SESC
BMP
Part 91 SESC Permits are Required for All Earth Changes:

Public Transportation Agencies have the opportunity to become an Authorized Public Agency and avoid delays obtaining separate permits from other agencies!
Soil Erosion and Sedimentation Control BMPs
For Road Stream Crossings

01/02/2003
Goals of Part 91:

- Minimize Erosion
- Prevent off-site sedimentation
Keep Out
1. Get your permit! Ask if you don’t know!

2. Schedule the project for a time of year which avoid aquatic life impacts and heavy rainfall events

3. Shorten the duration of the project as much as possible (don’t start a 3 day project on Thursday).

4. Install BMP first....

5. Watch the weather and prioritize completion
Work Isolation
(Cofferdams and Turbidity Curtains)
Work Isolation
(Pump-Arounds)

- Gold Standard
- Design and Construction Critical
- Have a backup system (pumps, hoses, etc.) or plan
- Monitor effluent/discharge constantly
- Watch the weather!
Turbidity Curtains Can Work...
...or not...
Isolate Non-Work Wetland Areas
Use Mats
Sediment Capture
(Sediment Trap)

- Small excavation or impounded area
- Should be designed based on flow and sediment characteristics.
- Generally only effective at removing larger sediment particles
- If it’s in-stream, you need to include it in your permit!
Sediment Capture
(Sedimat)
Check dam – the contractor stated that they also dug a sediment trap downstream.
"Upland" BMPs
Sediment Controls
(Silt Fence)
Soil Stabilization
(Riprap)
Soil Stabilization
(erosion blankets)
Slope Stabilization
(Hydromulching)
Angle of Repose

(roughly the “natural slope” of a material in a pile)

Crushed Rock, Gravel, Sandy Soils
(~1.5H:1V)

Medium Textured Soils (Loams and Silts)
(~1H:1V)

Cohesive Soils (Clay soils)
(~.75H:1V)

*If the designed slope is steeper than the angle of repose
the slope needs additional slope stability BMPs
Over-steepened Slopes
(Generally a slope that is steeper than the Angle of Repose)
BMPs for Over-steepened Slopes

• Wide range of materials and systems

• All should be engineered

• Many times manufacturers of specialty products will assist with designs
Traditional Concrete and Retaining Wall Materials
Cellular Confinement
Cellular Confinement
Wrap Fascia

(Fabrics, Geo Grids, Steel)
Articulating Block
Let’s Get It Right…

Work Not Isolated From Flow
Downstream of culvert.
North end of culvert – No slope protection/silt fencing
Turbidity Curtin being used as slope protection
South side of culvert.
Questions?