Erosion, Sediment, Dust, and Other Control BMPs
Basis for BMP Selection

- Measure or know the site area.
- Determine all drainage areas contributing run-on to the site.
- Determine the amount of rainfall that would be impacting your site.
- Calculate the estimated run-on and runoff.
- Determine the receiving waters that will receive discharges.
Choose the Correct BMP
Erosion Control
(primary protection)
1. Minimize disturbed areas and protect natural vegetation and features.
2. Phase construction activity.
3. Control storm water flowing onto and through the project.
4. Stabilize as soon as possible/protect slopes.
5. Dust control.

Sediment Control
(Second line of defense)
1. Establish perimeter controls.
2. Protect storm drain inlets.
3. Establish stabilized construction entrances.
4. Retain sediment on-site & control dewatering practices.
5. Inspect and maintain controls.
Erosion Control
(Advantages)

- Most cost effective.
  - Costs are very little if anything.
- Largely consist of operational practices.
- Reduces maintenance cost of other controls.
- Fewer public complaints.
  - Less intervention from local authorities.
Minimize Disturbed Areas
Preserve Existing Vegetation

Natural Vegetation Acts as a Filter

1. Vegetation absorbs the energy of falling rain.
2. Roots hold soil particles in place.
3. Vegetation helps to maintain absorptive capacity.
4. Vegetation slows runoff velocity and catches sediment.
Phase Construction Activity
Control Stormwater
Stabilize and protect slopes

Temporary stabilization BMPs

- Seeding, mulches, blankets and mats, and soil binders.

Permanent stabilization BMPs

- Seeding and planting, sodding, channel stabilization, vegetative buffer strips.

Stabilization required with 14 days on bare inactive areas.
Hydro-Seeding
Erosion Blanket or Sod
Soil Roughening
Improper Soil Roughening
Dust Control

- Sprinkler/irrigation
- Soil stabilizers
- Mulch
- Stabilization (Temporary/Permanent)
- Maintain existing vegetation.
Wind Transport of Sediment

Sediment observed on neighboring property
Wind Transport of Sediment
Establish Perimeter Controls

- Silt fence
- Straw wattle (fiber roll)
- Compost filter sock
- Berming
**Silt fence detail**

*POSTS SPACED @ 10’ MAX. USE 2 1/2” DIA. HEAVY DUTY GALVANIZED OR ALUMINUM POSTS.*

**CHAIN LINK TO POST FASTENERS SPACED @ 14” MAX. USE NO. 9 GA. ALUMINUM WIRE OR NO. 9 GALVANIZED STEEL PRE-FORMED CLIPS. CHAIN LINK TO TENSION WIRE FASTENERS SPACED @ 60” MAX. USE NO. 13.5 GA. GALVANIZED STEEL WIRE. FABRIC TO CHAIN FASTENERS SPACED @ 24” MAX C. TO C.*
Wattles
1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2-3" (5-7.5 CM) DEEP X 9" (22.9 CM) WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.

2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLE SHOULD TIGHTLY ABUT.

3. SECURE THE WATTLE WITH 18-24" (45.7-61 CM) STAKES EVERY 3-4' (0.9 - 1.2 M) AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2-3" (5-7.5 CM) OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.
Compost filter sock

Not properly trenched

Sedimentation
Soil Berm

Unconsolidated berm
Soil Berm

**TEMPORARY BERM**

**NOTES:**
1. BERMS SHALL HAVE A HEIGHT OF 18 INCHES, SIDE SLOPES OF 2:1 OR FLATTER AND A MINIMUM BASE WIDTH OF 4.5 FEET.
2. BERMS SHALL BE USED TO INTERCEPT AND DIVERT DRAINAGE TO A DESIGNATED OUTLET.
3. BERMS SHALL NOT BE USED WHERE DRAINAGE AREA EXCEEDS 10 ACRES.
Stabilized Construction Entrance/Exit TC-1

Crushed aggregate greater than 3" but smaller than 6"

Filter fabric

Original grade

12" Min, unless otherwise specified by a soils engineer

SECTION B-B

NOTE:
Construct sediment barrier and channelize runoff to sediment trapping device

EXISTING PAVED ROADWAY

50' Min or four times the circumference of the largest construction vehicle tire, whichever is greater

Width as required to accommodate anticipated traffic

Temporary pipe culvert as needed

PLAN

Match Existing Grade
Stabilized Construction Entrance/Exit TC-1

SECTION B-B

Crushed aggregate greater than 3" but smaller than 6".
Filter fabric
Original grade
12" Min, unless otherwise specified by a soils engineer

SECTION A-A

Crushed aggregate greater than 3" but smaller than 8"
Corrugated steel panels
Original grade
Filter fabric
12" Min, unless otherwise specified by a soils engineer

NOTE:
Construct sediment barrier and channelize runoff to sediment trapping device

Sediment trapping device

Corrugated steel panels

201 R Min.

B

A

24' min.

16' min or as required to accommodate anticipated traffic, whichever is greater

Match Existing Grade

Existing Paved Roadway

Ditch

50' min.

or four times the circumference of the largest construction vehicle tire, whichever is greater

PLAN

NTS
Protect Storm Drain Inlets
Control Dewatering Practices
Once you Selected the BMPs for your site

- Must have a description of the basis for selecting each BMP in your SWPPP.
- Must have a detailed description of each BMP in your SWPPP.
- Must have instructions for properly installing each BMP in your SWPPP.
- Must have an inspection and maintenance plan for each BMP in your SWPPP.
- SWPPPs need to be site specific.
- The SWPPP should not detail BMPs you are not using.