County of San Bernardino Stormwater Program

Municipal Activities Pollution Prevention Strategy (MAPPS)



Volume IV – Construction Inspection

Items covered in this training:

- Regulatory Background
- Sources of stormwater pollution
- BMPs to reduce eliminate stormwater impacts
- What to look for when making a job site inspection
- Tools that are available to help you make good decisions.

Recommended Reading

Important documents to become familiar with:

- Report of Waste Discharge, 2000
- General Construction Permit
- San Bernardino County Municipal MS4 permit, 2002
- CASQA, Stormwater BMP Handbook, Construction, 2003
- Municipal stormwater ordinance for your city

Construction training handbook includes pertinent sections.

Glossary

NPDES – National Pollutant Discharge Elimination System

SWPPP – Stormwater Pollution Prevention Plan

BMP – Best Management Practice

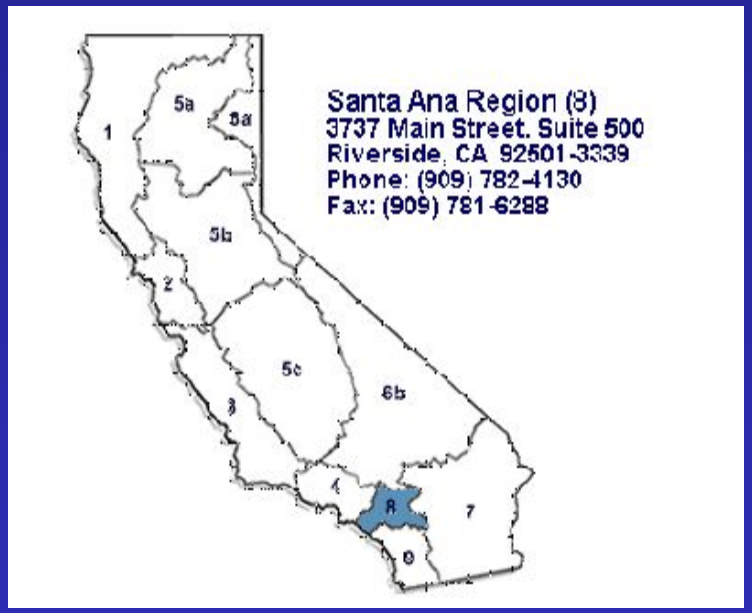
EPA – Environmental Protection Agency

SWRCB – State Water Resources Control Board

RWQCB – Regional Water Quality Control Board

Regulatory Authority

FEDERAL: EPA – Environmental Protection Agency



STATE: SWRCB – State Water Resource Control Board

STATE: RWQCB – Regional Water Quality Control Board (Santa Ana Region) → San Bernardino County/Flood Control District and 16 incorporated cities

Regulatory History



In 1948

Congress passed the first version of the FEDERAL WATER POLLUTION CONTROL ACT... the Clean Water Act

In 1972

A significant amendment to the FEDERAL WATER POLLUTION CONTROL ACT established the.....

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

Regulatory History

In 1987

Congress amends to **Clean Water Act** to include regulation of **non-point source pollution.**



What do the regulations mean in plain ENGLISH…

- "Only Rain in The Drain"
- No Oil
- No Concrete Wastes
- No Septic Wastes
- No Sediment
- ….Only Rain in the Drain



Construction soil disturbance activities increases the erosion process.



N.P.D.E.S. CONSTRUCTION SITE INSPECTION TRAINING

WHAT TO LOOK FOR WHILE PERFORMING CONSTRUCTION SITE INSPECTION



What pollutants come from construction?



Is sediment really a problem?

Answer: YES!

- Sediment is the most common pollutant, which has the potential to:
  - Cause flooding
  - Block sunlight and impact aquatic life
  - Carry pollutants



Erosion and Sedimentation

What is Erosion and Sedimentation?

- Soil erosion is the process by which soil particles become detached by water, wind, or gravity and are transported from their original location.
- Sedimentation is the result of deposition (settling out) of the detached soil particles.

Types of Erosion

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

Splash Erosion

- Rain drops striking bare soil directly
  - Detach soil particles
  - Particles can then be transported by the action of water and/or wind



Sheet Erosion (Overland Flow)

- The removal of a uniform thin layer of soil by raindrop splash or water run-off
- Surface film of water 2-3 mm deep
- This process may occur unnoticed on exposed soil even though raindrops are eroding large quantities of soil
- This process eventually becomes more dramatic via the formation of rills and gullies



Rill Erosion

- Shallow surface flows that become condensed
- Increased velocity and turbulence.
- Well-defined tiny channels



Gully Erosion (Concentrated Flow)

- Accumulating runoff becomes concentrated and forms small rills throughout the soil
- Several rills may form throughout a slope and eventually may join together to form Gullies
- The rate of rill erosion can be approximately 100 X greater than sheet erosion and the rate of gully erosion can be approximately 100 X greater than rill erosion (A person may drive a car over a rill but not a gully)



Channel Erosion

- Occurs when the equilibrium between the flow of water and friction of the soil surface is disrupted
- Results from increased volume, velocity and or duration of flow, concentration of flow or removal of vegetation
- Channel erosion occurs in areas where tributaries, storm drains and or culverts flow into unprotected channels

Sedimentation

Sedimentation is solid particulate matter in suspension being transported, or has been moved from its site by air, water, gravity or ice and has settled elsewhere.

What other pollutants are of concern at a construction site?



Areas of concern

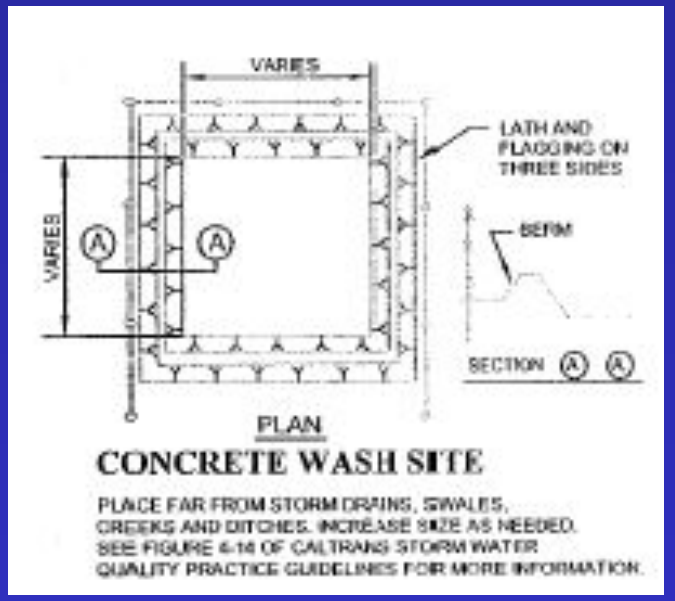
- Yard Storage Areas
- Maintenance and Fueling Areas





Areas of concern

- Concrete washout areas nearby storm inlets



Construction wastes sources

Typical areas of activity that may impact stormwater quality include:

- Washing and rinsing areas
- Material storage areas
- Loading, unloading and transfer areas
- Waste disposal and storage areas
- Maintenance areas



General Housekeeping

- **Trash and debris - collection in dumpsters**
- **Portable toilets - out of the public right of way**



Construction housekeeping

Housekeeping is maintaining a safe, efficient and non-polluting construction site. The practice of housekeeping involves proper storage, use, cleanup and disposal of the various materials used in construction and site stabilization.

Materials may include concrete curing compounds, mastics, solvents, paint products, fertilizers and various other chemicals. Of particular concern are concrete, trash and paint.

Housekeeping



- Keep materials as far from catch basins as possible
- A catch basin IS NOT a secondary containment for port-a-potties.

Stormwater permits - construction

- General Construction Permit
  - Construction Activity (grading, excavation, clearing) of greater than one acre.

    -SWPPP required on site during all stages of construction.

- Small Linear Underground/Overhead Projects
  - Underground and overhead utility construction that results in soil disturbance between one and five acres.

    -SWPPP required on site during all stages of construction.

General Construction Permit

- Who needs a permit?
  - Construction projects disturbing greater than one acre of land area.
- How do you obtain coverage?
  - Land owner submits a signed Notice of Intent (NOI) to the SWRCB, site map and fee.
- When does coverage end?
  - General Permit remains in effect until a Notice of Termination (NOT) is submitted and approved by the RWQCB.

Small Linear Underground/Overhead Projects (Small LUPs)

- Construction activities associated with small LUPs include activities necessary for the installation of underground and overhead linear facilities.

  - Disturbed land area of these construction activities is greater than one acre but is less than five acres.

  - Projects with greater than five acres of disturbed area obtain coverage under General Construction Permit.

LUP Permit calculation of disturbed area

[Width of disturbance (including trench width) **+** Immediate access width]

***** Length of Projector pipe diameter

+ Areas where project-related activity (such as equipment and material storage) occur

+ (Bore hole diameter + Immediate access width) * number of bore holes

= Total area to be disturbed

What is a SWPPP?

- Storm Water Pollution Prevention Plan

- Must be on site for all construction sites with greater than one acre of disturbed soil
- Site specific with map
- Monitoring and training
- BMPs should reflect BMPs listed on erosion control plans
- Can be amended to accommodate project changes

What is a WQMP?

- Water Quality Management Plan

Water Quality Management Plans detail site design, source and treatment control post-construction BMPs to control the quantity and quality of stormwater from new development or redevelopment projects.

- BMPs in the WQMP should match
  - Grading/Erosion Control Plans
  - Building plans

Soil stabilization

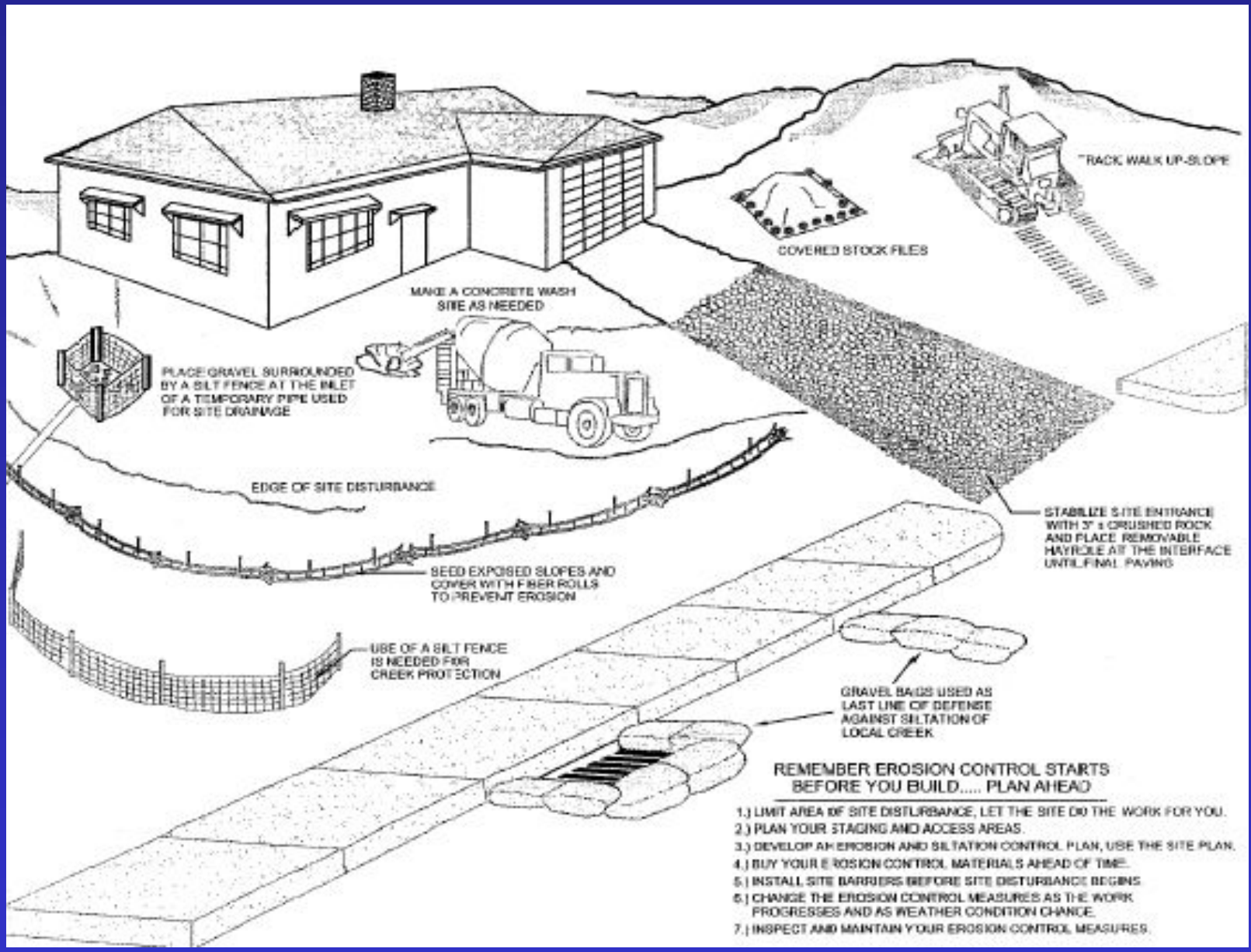
Temporary soil stabilization can be the single-most important factor in reducing erosion at construction sites.



Construction Inspection:

Items needed <u>BEFORE</u> grading starts

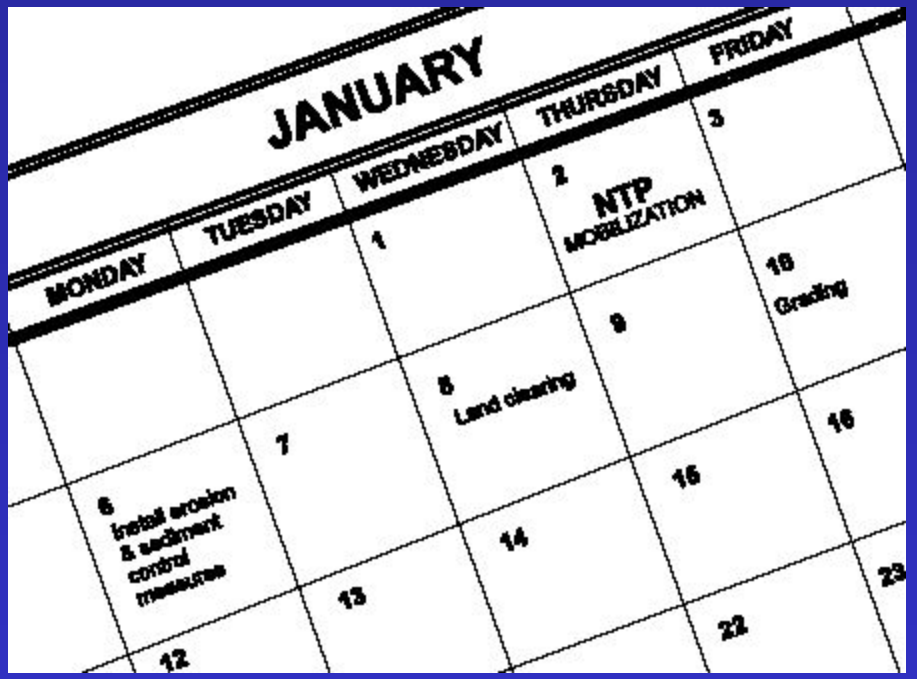
- Storm Water Pollution Prevention Plan (SWPPP) on site at all times.
- Train employees – Best Management Practices
- Perimeter erosion and sediment control measures
- Additional erosion/sediment control devices on-hand in the event of precipitation
- Consultant contract for sampling or sampling kit onsite



From City of RC, CA

Planning Considerations

- Rainy Season
- Site Evaluation
- Scheduling
  - Lead time for materials and equipment
- Weather Tracking
- Limiting the Amount of Soil Exposure
- BMP Selection
- Soil Preparation



B.M.P.'S

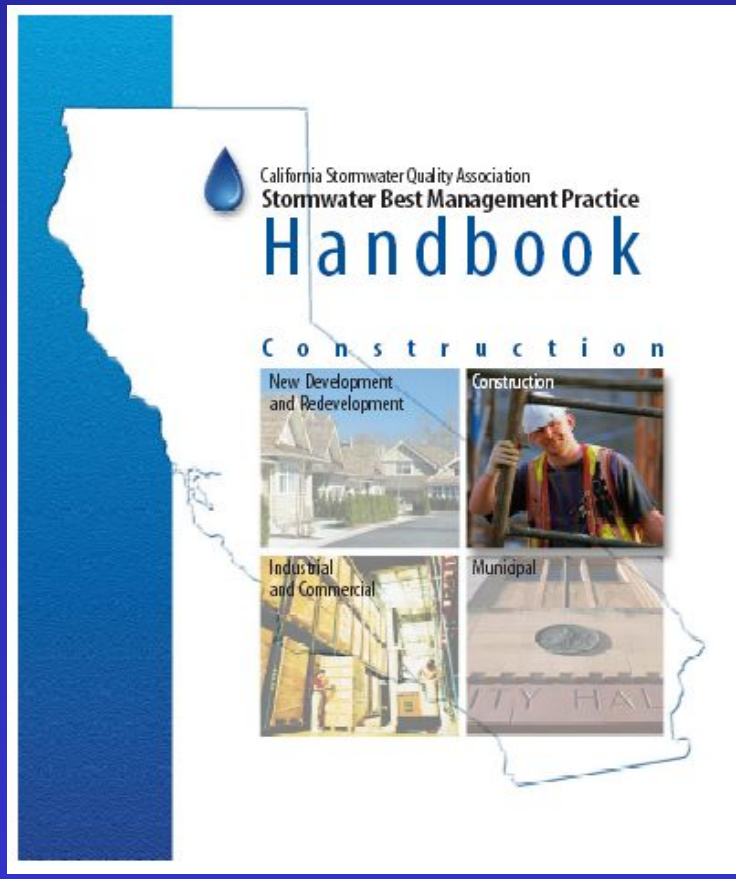


- BMP'S, (**BEST MANAGEMENT PRACTICES**) should be installed as indicated in the SWPPP.
- BMPs should be constantly monitored for effectiveness.

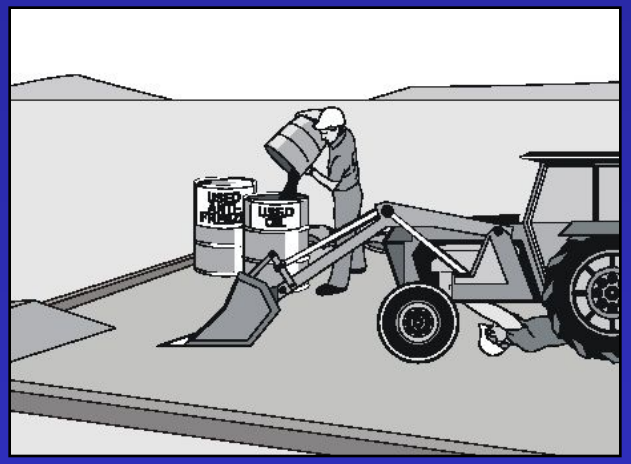
CASQA BMP Handbook - Construction

- Construction Site BMP Manual
- Stormwater Pollution Prevention Plan (SWPPP)
  - -Electronic Template
  - Available on line

www.cabmphandbooks.com/Construction.asp



Construction Inspection
Vehicle and Equipment Maintenance



- Drip pans or absorbent pads should be used during vehicle and equipment maintenance work that involves fluids.
- If maintenance must occur onsite, use designated areas, located away from drainage courses.
- All fueling trucks and fueling areas are required to have spill kits and/or use other spill protection devices.

Site Evaluation

- Flow Conditions
- Slope Inclination and Length
- Soil Properties
- Surface area
- Accessibility of Equipment
- Nearby Drainage (303 (d) Water Bodies)
- Duration of project

Site Evaluation - Flow Conditions

- Determine the type(s) of flows which will impact the construction site
  - Sheet Flow
  - Channelized Flow
  - Run-on
  - Run-off

Weather Tracking

- The contractor needs to be aware of the forecast for probability, duration and expected intensity of precipitation.
- Consider if project construction will be conducted in rainy season (Oct. through April)



B.M.P.’S



BMPs need to be properly maintained or they can do more harm then good.

Soil Stabilization BMPs

- **Temporary soil stabilization BMP defined – Interim control measures which are installed or constructed to control soil erosion and which are to be removed after project completion**

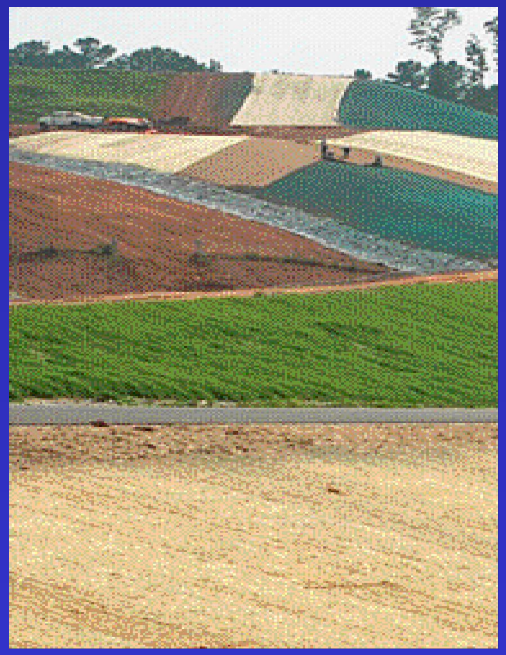


- **Permanent soil stabilization BMP defined – Measures which are installed or constructed to control soil erosion and which are maintained after project completion**



Soil Stabilization BMPs

- Temporary Soil Stabilization BMPs involve preparing the soil surface and applying one of the approved BMPs or combination of BMPs, to disturbed soil areas



Soil Stabilization BMPs

Temporary Soil Stabilization BMPs are designed to eliminate or reduce the erosion of disturbed soil areas, and provide dust control during the process of construction and reduce the transport of sediment and pollutants by storm water

Erosion and Sediment Control BMPs

- In this section we will discuss the following temporary soil stabilization BMPs found in CASQA BMP Handbook-Construction 2003.
  - EC-3 Hydraulic Mulch
  - EC-4 Hydroseeding
  - EC-5 Soil Binders
  - EC-6 Straw Mulch
  - EC-7 Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats
  - EC-8 Wood Mulching

Hydraulic Mulch EC-3

- **What is it?**
  - **A mixture of wood mulch, and water – with or without combinations of stabilizing emulsions, and /or, synthetic fibers**



Hydraulic Mulch EC-3

- **How is it applied?**
  - **It's mixed into a slurry and applied using hydro-mulching equipment**









Hydraulic Mulch EC-3 Specs.

- **Surface preparation**
  - **Roughen soil surface with small furrows along the contours**
    - **Ripping, Sheepsfoot, Track Walk**
  - **Spray onto disturbed soil at a prescribed rate as a liquid slurry**





Hydroseeding EC-4

- **What is it?**
  - **The process of vegetating disturbed soil areas by applying a mixture of stabilizing emulsion, seed, fertilizer, and wood fiber to disturbed soil**







Hydroseeding EC-4

- **How is it applied?**
  - **It's mixed into a slurry and applied using hydro-mulching equipment**





Hydroseeding EC-4

- **It can also be applied as:**
  - **A stand alone process – seed and emulsion**
  - **Mixed with Hydraulic Mulch**
  - **Mixed with Soil Binders**
  - **Applied prior to application of Straw Mulch**
  - **Applied prior to application of Rolled Erosion Control Products**
  - **Applied prior to application of Wood Mulch**

Soil Binders EC-5

- **What is it?**
  - **An emulsion categorized as plant based (long and short lived), polymeric emulsion blend (acrylic polymers), or cementious-based binders that penetrates the top soil and binding the soil particles together**



  - **Tackifiers are a soil binder made up of short lived plant based materials and highly diluted polymeric emulsions, and cementious-based binders – limited durability**

  - **Heavy duty soil binders are made up of long lived plant based materials more concentrated polymeric emulsions, and cementious-based binders – durable, long term stabilization**

Soil Binders EC-5

How is it used?

- As a stand alone stabilizer or as a stabilizing emulsion in hydraulic and straw mulches where it acts as a binding agent for the mulch

How is it applied?

- It's mixed into a slurry and applied using hydro-mulching equipment
- Sprayed from a water truck





Hydroseeding EC-4

- Standards and Specifications

Surface preparation

- **Roughen soil surface with small furrows along the contours**
  - **Ripping, Sheepsfoot, Track Walk**
- **Refer to CASQA Handbook – Construction EC-4**

Straw Mulch EC-6

- **What is it?**
  - **The process of applying a uniform layer of straw over a disturbed soil area to temporarily stabilize the soil**



Straw Mulch EC-6

- **How is it applied?**
  - **By hand (labor intensive) or by mechanical blower**



Straw Mulch EC-6

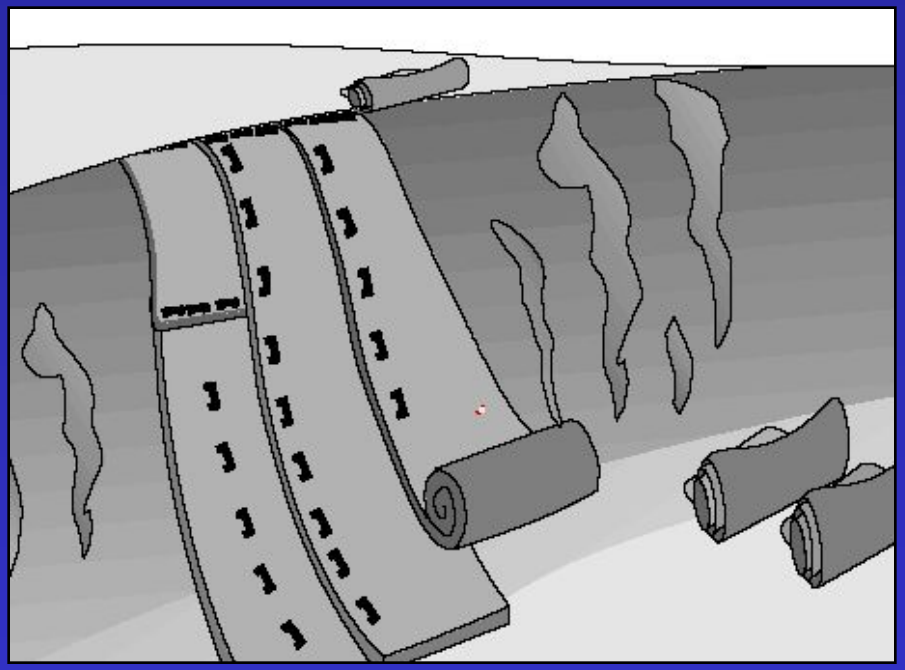
- **How is it secured to the ground?**
  - **Crimped or punched**
  - **Glued with a stabilizing emulsion**





Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats EC-7

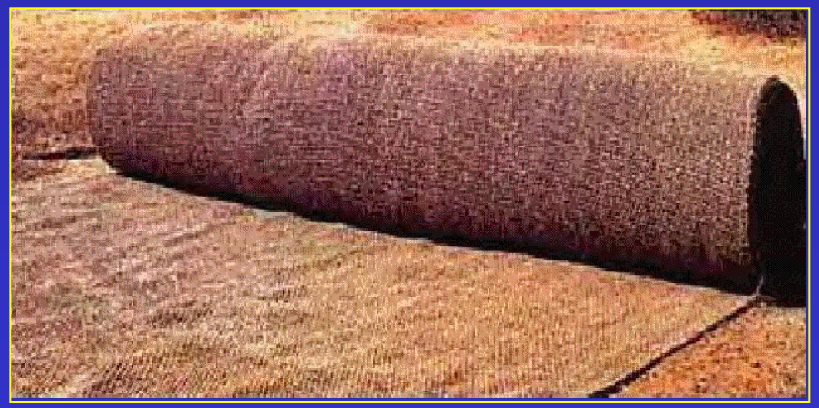
- **What is it?**
  - **Rolled erosion control BMPs used to protect disturbed soil areas from erosion by water and wind**
  - **A high strength BMP that can be used as a stand alone BMP or used in conjunction with re-vegetation**
  - **Commonly used in channels**



Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats EC-7

- **What types are there and how are they used?**
  - **Erosion Control Blankets: Can be biodegradable or biodegradable and photodegradable. Biodegradable blankets typically composed of fibers such as jute, straw, coconut or a combo of straw and coconut fibers. Biodegradable and photodegradable are made up of biodegradable fibers such as excelsior (curled wood fiber), wood, jute, straw, coconut or a combo of straw and coconut fibers, and photodegradable polypropylene or polyethylene. Used as a temporary soil stabilizer.**





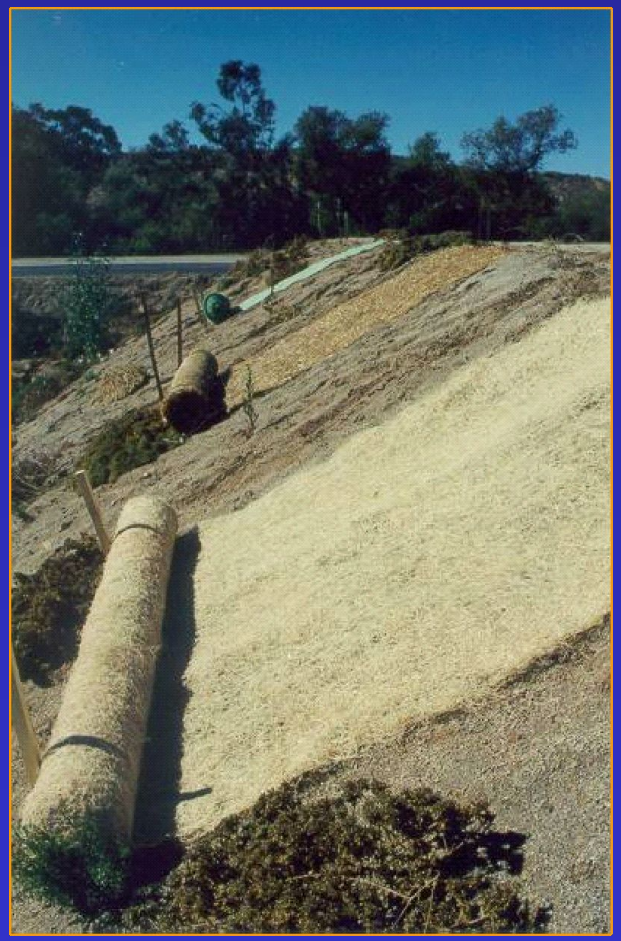
Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats EC-7

- **What types are there and how are they used?**
  - **Mats or Turf Reinforcement Mats (TRMs): Can be biodegradable fiber and photodegradable synthetic netting or interwoven non-biodegradable geosynthetic material . Constructed to form a three-dimensional matrix. Used as a permanent soil stabilizer, and for difficult temporary situations.**



Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats EC-7

- **How are they applied?**
  - **Generally speaking they are rolled out on the disturbed soil and anchored down**



Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats EC-7

- **What types are there and how are they used?**
  - **Geotextiles: Woven non-biodegradable polypropylene fabric. Can be used for soil stabilization and drainage control**
  - **Plastic Covers (plastic sheeting): Impervious, non-biodegradable. Uses include stockpiles and small areas requiring immediate attention**
  - **Netting: Plastic, or geotextiles. Plastic is photodegradable geosynthetic such as polypropylene, polyethylene, nylon, and/or PVC. Used to secure loose mulchs like straw to allow vegetation growth**



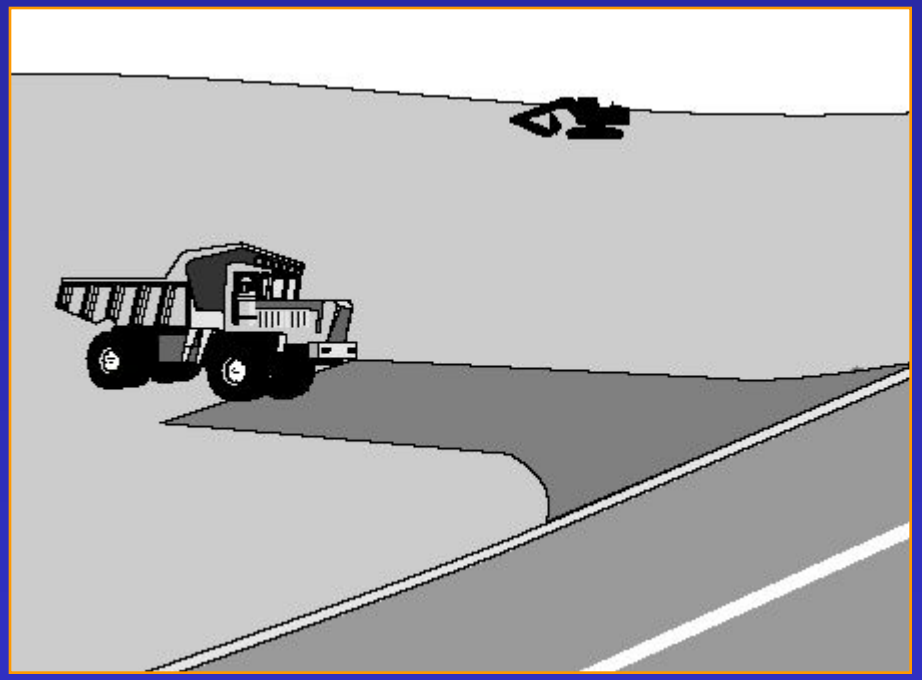


Wood Mulch EC-8

- **What is it?**
  - **The process of applying bark, shredded wood, and/or compost (recycled green material) to bare soil to reduce the potential for erosion from wind and water**
  - **Used primarily for landscaping**



Stabilized Construction Entrance/Exit TC-1



Stabilized Entrance/Exit TC-1 Specs.

- Construct on level ground where possible
- Select 3 to 6 in. diameter stones
- Use minimum depth of stones of 12 in. or as recommended by soils engineer.
- Construct length of 50 ft minimum, and 30 ft minimum width.

Erosion and Sediment Control

Slope protection i.e. track walking, mulch, soil binders, blankets, benches, vegetation



Sediment Controls BMPs

- SE-1 Silt Fence
- SE-4 Check Dams
- SE-5 Fiber Rolls
- SE-6 Gravel Bag Berms
- SE-7 Street Sweeping
- SE-8 Sand bag barrier
- SE-9 Straw bale barrier

Sediment Controls

- Intercept sediment laden runoff, slow the flow, and allow the suspended sediment particles to drop out of suspension.

Sediment Control BMPs

SE-1 Silt Fence

- Permeable fabric designed to intercept and slow flow of sediment-laden sheet flow runoff

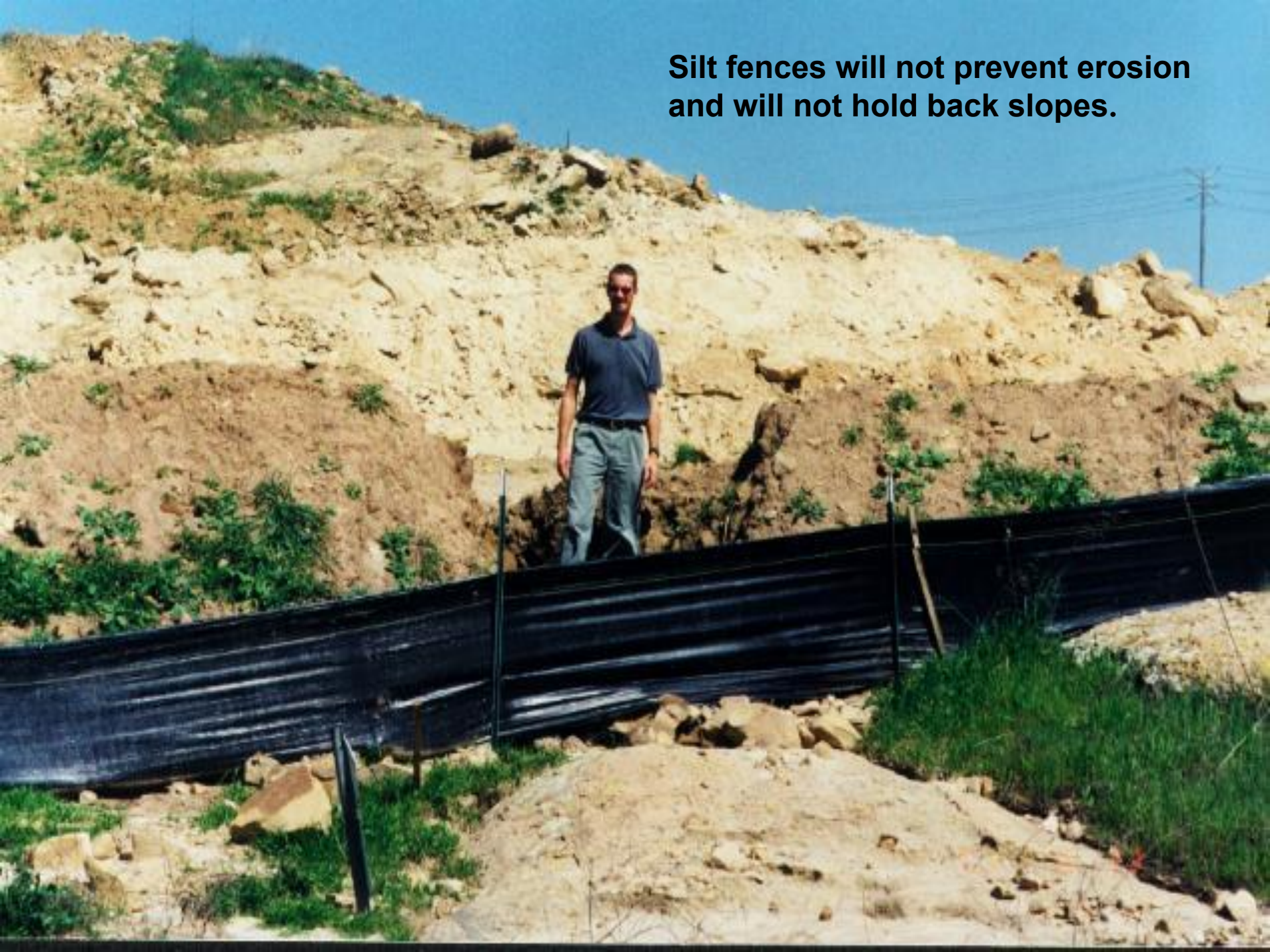






Construction Inspection

- Stabilizing point of entrance/exit to prevent tracking onto public roads. Minimum 50’ from paving, 10’-15’ wide, & 6”-8” of aggregate.
- Designated areas for concrete/stucco cleanout.
- Trash/Recycle Receptacles – remove and/or recycle as soon as possible
- Curb and Gutter – Sandbag catch basins


Silt fences will not prevent erosion
and will not hold back slopes.


And they don’t stop
washouts or floods!

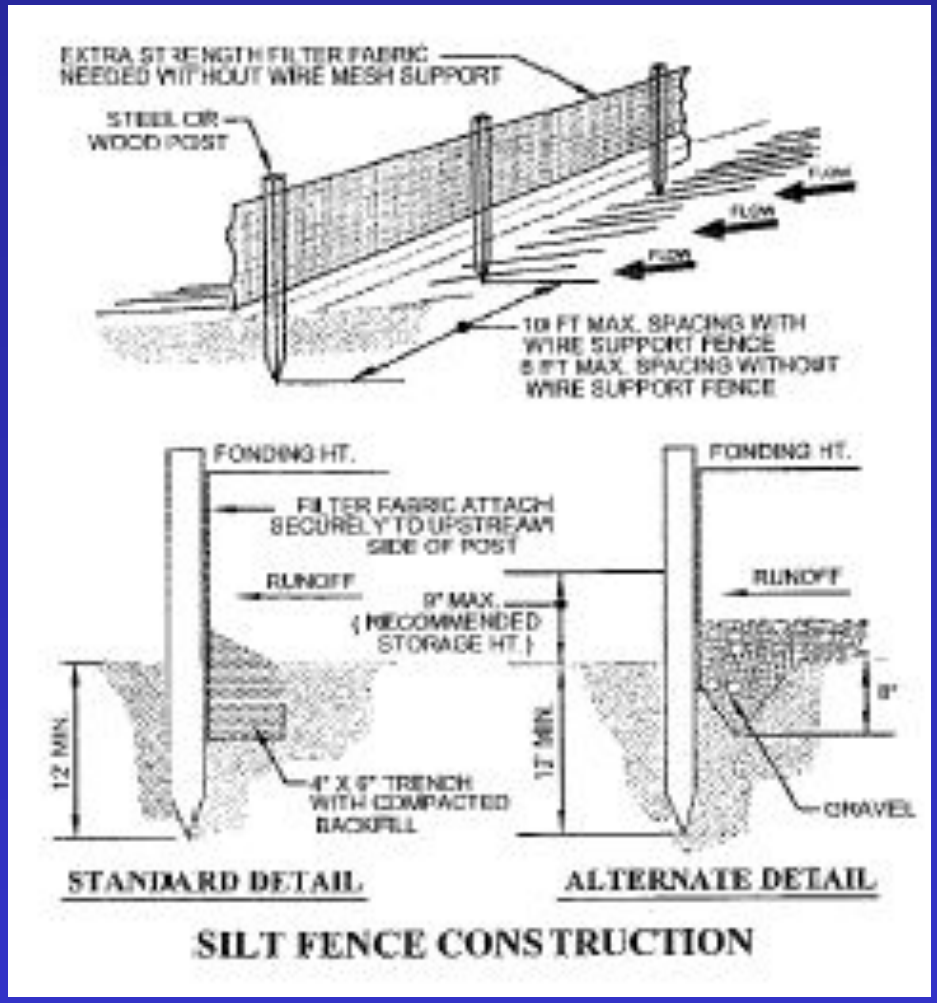
SE-1 Silt Fence



- Material Requirements
  - Silt fence shall be woven polypropylene fabric
  - Minimum width 36 inches
  - The fabric shall conform to the requirements in ASTM designation D4632 and have an integral reinforcement layer
  - The permittivity of the fabric shall be between 0.1 sec^{-1} and 0.15 $^{-1}$ in conformance with ASTM designation D4491

SE-1 Silt Fence

- General Staking Guidance
  - Wood stakes shall be commercial quality lumber
  - Stakes shall be free from decay, splits or cracks longer than the thickness of the stakes
  - Bar reinforcement can also be used, consider the use of end protection



SE-1 Silt Fence

- General Design and layout guidance
  - Maximum length of slope draining to any point shall be 200 ft
  - Slope of area draining to the silt fence shall be less than 1:1 VH
  - For slopes steeper than 1:2 that contain large numbers of rocks or dirt clods that tend to dislodge additional protection may be necessary

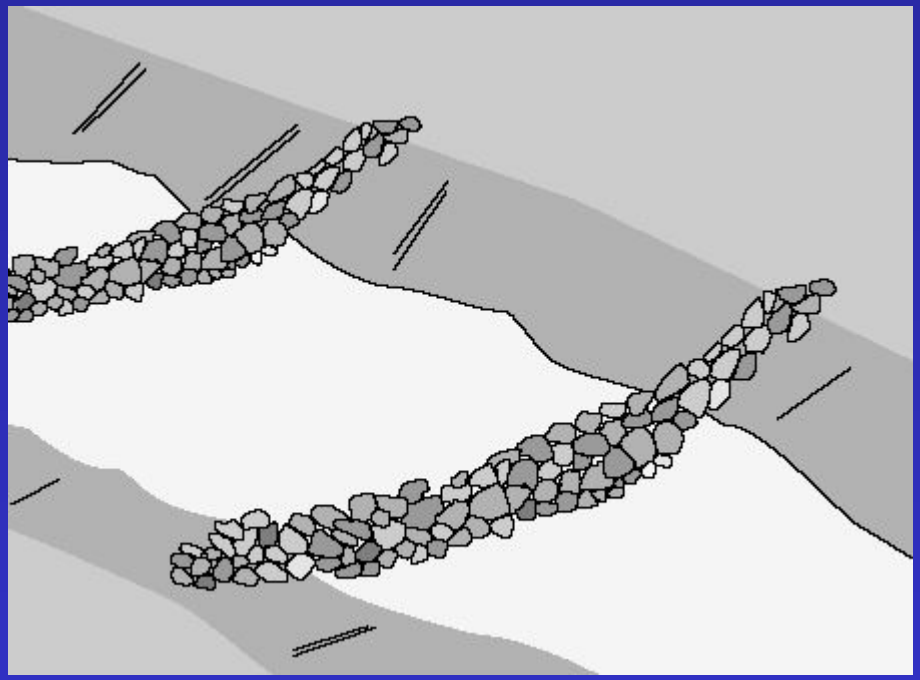
SE-1 Silt Fence

- Installation Requirements
  - “Key-in” bottom of silt fence a minimum of 12 inches
  - Reach of silt fence shall not be longer than 490 ft.
  - Construct each reach so that the base elevation does not exceed 1/3 the height of the barrier
  - Construct silt fence with a set-back of a least 3 ft. from the toe of the slope


Whenever possible minimize slopes or grade horizontally or place controls on slopes.

SE-4 Check Dams

- Are small devices constructed of rock, gravel bags, sand bags, fiber roll, of other proprietary devices placed across natural or man-made channels or ditches



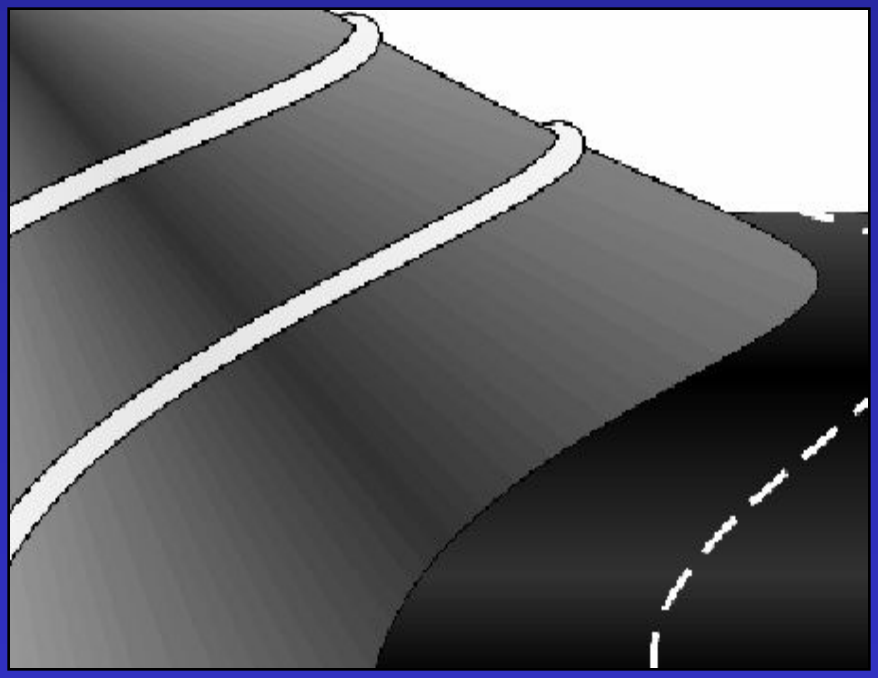
SE-05 Fiber Rolls

- Consist of wood excelsior, rice or wheat straw, or coconut fibers that are rolled and bound into a tight tubular roll and placed on slopes to intercept runoff



SE-5 Fiber Rolls

- Material Requirements:
  - Fiber roll shall be either (1) prefabricated rolls or (2) rolled tubes of erosion control blankets
  - For filled rolled fiber rolls; roll into a minimum of 200 mm (8 in) diameter, and bond every 1.2 m (4 ft) along the length of the roll

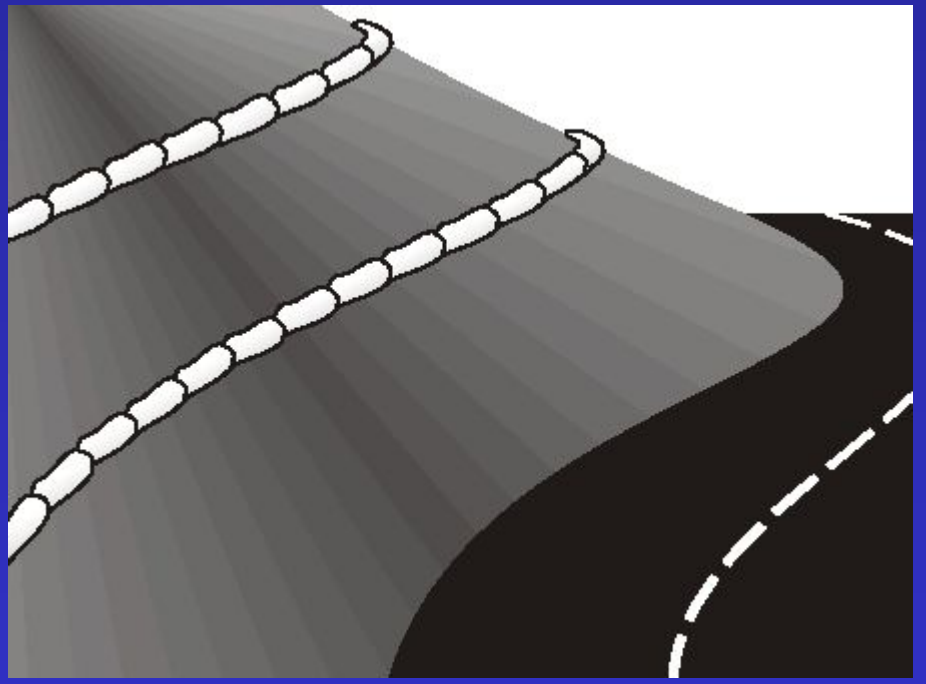


SE-5 Fiber Rolls

- Installation Guidance:
  - For breaking-up slope length fiber roll spacing is based on slope inclination
    - 1:4 or flatter – spacing shall be placed 20 ft. apart
    - 1:4 to 1:2 – spacing shall be 15 ft. apart
    - 1:2 or greater – spacing shall be 10 ft. apart
  - Place fiber rolls into a 2 to 4 inch trench
  - Stake or tie fiber rolls into place
    - Tied fiber rolls staking is spaced at 2 ft. apart
    - Stake spacing at 4 ft. apart

SE-6 Gravel Bag Berms

Are woven fabric type of bags placed across slopes to intercept runoff, reduce its flow velocity, and release it as sheet flow



SE-6 Gravel Bag Berms

- Installation requirements:
  - Install along a level contour
  - Turn ends of bags up slope to prevent flow around ends
  - Use in conjunction with temporary soil stabilization
  - Construct barriers with a set-back of a least 3 ft. from toe of slope
  - For concentrated flows: stack bags using a pyramid approach, overlap upper joints from lower rows

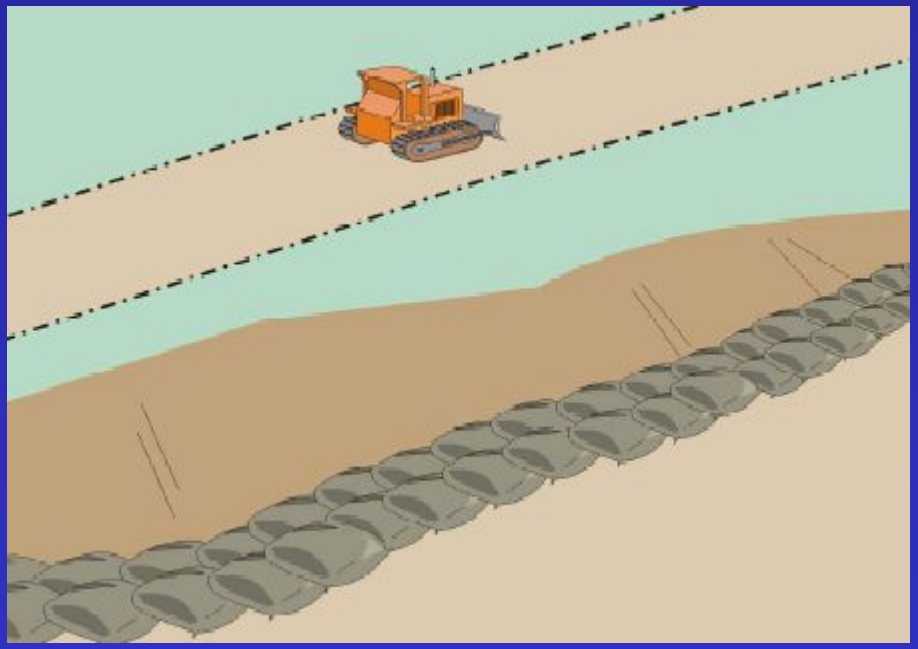
SE-7 Street Sweeping

Street sweeping and vacuuming includes use of self-propelled and walk-behind equipment to remove sediment from streets and roadways, and to clean paved surfaces in preparation for final paving. Sweeping and vacuuming prevents sediment from the project site from entering storm drains or receiving waters.



SC-8 Sandbag Barrier

Are a woven fabric type of bag designed to intercept and slow flow of sediment-laden sheet flow runoff



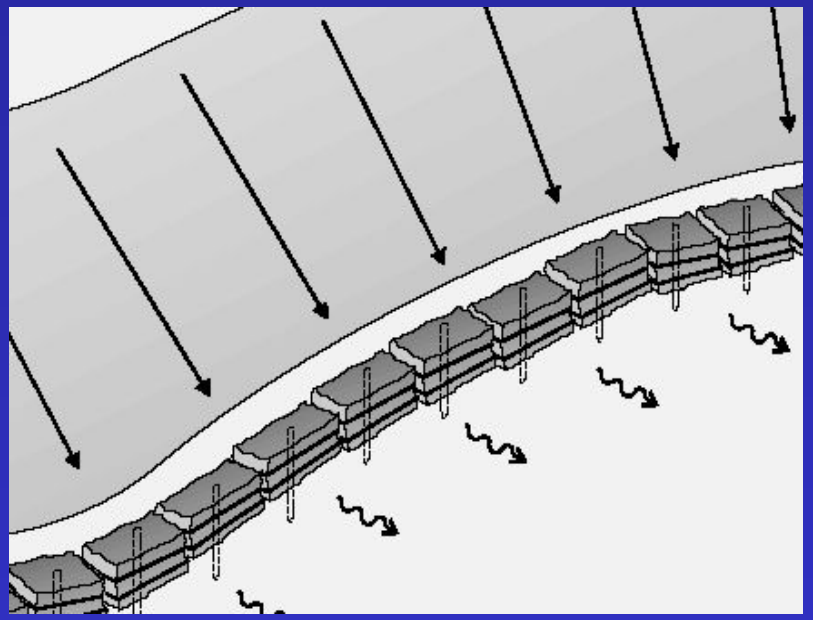
SC-8 Sandbag Barrier

- General installation guidance:
  - Install along a level contour
  - Turn ends of bags up slope to prevent flow around ends
  - Use in conjunction with temporary soil stabilization
  - Construct barriers with a set-back of a least 3 ft. from toe of slope

SC-9 Straw Bale Barrier

- Material (bales) Requirements

A straw bale barrier is a series of straw bales placed on a level contour to intercept sheet flows. Straw bale barriers pondsheet- flow runoff, allowing sediment to settle out.



Materials and stockpiles

Cover stockpiles with a tarp away from drainage courses to prevent materials from being washed into streams



Regulatory Penalties

What if we don't comply?

Fines can be levied against the contractor, public agency or an individual.



- Fines to $32,500 per day/per violation

-CWA SECTION 33 USC 1319

- "Any person who **knowingly violates**" can be fined $10,000 or imprisoned up to 2 years:

-CWA Section 13385 (c)(1)

- Current Regulatory Atmosphere

"The learning curve is over"

Reality Check

Project: Home builder – Southern California

Cited for:

- …discharging sediment-laden stormwater
- …failing to properly develop and implement an effective SWPPP



Total liability: 165 days x $10,000/day = 1.65 million

Total Fine Levied: $20,000

Reality Check

Project: City CIP project

Issued a Violation and order for compliance due to:

- excessive amounts of sediment to stormdrain…
- Discharge of miscellaneous construction debris
- Sheen of fuel floating on stormwater
- Deficient SWPPP



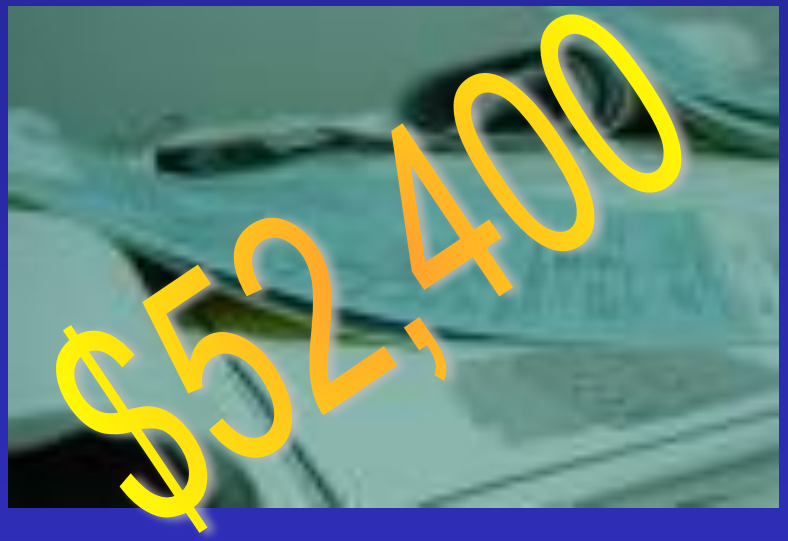
Total Fine Levied: $50,000

Reality Check

Project: Road construction

Issued a Violation and order for compliance due to:

- Discharge of sediment to stormdrain
- Failed to develop a SWPPP



Total Fine Levied: $52,400

Reality Check

Project: City of San Diego

Issued a Violation and order for compliance

- Failure to control sediment from City construction activity into sensitive water body



Total Fine Levied: $532,000

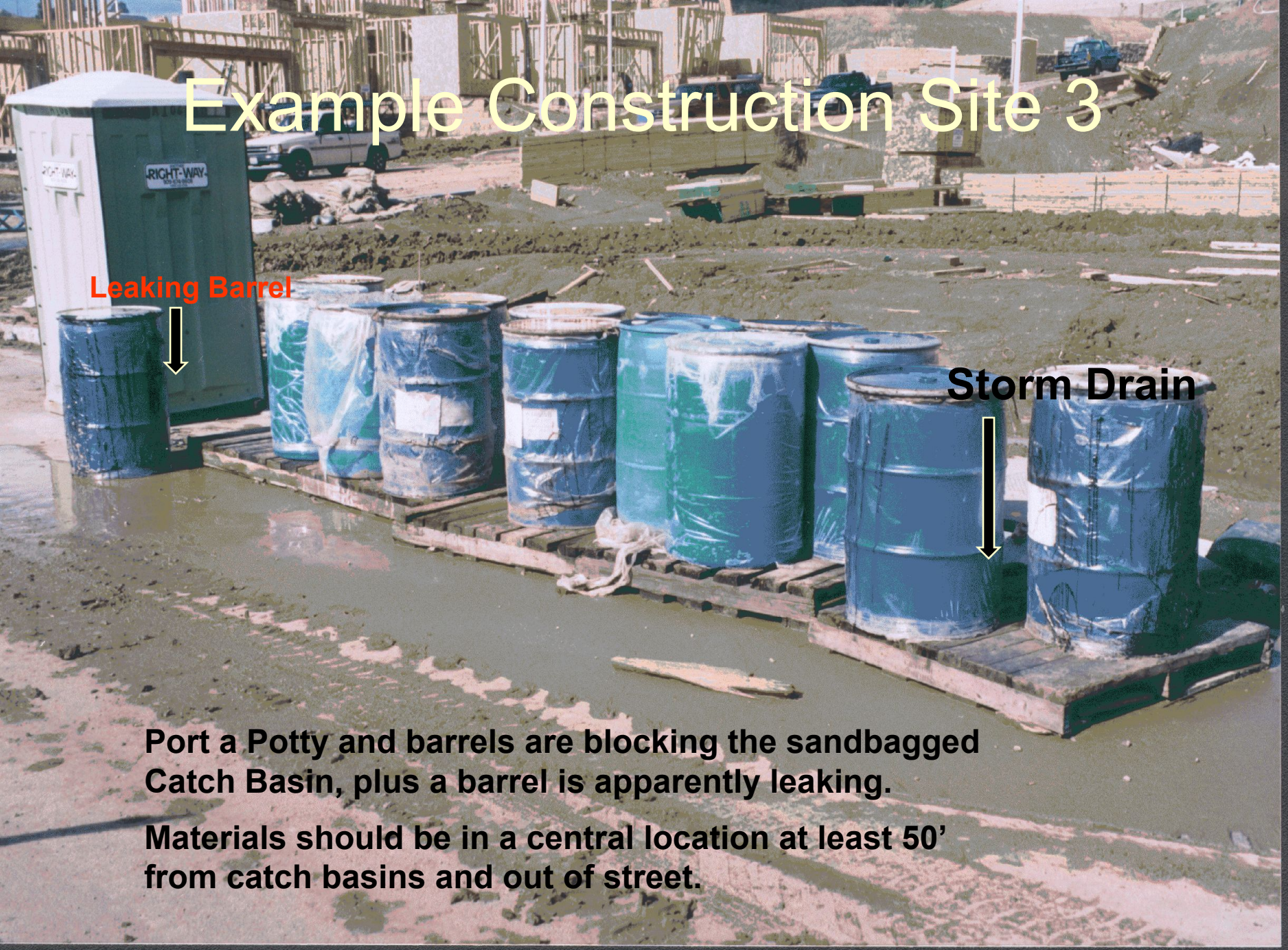
Example Construction Site 1



Example Construction Site 2



Example Construction Site 3



Port a Potty and barrels are blocking the sandbagged Catch Basin, plus a barrel is apparently leaking.

Materials should be in a central location at least 50' from catch basins and out of street.

Example Construction Site 4

Placement of servicing equipment should be planned out



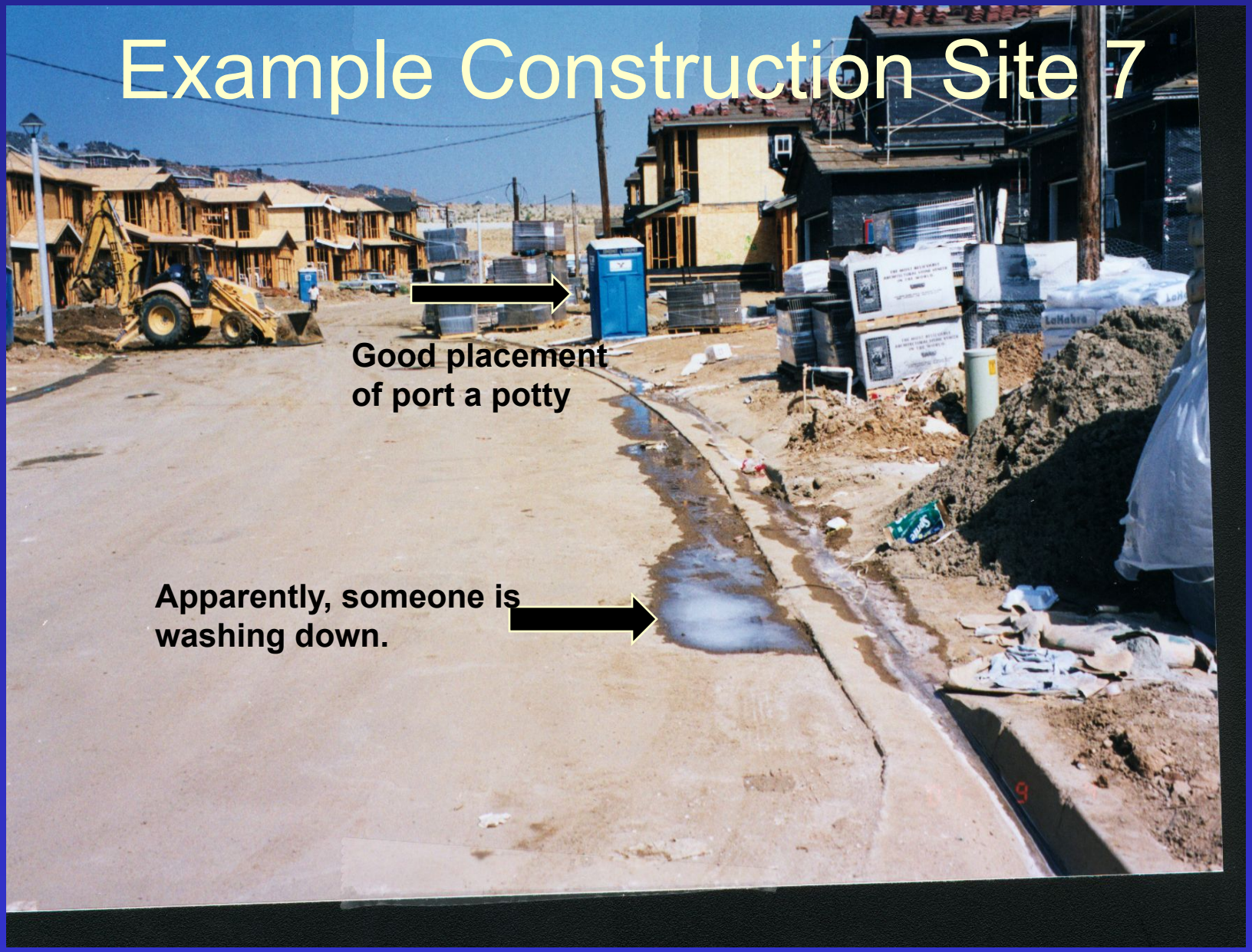
Example Construction Site 5



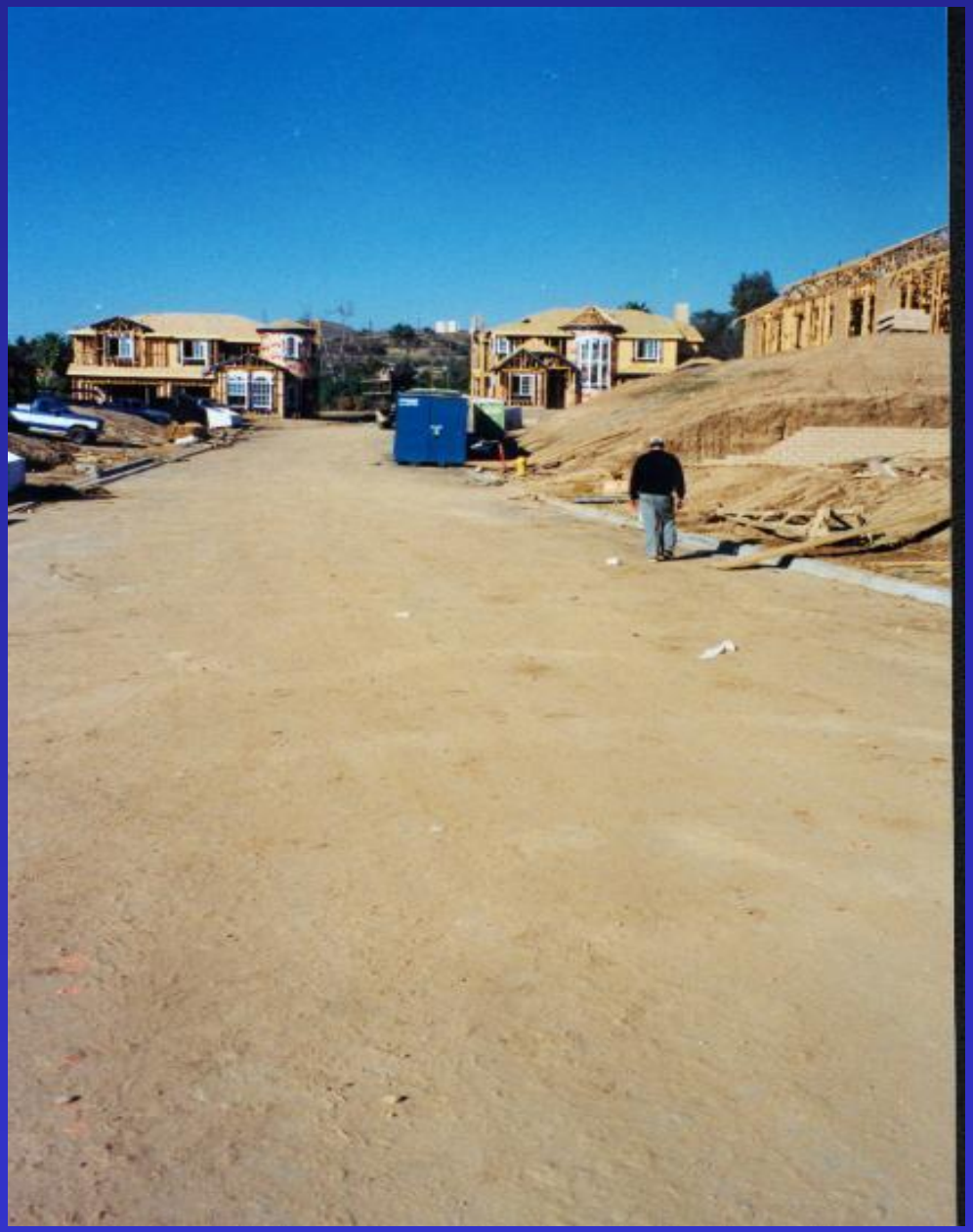
Example Construction Site 6



Example Construction Site 7

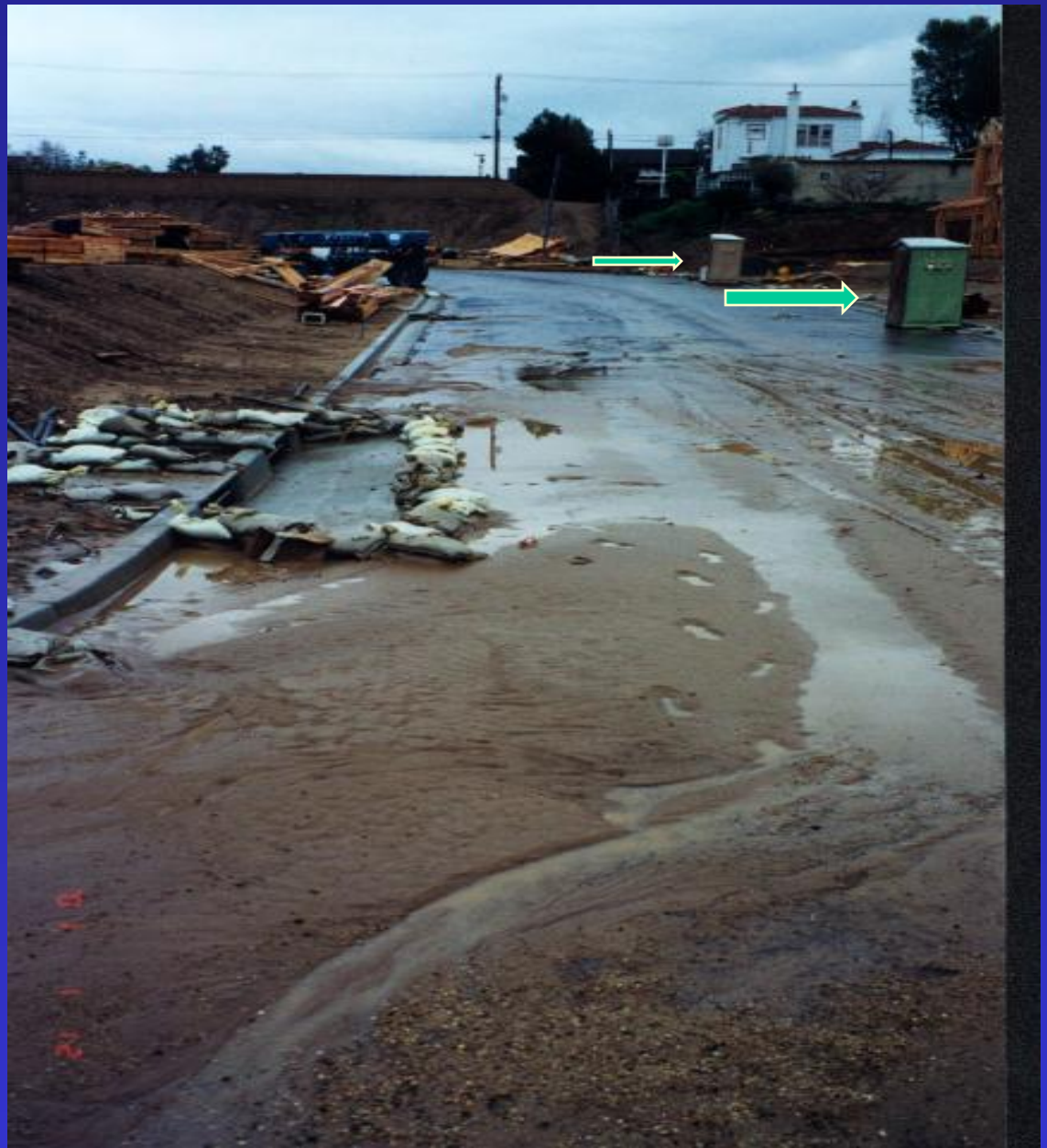


Example Construction Site 7



Dirt Street or Paved?

Example Construction Site 7



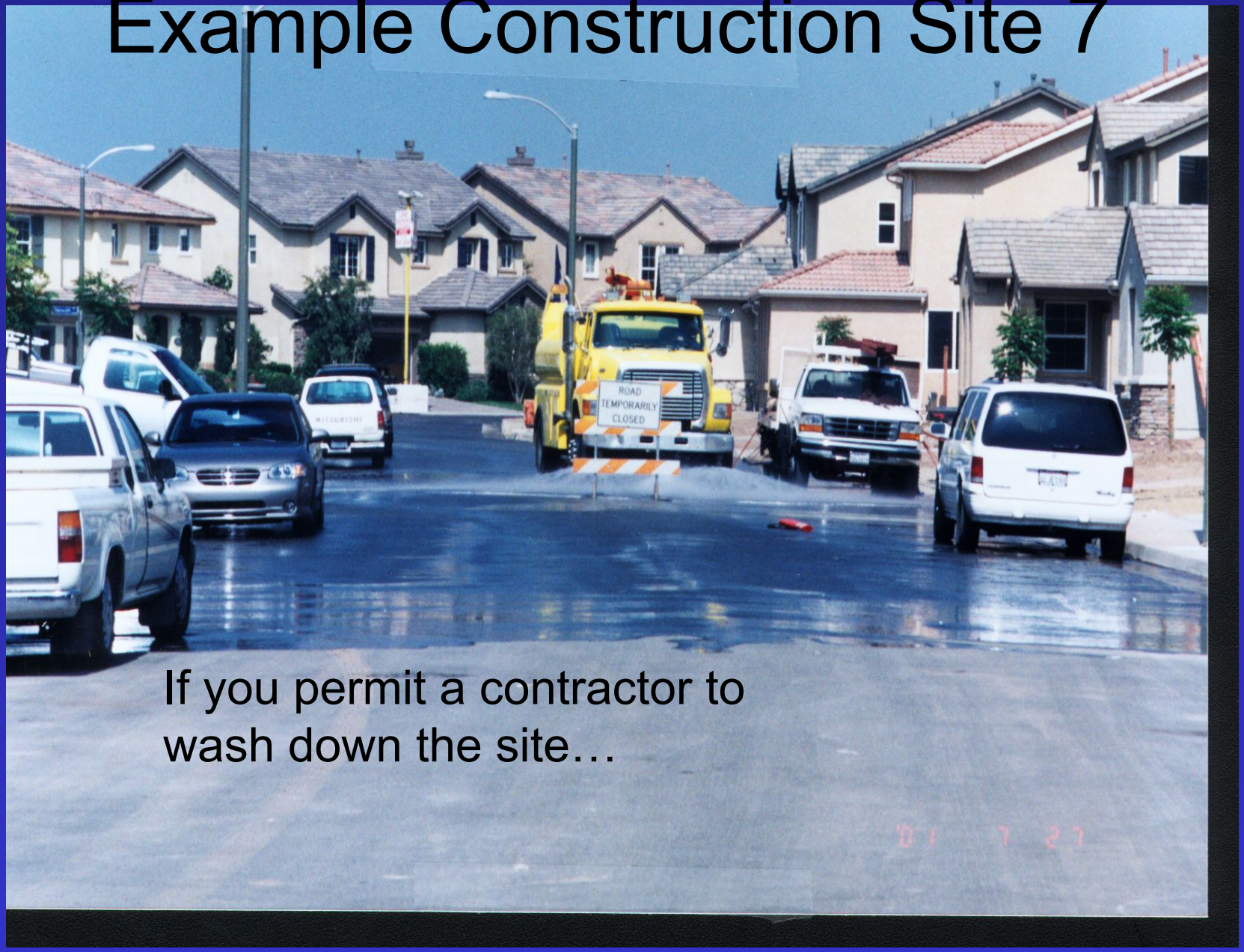
Same street after first rain.

Sweeping streets can prevent this.

Also note the toilets in the street.

Sandbags did their job – no silt entered the storm drain.

Example Construction Site 7

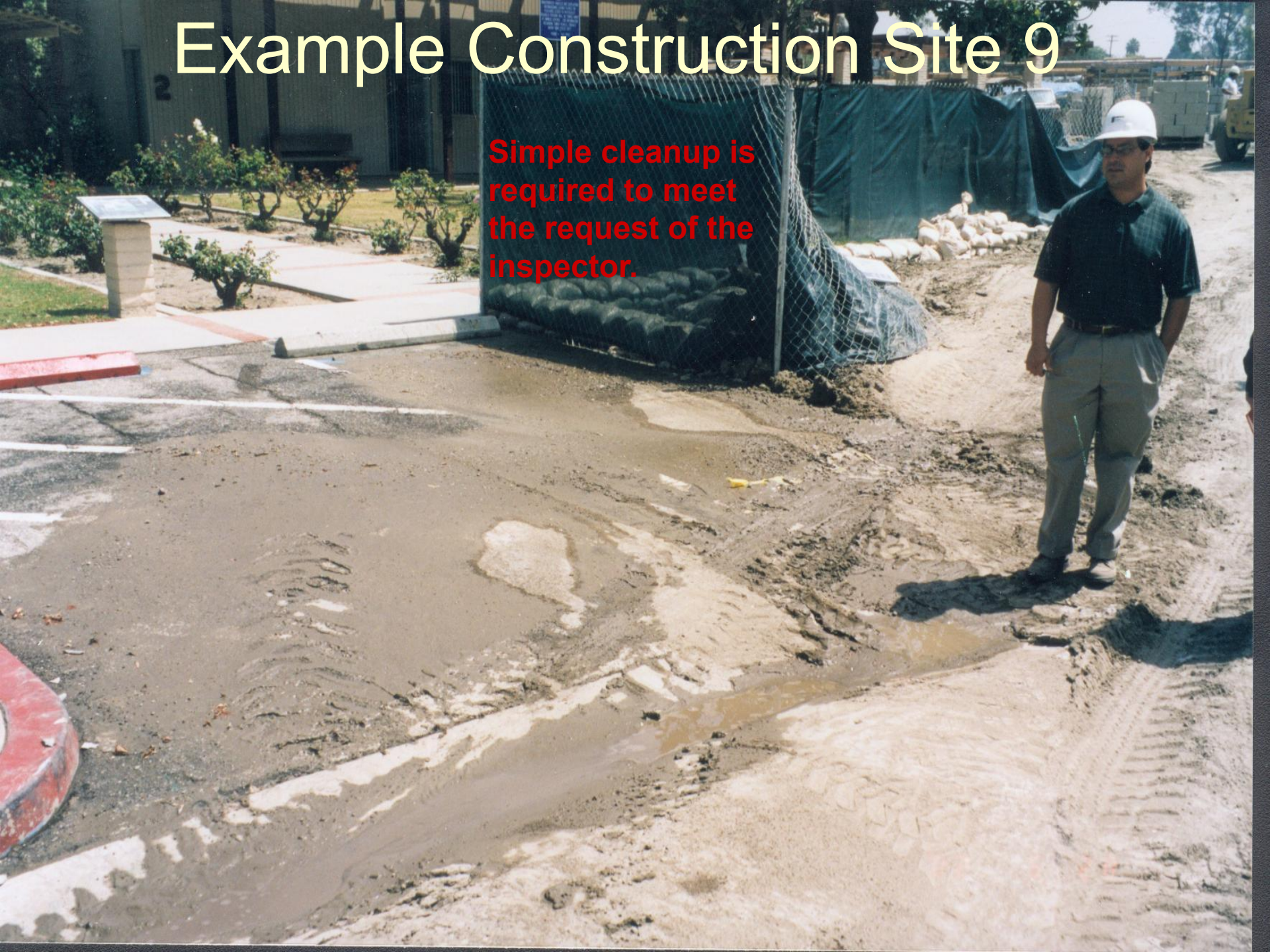


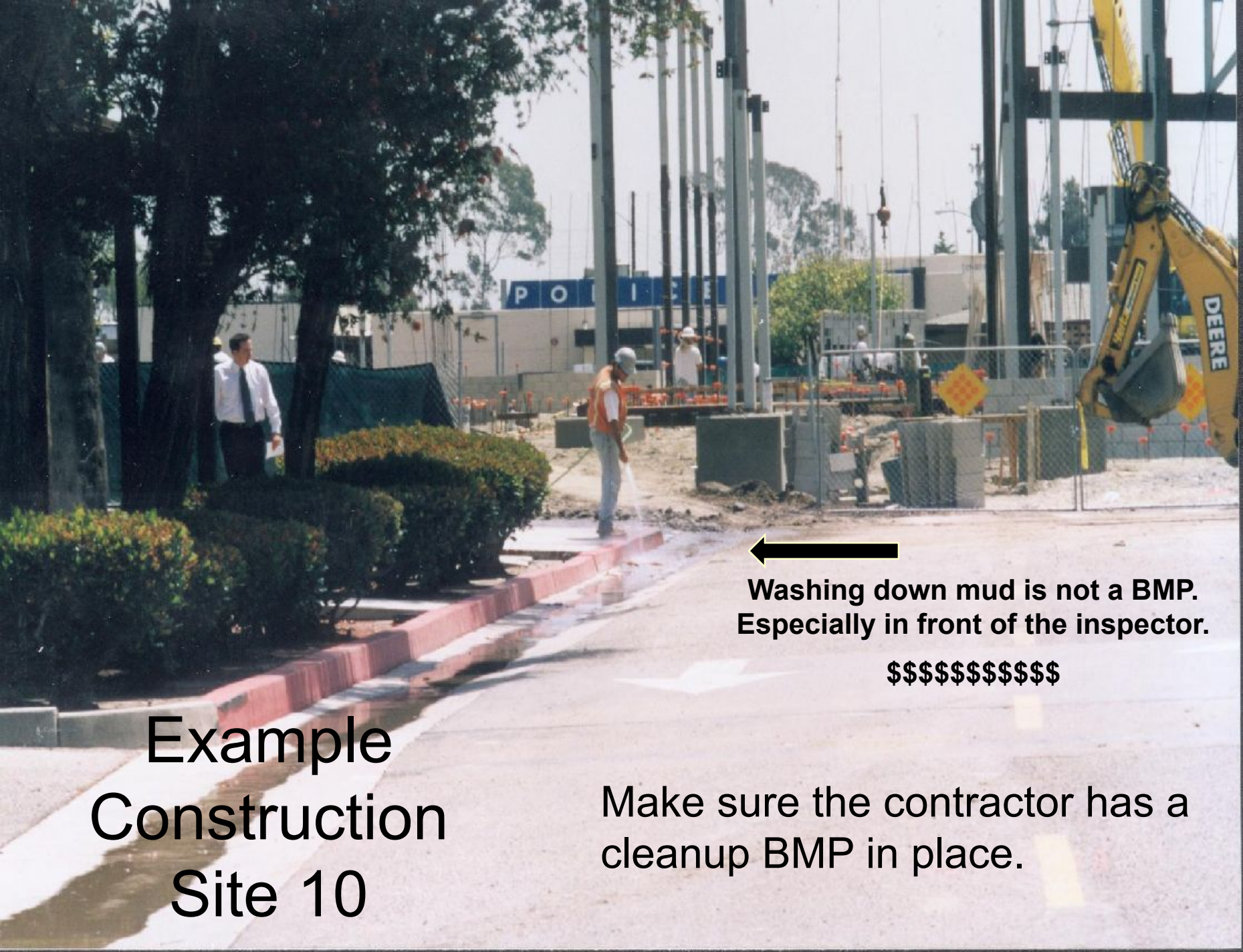
If you permit a contractor to wash down the site…

Example Construction Site 8



Example Construction Site 9





Washing down mud is not a BMP.
Especially in front of the inspector.

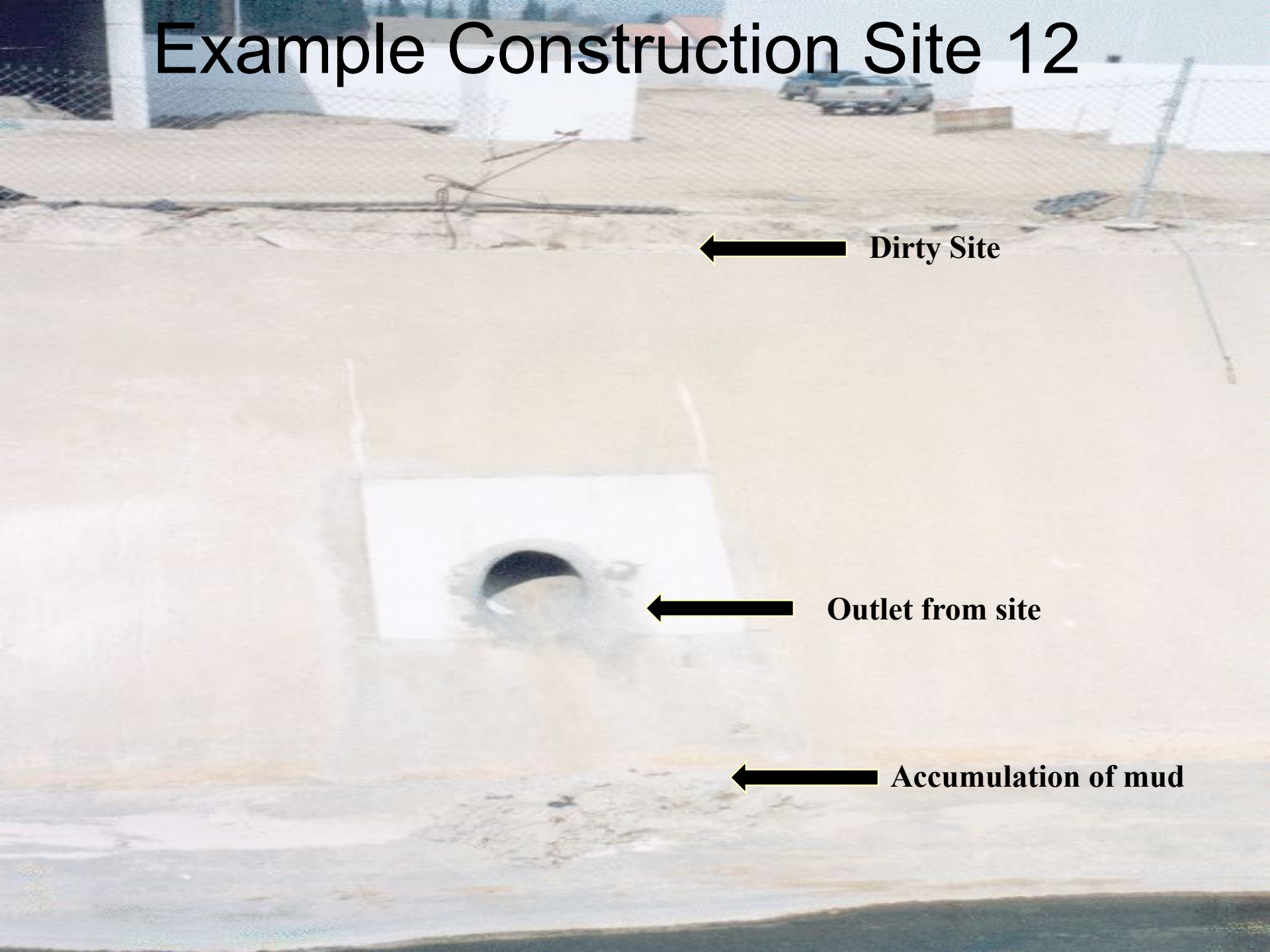
$$$$$$$$$$

Example Construction Site 10

Make sure the contractor has a cleanup BMP in place.


Example
Construction Site 11
Outlets are as much of a concern as inlets.

Example Construction Site 12

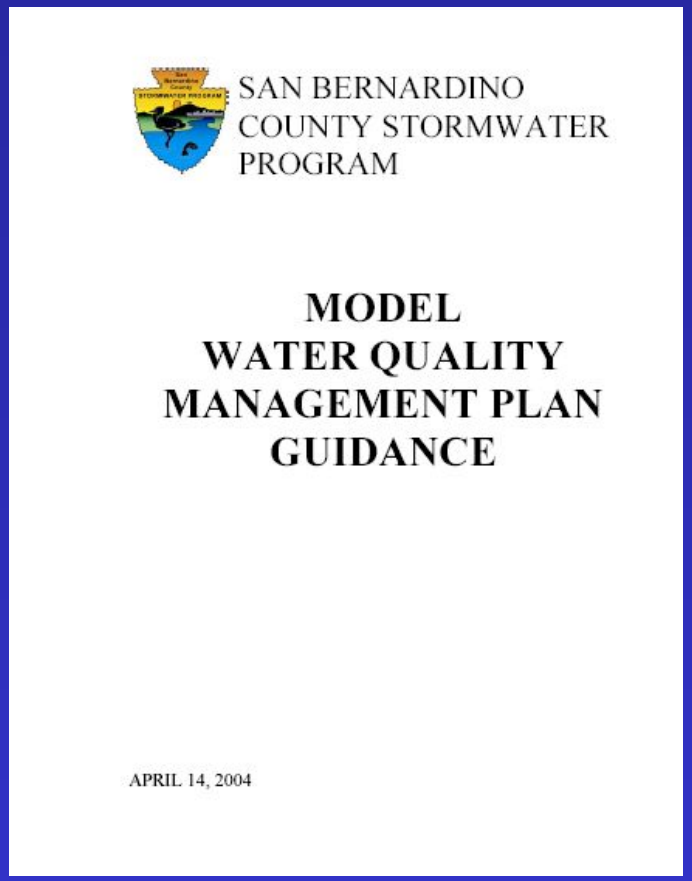



Example
Construction Site
Paint residue
13
Sandbags are for sediment, not hazardous waste.


Example
Constructio
Site 14
Traffic Controls are good for traffic
but create problems with some BMPs
i.e. Sweeping.

Water Quality Management Plan

The building or other designated inspector is responsible to verify that BMPs contained in the WQMP are instituted on the project site.



Construction Inspection
Post Construction

- Construction phase of the project ends when the Notice of Termination (NOT) is reviewed and approved



State of California
State Water Resources Control Board

NOTICE OF TERMINATION

OF COVERAGE UNDER THE NPDES GENERAL PERMIT NO. CAS000002
FOR DISCHARGES OF STORM WATER
ASSOCIATED WITH CONSTRUCTION ACTIVITY

Submission of this Notice of Termination constitutes notice that the owner (and his/her agent) of the site identified on this form is no longer authorized to discharge storm water associated with construction activity by NPDES General Permit No. CAS000002.

I. WDID NO.

II. OWNER

COMPANY NAME _____ CONTACT PERSON _____
STREET ADDRESS _____ TITLE _____
CITY _____ STATE _____ ZIP _____ PHONE _____

III. CONSTRUCTION SITE INFORMATION

A. DEVELOPER NAME _____ CONTACT PERSON _____
STREET ADDRESS _____ TITLE _____
CITY _____ CA ZIP _____ PHONE _____

B. SITE ADDRESS _____ COUNTY _____
CITY _____ CA ZIP _____ PHONE _____

IV. BASIS OF TERMINATION

_____ 1. The construction project is complete and the following conditions have been met.

- All elements of the Storm Water Pollution Prevention Plan have been completed.
- Construction materials and waste have been disposed of properly.
- The site is in compliance with all local storm water management requirements.
- A post-construction storm water operation and management plan is in place.

Date of project completion _____/_____/_____

_____ 2. Construction activities have been suspended, either temporarily _____ or indefinitely _____ and the following conditions have been met.

- All elements of the Storm Water Pollution Prevention Plan have been completed.
- Construction materials and waste have been disposed of properly.
- All denuded areas and other areas of potential erosion are stabilized.
- An operation and maintenance plan for erosion and sediment control is in place.
- The site is in compliance with all local storm water management requirements.

Date of suspension _____/_____/_____ Expected start up date _____/_____/_____

_____ 3. Site can not discharge storm water to waters of the United States (check one).

Other sources of information…



Santa Ana Regional Water Quality Control Board
http://www.swrcb.ca.gov/rwqcb8/
(909) 782-4130

California Stormwater Quality Association (CASQA)
http://www.cabmphandbooks.com

San Bernardino County Stormwater Program
(909) 387-8109

Your stormwater coordinator