

# Construction Storm Water Training for Management 30-Minute Module



# General Overview of Storm Water Requirements

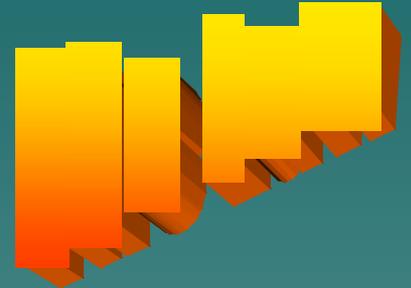
# Introduction

## ◆ Course Highlights

- General Overview of Storm Water Requirements
- Consequences of Non-Compliance
- Causes of Erosion
- Categories of BMPs to Prevent Erosion and Water Pollution
- Dewatering Requirements
- Sampling and Analysis



# Regulations/Permits



- ◆ 1972 Federal Clean Water Act (CWA)
  - Amend to Prohibit Any Discharge of Pollutants from a Point Source
- ◆ 1987 Amendments to the CWA
  - Added Section 402(p) Establishing the Framework for Regulations Regarding Municipal and Industrial Discharges
- ◆ 1990 EPA Published Final Regulations
  - Established Permit Requirements for Storm Water Discharges Associated with Industrial (Including Construction) Activities
- ◆ 1992 California's General Permit was Adopted
  - Established Requirements for Discharges Associated with Construction Activities
  - Revised in 1999; Modified in 2001 to Include Monitoring – 02 Permit
  - Modified in 2002; Effective March 10, 2003 Construction Activity with Soil Disturbance = 1 acre
- ◆ 1999 Caltrans NPDES Permit was issued – 03 Permit and Storm Water Management Plan (SWMP)

# SWPPP Requirements

- ◆ SWPPP should be a dynamic, defensible, living document
- ◆ Identify pollutant sources or potential pollutant sources that may impact storm water discharges
- ◆ Implement BMPs to reduce pollutants in storm water discharges from the construction site.
- ◆ Monitor the site and perform inspections of control practices implemented as part of the SWPPP
- ◆ Document the inspections and the results, as well as corrective action which is to be taken as a result
- ◆ Evaluate and revise controls, and amend the SWPPP



# Consequences of Non-Compliance

# Summary of Fines and Penalties

- ◆ Federal – fines of up to **\$32,500 PER DAY** can be imposed for **UNINTENTIONAL** violation, up to **\$55,000** per day for an **INTENTIONAL** violation, in addition to criminal liability and responsibility for cleanup costs
- ◆ State – Penalties of up to an additional **\$10,000 per day plus \$10/gallon** of sediment-laden or polluted water discharged for each violation
- ◆ Failure to Submit a Notice of Intent for Coverage under the appropriate storm water NPDES permit. **Minimum \$5,000 plus recovery of staff costs**
- ◆ Failure to submit an annual report of construction certification when required by the Regional Board. **Minimum \$1,000 plus recovery of staff costs**
- ◆ Violation of Permit Terms or Basin Plan Prohibitions **Minimum amount is the economic savings of the violation**



## Current Regulatory Atmosphere

- “The Learning Curve is Over”

# Causes of Erosion

# Definition of Erosion

- ◆ Soil erosion is the **process** by which soil particles become detached by water, wind, or gravity and are transported from their original location.



# Types of Erosion

- Splash Erosion
- Sheet Erosion (Overland Flow)
- Rill Erosion
- Gully Erosion
- Channel Erosion

# Categories of BMPs to Prevent Erosion and Water Pollution

# BMP Installation

## BMP Categories

- ◆ Temporary Soil Stabilization
- ◆ Temporary Sediment Control
- ◆ Wind Erosion Control
- ◆ Tracking Control
- ◆ Non-Storm Water Management
- ◆ Waste Management and Materials Pollution Control

# Temporary Soil Stabilization

ID	BMP Name
SS-1	Scheduling
SS-2	Preservation of Existing Vegetation
SS-3	Hydraulic Mulch
SS-4	Hydroseeding
SS-5	Soil Binders
SS-6	Straw Mulch
SS-7	Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats
SS-8	Wood Mulching
SS-9	Earth Dikes/Drainage Swales & Lined Ditches
SS-10	Outlet Protection/Velocity Dissipation Devices
SS-11	Slope Drains
SS-12	Streambank Stabilization

# Temporary Sediment Control

ID	BMP Name
SC-1	Silt Fence
SC-2	Sediment / Desilting Basin
SC-3	Sediment Trap
SC-4	Check Dam
SC-5	Fiber Rolls
SC-6	Gravel Bag Berm
SC-7	Street Sweeping and Vacuuming
SC-8	Sandbag Barrier
SC-9	Straw Bale Barrier
SC-10	Storm Drain Inlet Protection

# Tracking Control

ID	BMP Name
TC-1	Stabilized Construction Entrance/Exit
TC-2	Stabilized Construction Roadway
TC-3	Entrance/Outlet Tire Wash

# Wind Erosion Control

**ID**

WE-1

**BMP Name**

Wind Erosion Control



Lack of wind erosion controls



Adequate dust control



# Non-Storm Water Management BMPs

<b>ID</b>	<b>BMP Name</b>
NS-1	Water Conservation Practices
NS-2	Dewatering Operations
NS-3	Paving and Grinding Operations
NS-4	Temporary Stream Crossing
NS-5	Clear Water Diversion
NS-6	Illicit Connection / Illegal Discharge Detection and Reporting
NS-7	Potable Water / Irrigation
NS-8	Vehicle and Equipment Cleaning
NS-9	Vehicle and Equipment Fueling
NS-10	Vehicle and Equipment Maintenance
NS-11	Pile Driving Operations
NS-12	Concrete Curing
NS-13	Material and Equipment Use over Water
NS-14	Concrete Finishing
NS-15	Structure Demolition/Removal Over or Adjacent

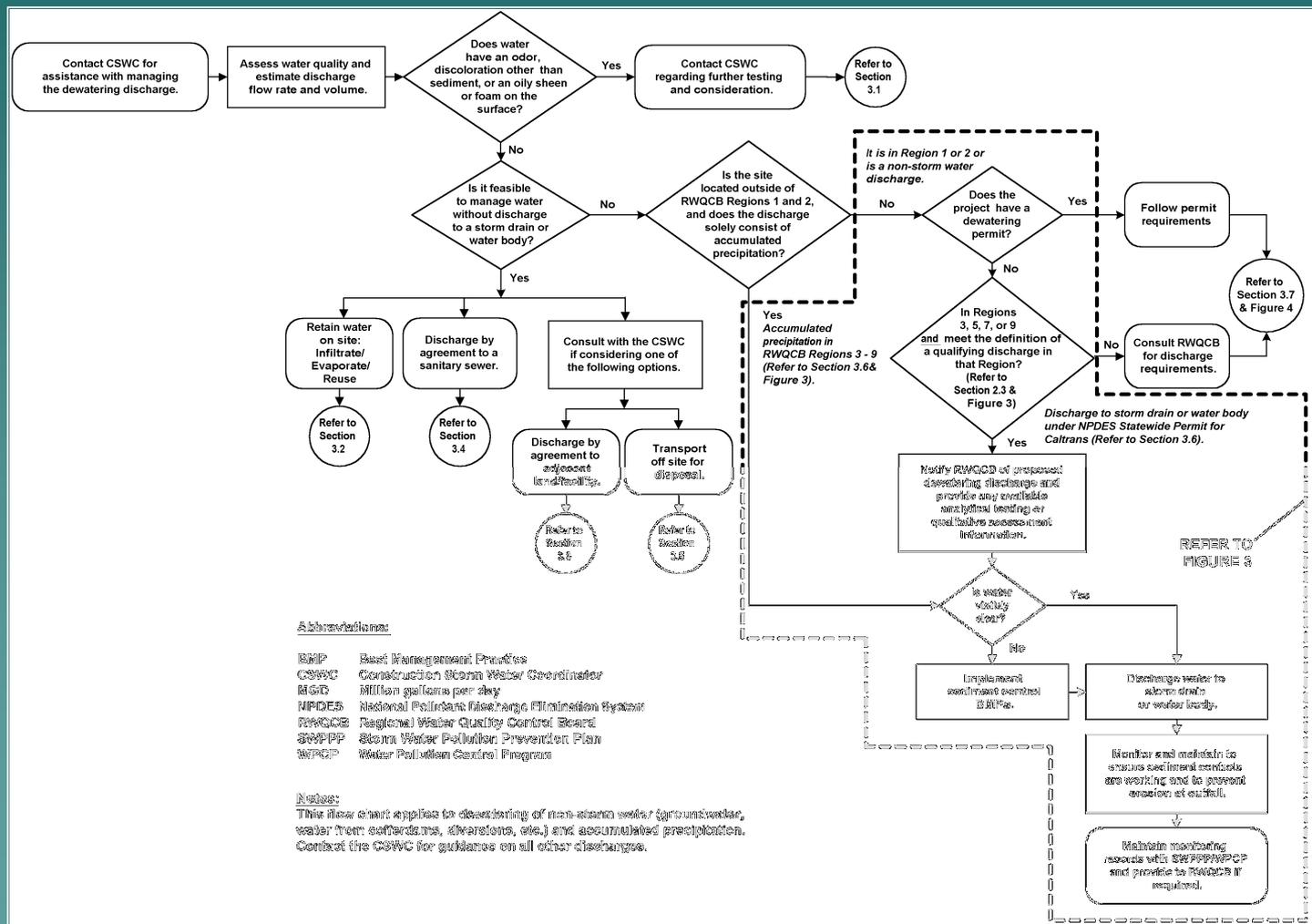


# Waste Management and Material Pollution Control BMPs

<b>ID</b>	<b>BMP Name</b>
WM-1	Material Delivery and Storage
WM-2	Material Use
WM-3	Stockpile Management
WM-4	Spill Prevention and Control
WM-5	Solid Waste Management
WM-6	Hazardous Waste Management
WM-7	Contaminated Soil Management
WM-8	Concrete Waste Management
WM-9	Sanitary / Septic Waste Management
WM-10	Liquid Waste Management

# Dewatering Requirements

# Dewatering Operations Management Flow Chart



# Sampling and Analysis

# Sampling and Analysis Requirements

- ◆ Modification to the General Construction Permit – adopted April 2001
  - Implement specific sampling and analytical procedures to determine whether BMPs implemented are:
    - ◆ Preventing further impairment, from storm water discharge, of 303(d) listed water bodies for sedimentation/siltation or turbidity.
    - ◆ Preventing other non-visible pollutants from causing or contributing to exceedances of water quality objectives.
- ◆ The Modification is Now included in the "02" Permit