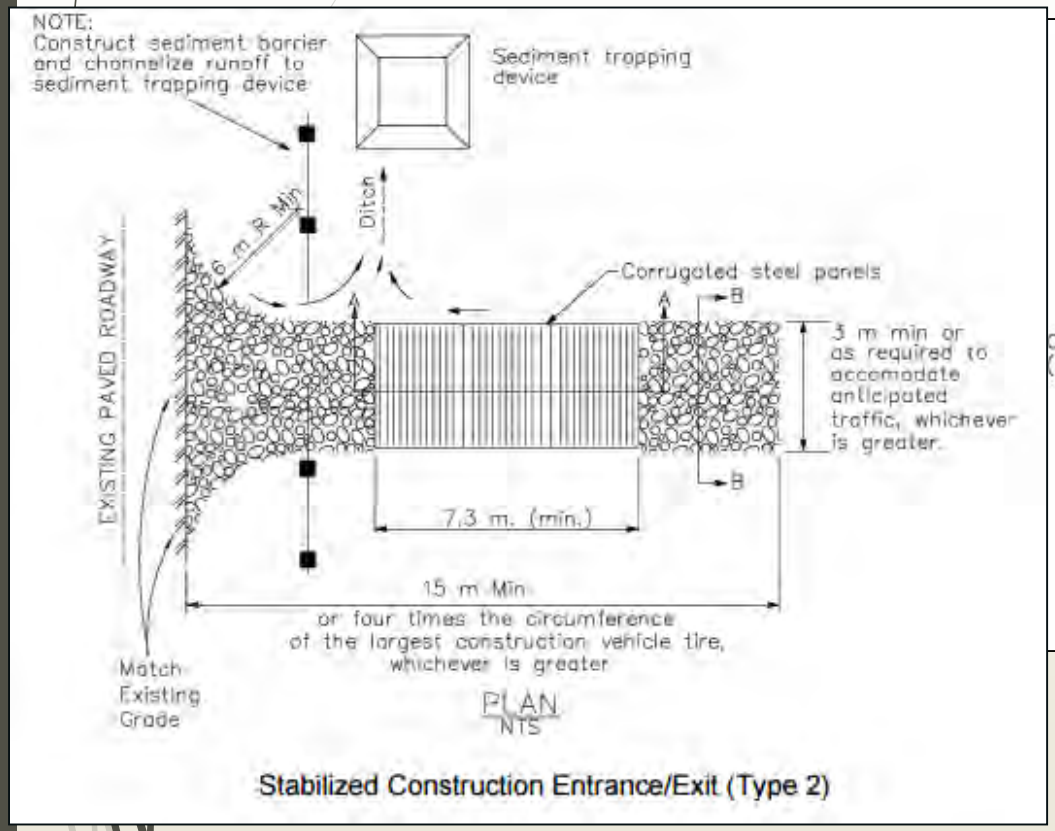
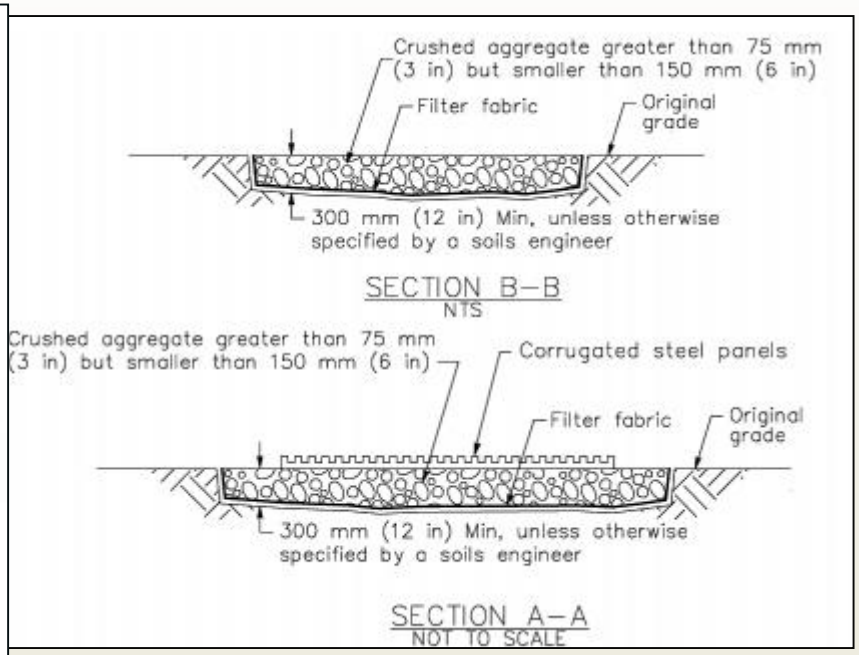


Stabilized Construction Entrance/Exit (Type 2)



Caltrans Stabilized Construction Entrance/Exit Installation

Street Sweeping/Track-Out Control

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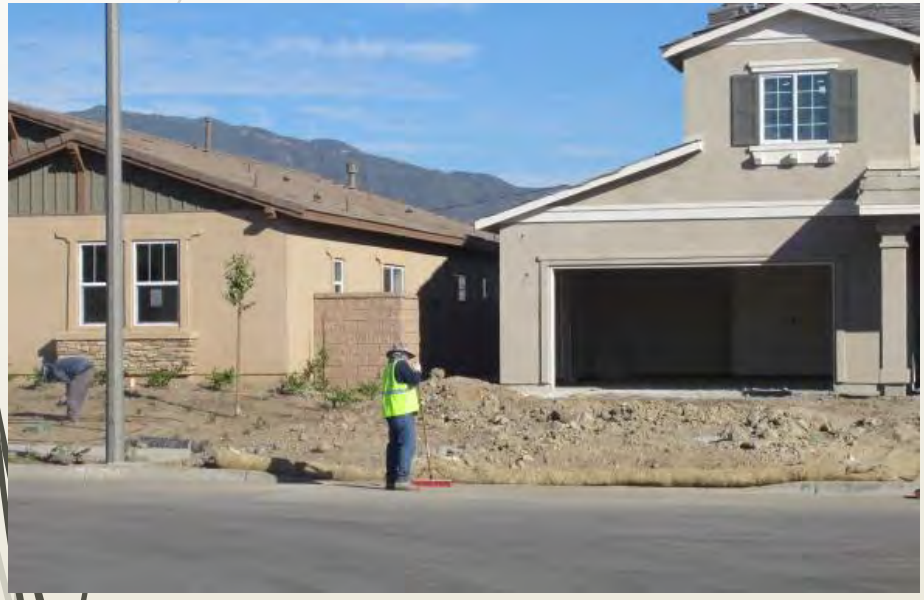

Additional Risk Level 2 & 3

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- Implement appropriate erosion control BMPs (runoff control and soil stabilization) in conjunction with sediment control BMPs for areas under active construction
- Apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes
  - Table 1 in Attachment D

Sediment Control

Sediment Controls on Slopes – Risk Level 2 & 3

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- The CGP requires linear sediment controls along the toe of the slope, face of the slope, and at grade breaks of exposed slopes.

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

Sediment Control

Sediment Controls on Slopes – Risk Level 2 & 3

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- **Linear sediment controls must be used on slopes.**

Whitewater River Watershed

Sediment Control

Sediment Controls on Slopes – Risk Level 2 & 3

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Erosion & Sediment Control

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Hydraulic mulch and fiber rolls on slope at a Risk Level 2 project.

Erosion & Sediment Control

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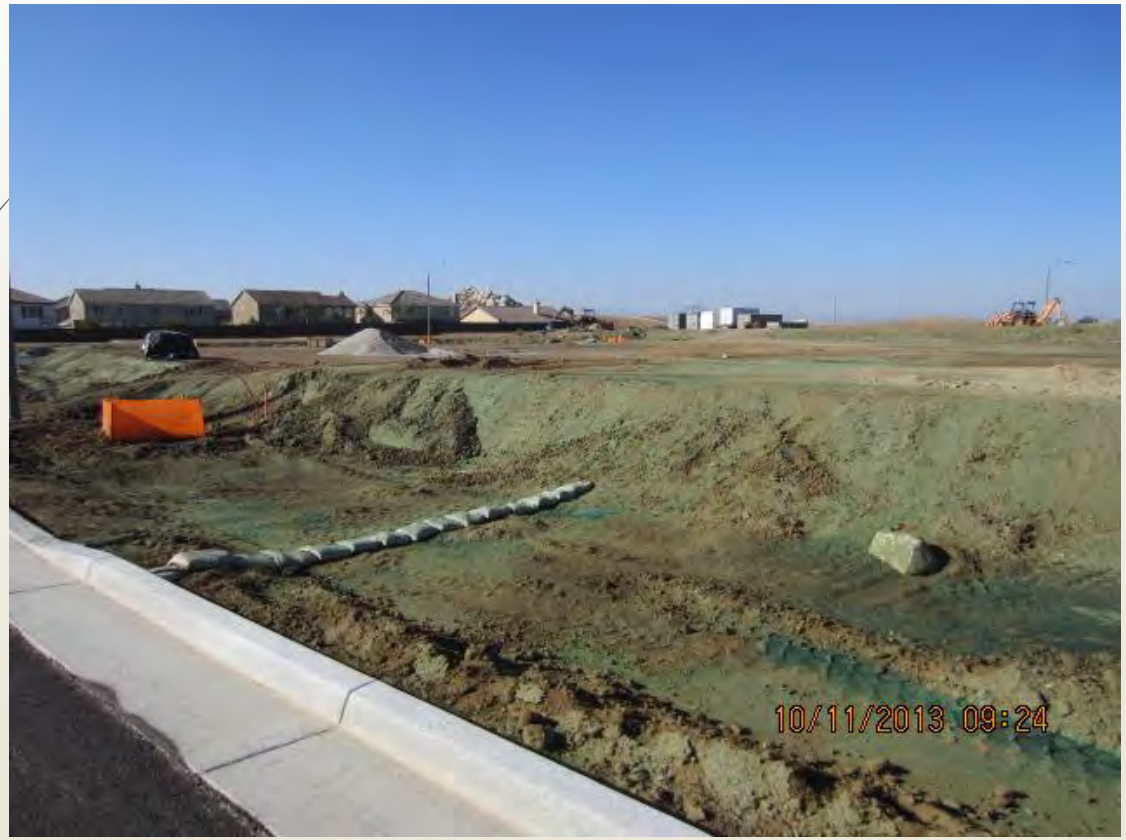
Hydraulic mulch and gravel bag check dams in flow path of a Risk Level 2 site.



Whitewater River Watershed

Sediment Control

Erosion and Sediment Control – Risk Level 2 & 3

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- The CGP requires that Risk Level 2 & 3 projects implement erosion controls (runoff control and soil stabilization) in conjunction with sediment controls for areas under active construction.

Active Areas

Areas of construction undergoing land surface disturbance. This includes construction activity during the preliminary stage, mass grading stage, streets and utilities stage, and the vertical construction stage.

Additional Risk Level 2 & 3

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- Limit project access to effective construction entrances.
- Ensure all inlets are maintained and protected.
- Inspect on a daily basis all immediate access roads daily and prior to a rain event remove sediment or materials.
- Perimeter controls, runoff controls, and controls at entrances and exits maintained and protected from activities that reduce their effectiveness.

Sediment Controls

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Controlled access point limits the potential of track out.

Whitewater River Watershed

Sediment Control

Sediment Basin Management

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- The CGP requires sediment basins be designed according to the CASQA optional methods.
  - Option 1 - Design sediment basin based on:
    - Settling velocity of the design particle size determined using wet sieve analysis;
    - Peak basin flow rate for the 10 year, 6-hour flow; and the
    - EPA basin efficiency reduction factor of 1.2 (Safety Factor).
  - Option 2 – Design pursuant to local ordinance.
  - Option 3 – Use an equivalent surface area design or equation that is equal or more protective than Option 1.
- CASQA also specifies the criteria for basin configuration.

Run-on and Runoff Controls

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- Is Run-on and runoff effectively managed?
- Is Run-on directed away from all disturbed areas
- Or be in compliance with effluent limitations of the General Permit?

Run-on Runoff Controls

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Gravel bag check dams in curb flow lines

Run-on Runoff Control

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Run-on and Run-off Controls

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- Runoff control using a temporary diversion during grading phase.

Run-on and Run-off Controls

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- Runoff control using a temporary diversion during grading phase.

Inspection, Maintenance, and Repair

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- The CGP requires that BMPs be inspected, maintained, and repaired.
- Inspection, maintenance, and repair shall be performed or supervised by a Qualified SWPPP Practitioner (QSP).

Inspection, Maintenance, and Repair

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- Inspections:
  - Weekly;
  - Within 48-hours prior to a Qualifying Rain Event;
  - Once each 24-hours during extended storms;
  - Within 48-hours after a Qualifying Rain Event; and
  - When store storm water from a Qualifying Rain Event is released.
  - Exceptions:
    - During dangerous weather conditions such as flooding and electrical storms; and
    - Outside of scheduled business hours.
    - When exceptions are utilized, they must be explained in the SWPPP and Annual Report.

Inspection, Maintenance, and Repair

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- Inspection checklist is required to record:
  - Date of inspection and report;
  - Weather information, including precipitation (start time, end time, time since last rain, and amount);
  - Site information, including stage of construction, activities, and area exposed;
  - BMPs evaluated and deficiencies noted;
  - Observations of odor or sheen on discharges;
  - During inclement weather, if site is:
    - Accessible, observations of all BMPs; or
    - Not accessible, observations of outfalls /discharge points/etc.
  - Photos taken, if any; and
  - Inspectors name, title, and signature.

Inspection, Maintenance, and Repair

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- Maintenance and Repair
  - When failures or other shortcomings are identified, must begin implementing repairs or design changes to BMPs within 72 hours of identification and completed the changes as soon as possible.

Rain Event Action Plan

Risk Level 2 & 3

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- Rain Events Action Plan (REAP)
  - Apply to Risk Level 2 and Risk Level 3 sites.
    - The SWPPP will identify the site's Risk Level.
  - Required for active sites.
  - Required for inactive sites (halted, postponed, etc.)
  - Triggered by a Likely Precipitation Event 48 hours out.
  - The Qualified SWPPP Practitioner (QSP) is responsible for ensuring the REAP is prepared.

Rain Event Action Plan

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- Risk Level 2 & 3
  - The QSP must develop the REAP
  - 48 hours prior to any likely precipitation event.
  - Forecast to have a 50% or greater probability of producing precipitation in the project area.
  - The REAP must be onsite and be implemented 24 hours in advance of a predicted precipitation event per NOAA's National Weather Service Forecast.

Rain Event Action Plan

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- Must include the following site and phase-specific information:
  - Site Address
  - Calculated Risk Level (2 or 3)
  - Site Stormwater Manager (24-hour phone #)
  - Erosion and Sediment Control Provider (24-hour phone #)
  - Stormwater Sampling Agent (24-hour phone #)
  - Activities associated with each construction phase
  - Trades active on the construction site during each phase
  - Trade contractor information
  - Suggested actions for each Project phase

Monitoring Requirements

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- The CGP requires monitoring.
- Monitoring includes:
  - Visual observations (discussed under inspections)
  - Sampling.

Monitoring Requirements Sampling

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- Sampling requirements vary with the project's Risk Level.

Site Risk Level	Non-Visible Pollutant Sampling	Quarterly Non-Storm Water Discharge Sampling	Storm Water Discharge Sampling	Receiving Water Sampling
1	✓			
2	✓	✓	✓	
3	✓	✓	✓	✓

Training Limitations

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- The information in this training is general so as to cover many types of sites under a wide range of conditions.
- For Permittee requirements, reference should be made to:
  - The MS4 Permit; and
  - The Storm Water Management Plan (SWMP).
- For site specific requirements, reference should be made to:
  - The Construction General Permit; and
  - The project SWPPP.

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Questions and Answers