Construction Entrance Sediment Control using Trackout Plates
Background

• Construction Entrance/Exit source of stormwater pollution
• Requires Sediment Control practice
• The purpose of stabilizing entrances to a construction site is to minimize the amount of sediment leaving the area as mud and sediment attached to vehicles
Familiar sight...
What is Trackout?

- Dirt, mud or other debris tracked onto a paved public road by vehicle leaving site
- Dirt or mud adhering to the exterior of vehicle leaving site that falls onto road
- Traces of dirt or other bulk material that spill onto road from vehicle leaving site
- Dirt or mud leaving unpaved road going onto paved public roadway
What is trackout?

- Particulate matter ($\text{PM}_{10}$), a regulated air pollutant, is created when trackout is lifted back into the atmosphere by vehicles.
What is trackout?

• Same idea as tracking mud on carpet:
Different BMPs

- Mechanical washing
- Passive wash
- Drive across
Early attempts to street sweep
Eco Friendly street sweeper
Preparing the next generation...
Background

(C) Select Other Controls

In addition to erosion and sediment controls, the Pollution Prevention Plan for your project must address the other potential pollutant sources that may exist on a construction site. These controls include proper disposal of construction site waste disposal, compliance with applicable State or local waste disposal, sanitary sewer or septic system regulations, control of offsite vehicle tracking, and control of allowable non-storm water discharges, as explained in the following bullets:

- Ensure proper disposal of construction site waste materials.
- Treat or dispose of sanitary wastes that are generated onsite in accordance with State or local requirements. Contact the local government or State regulatory agency.
- Prevent offsite tracking of sediments and generation of dust. Stabilized construction entrances or vehicle washing racks should be installed at locations where vehicles leave the site. Where dust may be a problem, implement dust control measures such as irrigation.
- Identify and prevent contamination of non-storm water discharges. Where non-storm water discharges allowed by the General Permit exist, they must be identified and steps must be taken to prevent contamination of these discharges.

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STABILIZED CONSTRUCTION ENTRANCE:

<table>
<thead>
<tr>
<th>DOES MUCH SEDIMENT GET TRACKED ON TO ROAD?</th>
<th>IS THE GRAVEL CLEAN OR IS IT FILLED WITH SEDIMENT?</th>
<th>DOES ALL TRAFFIC USE THE STABILIZED ENTRANCE TO LEAVE THE SITE?</th>
<th>IS THE CULVERT BENEATH THE ENTRANCE WORKING?</th>
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MAINTENANCE REQUIRED FOR STABILIZED CONSTRUCTION ENTRANCE:

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

TO BE PERFORMED BY: __________________________ ON OR BEFORE: __________________________
4.3 MINIMIZING OFFSITE VEHICLE TRACKING OF SEDIMENTS

Day-to-day site practices can have a major impact on storm water contamination because of their potential for generating sediments. A common problem area is offsite vehicle tracking. Two practices are commonly used for minimizing offsite vehicle tracking of sediments: stabilized construction entrance and construction access road stabilization.

Q. What measures have you taken to prevent offsite vehicle tracking?

Controlling offsite tracking of sediments may require attention at most times when there is vehicle traffic at the construction site. The measures listed here are effective if used properly.

- A stabilized construction entrance and construction road are very effective methods for reducing offsite tracking of mud, dirt, and rocks
- Paved streets adjacent to the site should be swept to remove any excess mud, dirt, or rock tracked from the site
- Deliveries or other traffic should be scheduled at a time when you will have personnel available to provide cleanup if it is required

<table>
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<tr>
<th>Advantages of a Stabilized Construction Entrance</th>
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<tbody>
<tr>
<td>• Is an effective means for reducing the amount of soil tracked off of a construction site</td>
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<td>• Can improve the appearance of the construction site from the public’s point of view</td>
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<tr>
<th>Disadvantages of a Stabilized Construction Entrance</th>
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<tr>
<td>• Only works if it is installed at every location where traffic leaves and enters the site</td>
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<tr>
<td>• Cannot always remove all of the soil tracked off of the disturbed areas by vehicles; when soil is tracked onto a road, it should be cleaned up immediately</td>
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<td>• Stone may have to be added to keep it effective</td>
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Background

- Early Phase 1 requirements
- Included sediment control at entrance/exit
- Lead to the common use of crushed rock
Why is Trackout a Problem?

- Soil sediment that leaves the site contributes to a degradation of water quality
- Identified as source of pollutant
- Carry attached pollutants such as
  - Petroleum
  - metals,
  - Chemicals
  - Pesticides
  - bacteria
2.1.2.3 **Minimize Sediment Track-Out.** You must minimize the track-out of sediment onto off-site streets, other paved areas, and sidewalks from vehicles exiting your construction site. To comply with this requirement, you must:

a. Restrict vehicle use to properly designated exit points;

b. Use appropriate stabilization techniques\(^\text{10}\) at all points that exit onto paved roads so that sediment removal occurs prior to vehicle exit;

c. Where necessary, use additional controls\(^\text{10}\) to remove sediment from vehicle tires prior to exit; and

d. Where sediment has been tracked-out from your site onto the surface of off-site streets, other paved areas, and sidewalks, you must remove the deposited sediment by the end of the same work day in which the track-out occurs or by the end of the next work day if track-out occurs on a non-work day. You must remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. You are prohibited from hosing or sweeping tracked-out sediment into any stormwater conveyance (unless it is connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or surface water.

Note: EPA recognizes that some fine grains may remain visible on the surfaces of off-site streets, other paved areas, and sidewalks even after you have implemented sediment removal practices. Such “staining” is not a violation of Part 2.1.2.3.
Problem in Los Angeles Metro

• Crushed stone pads not effective
• Sought alternatives
• Effectively remove dirt and debris from vehicles leaving site
Problems
Trackout Plates

• Steel base plate with ribs
• Effective in removal of dirt and debris that is typically carried out on vehicle wheels
• Flat plate or elevated “grate”
Trackout Plates

- Effectively “open” tire surface to free dirt or debris from transporting off-site
Trackout Plates

• Placed per EPA GCP recommendations
Design Considerations

• Trackout Plate
  – Strength of materials suitable to heavy construction equipment
  – Rib materials and placement
Design Considerations

• Site Placement
  – At construction entrance/exit
  – Sized to accommodate all vehicles
  – Size to largest vehicle with room to spare
  – Funnel all construction traffic to device
    (if you leave space for them to go around it, they will go around it !)
Design Considerations

- If site entrance leads to paved road, make end of entrance flared so that long vehicles remain on device
Design Considerations

• Protect curbs, if present
• Don’t block flow in curb
Design Considerations

• Abut paved areas, if possible
Limitations

- Placement and site material type may dictate additional length or size
Maintenance Considerations

• As per EPA recommendations for all BMPs, maintenance is necessary/required
• Scheduled clearing/sweeping
Effectiveness

- In Los Angeles Metro
- Required on all construction sites
- Reduced trackout
- Other benefits
  - Inspectors attracted to site with heavy trackout
  - Less complaints from neighbors, damages
  - Less maintenance
Where are we at in Region 6?

• In compliance?
• Still issues, but do we need to do more?
• Inspections
• Enforcement
• Meet standards or is it effective?
Conclusion

• Trackout plates
  – Properly installed & maintained
  – Achieved greater effectiveness over the traditional crushed stone pad
  – Less maintenance and less replacement versus crushed stone