THE ABC’S OF BMP’S

How to get proper results from field applications of BMP’s
SWPPP PLAN DEVELOPMENT

- Field reviews of project are extremely important when developing effective SWPPP’s to make sure you are utilizing the correct BMP’s for your projects.

- Sequencing of SWPPP to match construction sequencing.
SEQUENCING OF EROSION & SEDIMENT CONTROLS

*On any given day*, all erosion and sediment control measures should be appropriately sized, installed, and maintained to handle the drainage area coming from the current stage of construction.
Example of SWPPP Design
EROSION vs SEDIMENT

- Erosion is the physical dislodgment of particles from the surface by precipitation, surface runoff, or wind.
- Sediment is the material that is being moved off of the surface as a result of erosion.
Example of Construction Sequencing
EROSION CONTROL = STABILIZATION
EXAMPLE OF SLOPE STABILIZATION USING EROSION CONTROL BLANKET
EXAMPLE OF SOIL STABILIZATION USING MULCH AT 2 TONS/ACRE
Example of Mulch That Does Not Meet the 2 tons/ac Specification
Proper Tracking of Slopes Reduces Erosion
Photo Showing Proper Slope Tracking
Photo Showing What Happens when Slopes are not Stabilized or Tracked Properly
CHECK DAMS ARE USED FOR EROSION CONTROL
DITCH STABILIZATION
WITH TOE TO CREST CHECK DAMS
Photo Showing What Happens When Check Dams Are Not Spaced Toe to Crest or Installed Properly
Runoff Control Measures are Essential for Protecting Slopes
Examples of Improper Slope Drain Installation and Results
CONCRETE WASHOUTS
CONCRETE WASHOUTS
CONCRETE WASHOUTS
SEDIMENT CONTROL = CAPTURE
SILT FENCE

Good use of Silt Fence

Bad use of Silt Fence
Bad Installation of Silt Fence (Silt Fence Follies)
Alternative to Silt Fence Wood Chip Berm
Alternative to Silt Fence Rock Filter Berm
TEMPORARY CONSTRUCTION ENTRANCE

- Large Site must be a minimum of 150 feet long and 20 feet wide and 8 inches thick.

- Smaller sites are allowed to have smaller construction entrances.

- The purpose of construction entrances is to prevent tracking sediment onto public roads resulting in a safety hazard to the public.

- Maintenance of construction entrances is a must and should occur as often as necessary to prevent sediment tracking out of the project.
Poor Construction Entrance
Proper Construction Entrance
SEDIMENT TRAPS

• Sediment traps are used for drainage areas that measure 5 acres or less

• Sediment traps should be designed for a holding capacity of 1,800 cubic feet per acre of contributing drainage area

• Potential Issues of stacking sediment traps.
Photos Showing Improper Sediment Trap Installation
SEDIMENT BASINS

• Sediment basins should be used for all drainage areas that are greater than 5 acres

• Sediment basins should be designed for a holding capacity of 1,800 cubic feet per acre of contributing drainage area.

• Potential issues of stacking sediment basins.
Example of Properly Installed & Maintained Sediment Basin
Photo Showing Improper Installation of Sediment Basin
Exhibit 1

Temporary Dry Sediment Basin
Riser Pipe

12 inches of filter aggregate
over perforations (min)

Hardware cloth or wire
mesh to prevent aggregate
from plugging perforations

INDOT CA No. 5
aggregate filter
over filter pack

NOTE: For minimum
dimensions see the
"Specifications" section of this manual.

Source: Adapted from North Carolina Division and Sediment Control Planning and Design Manual, 1993
Sediment Bags/Pump Around Issues
The use of flocculants to aid in the removal of sediment from runoff is becoming more common.

Need to have runoff tested prior to use of flocculent to make sure the right type of flocculent is used.
Example of Flocculent System in Use
Erosion and Sediment Controls Must Work Hand in Hand to be Effective
What Happens When Measures Fail or are Overwhelmed by Intense Rain Events
Notice of Termination

Pictures taken by Sony DSC-F505 camera under acceptable light intensity with more than 70% of green but less than 80% of green

Percentage of Green: 76.22%
Percentage of Gray Shades: 7.86%

Percentage of Green: 77.17%
Percentage of Gray Shades: 6.42%
QUESTIONS

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