



LUZERNE  
CONSERVATION DISTRICT

## **Erosion and Sediment Pollution Control Plan Guide For Small Projects in Luzerne County**

### Conditions for use of this guide:

- Total earth disturbance must be 0.5 acres or less to qualify.
- Submissions not including a complete package (pages 1-17 of this document plus the District's 2-page E&SCP Plan Review Application) will not be reviewed.
- The District may request more detailed plans (i.e. engineered E&SPC plans), based on scope of earthwork being proposed.
- Please include your municipal stormwater management permit application when submitting this guide to the District.

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## Introduction

All earth disturbance activities in the Commonwealth of Pennsylvania are regulated by the requirements of the erosion and sediment pollution control regulations found in Title 25, Chapter 102 of the Pennsylvania Code. All earth disturbance activities, including those that disturb less than 5,000 square feet, must implement and maintain Best Management Practices (BMPs) to control erosion and sediment pollution.

A written Erosion and Sediment Pollution Control (E&SPC) Plan is required if one or more of the following apply: the total area of disturbance is 5,000 square feet or greater, or if the activity has the potential to discharge to a water classified as a High Quality (HQ) or Exceptional Value (EV) water published in Chapter 93 regulations (relating to water quality standards).

This document is intended to assist in the development of an E&SPC Plan where the total area of earth disturbance is 5,000 square feet or greater and less than 21,780 square feet (half an acre) on slopes that are less than 10%. Soils in the Luzerne County Soil Survey that meet the slope guidelines have a three-letter abbreviation that ends in either an **A** or **B**. (example: AIB)

Since some municipalities have local ordinances that require a written and approved E&SPC Plan even if the disturbance is less than 5,000 square feet, **it is recommended you contact your local municipality to determine whether a written plan is required under a local ordinance.**

Other agencies, such as the Pennsylvania Department of Environmental Protection (DEP), may require an E&SPC Plan be submitted to the conservation district office for review prior to construction of projects that impact waterways or wetlands. Please be aware that other federal, state and local approvals may be required, also. Contact DEP and the local municipality in which the construction is to take place to check on their requirements.

With this plan, homeowners and their earthmoving contractors should be able to develop an effective E&SPC plan for the grading of their lot, when conditions are as noted above. This plan, along with guidance by the conservation district office, will satisfy the Chapter 102 E&SPC requirements of the Pennsylvania Code.

If your project will disturb more than half an acre, please contact the Luzerne Conservation District office. The Conservation District reserves the right to determine whether or not this guide is acceptable for any particular project, on a case by case basis.

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## E&SPC PLAN NARRATIVE

Please complete all sections.

### 1. GENERAL INFORMATION

A. Project Owner \_\_\_\_\_

Owner's Address \_\_\_\_\_

Owner's Phone \_\_\_\_\_

B. Project Name \_\_\_\_\_

Project Address \_\_\_\_\_

Municipality \_\_\_\_\_

Has the municipality been contacted concerning this project? \_\_\_\_ Yes \_\_\_\_ No

**(Please check with your local municipality regarding stormwater management, land development, and zoning requirements.)**

Have you included a municipal stormwater management permit application with this packet? \_\_\_\_ Yes \_\_\_\_ No

If "No", please explain: \_\_\_\_\_

Total Site Area \_\_\_\_\_ (Acres or Square Feet)

Total Area to be Disturbed \_\_\_\_\_ (Acres or Square Feet)

Description of Project \_\_\_\_\_

\_\_\_\_\_

C. Person(s) responsible for construction and maintenance of erosion and sediment pollution controls during earth disturbance activities:

Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

D. For new home construction within a larger development, you should locate a copy of the approved Erosion and Sediment Pollution Control Plan for that subdivision.

Name of Development \_\_\_\_\_

## 2. PROJECT SITE CHARACTERISTICS

### A. Project Location/Topographic Map

Please include a copy of a U.S. Geological Services (USGS) topographic map that includes the approximate location of your project site drawn on the sheet. You can print a copy from your computer by accessing: <http://mapper.acme.com/> (Type in your property address in the search box on the bottom left of the screen. Then click “Topo” in the menu in the top right of the screen. Zoom in as close as the program will let you, and click “Print”.) Hardcopies of USGS topographic maps are also available at the conservation district’s office.

### B. Name of Nearest Watercourse \_\_\_\_\_ (E.g. Toby Creek, wetland, roadside swale)

Chapter 93 classification of streams or other water bodies \_\_\_\_\_  
(E.g. Cold Water Fishery (CWF), High Quality Cold Water Fishery (HQ-CWF), etc.)

Please refer to item C. *Chapter 93 Stream Classifications* in the Appendix. It is also recommended that you check for classification updates in PA DEP’s [Existing Use Designations for PA Water Bodies](http://files.dep.state.pa.us/Water/Drinking%20Water%20and%20Facility%20Regulation/WaterQualityPortalFiles/Existing%20Use/EU%20table%20list.pdf) list (found here: <http://files.dep.state.pa.us/Water/Drinking%20Water%20and%20Facility%20Regulation/WaterQualityPortalFiles/Existing%20Use/EU%20table%20list.pdf> ).

Approximate Distance to Nearest Watercourse: \_\_\_\_\_ feet

**Note: Earth disturbance or an obstruction or encroachment within 50 feet of a stream or other water of the Commonwealth may require additional permits or approvals by other agencies.**

### C. Types, Slopes, & Locations of Soil:

A soils map and soil characteristic information should be included with this guide. It is recommended that the map and related information be created and printed using the USDA Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov/>.

Are hydric soils or soils which may have hydric inclusions present on your site (see below)? \_\_\_\_\_ Yes \_\_\_\_\_ No

Luzerne County Soils that are Hydric and/or have Hydric Inclusions:

<i>Alluvial Land</i>	<i>Chenango</i>	<i>Mardin</i>	<i>Volusia</i>
<i>Alvira</i>	<i>Chippewa</i>	<i>Morris</i>	<i>Wayland</i>
<i>Atherton</i>	<i>Holly</i>	<i>Muck</i>	<i>Weikert</i>
<i>Basher</i>	<i>Kedron</i>	<i>Oquaga</i>	<i>Wellsboro</i>
<i>Bath</i>	<i>Klinesville</i>	<i>Pope</i>	<i>Wurstboro</i>
<i>Braceville</i>	<i>Lackawanna</i>	<i>Rexford</i>	<i>Wyoming</i>
<i>Buchanan</i>	<i>Linden</i>	<i>Shelmadine</i>	

**Note: The presence of hydric soils may indicate that you have regulated wetlands on your property. The PA DEP Factsheet titled *CLUES TO WETLAND IDENTIFICATION: QUESTIONS FOR DEVELOPERS, CONTRACTORS, SURVEYORS, FARMERS AND LAND OWNERS* (included at the end of this guide) will help in identifying if wetlands are available on your site. It is recommended that earth disturbance and construction activities be planned well away from possible wetlands. Impacts to wetlands will likely require additional permits or**

**approvals by other agencies. A wetland delineation by an environmental consultant is recommended if hydric soils are present and project activities are planned in or near possible wetlands.**

**D. Site Drainage & Runoff:**

Prior to the start of the project, does offsite or upslope drainage exist? \_\_\_\_\_  
(E.g. existing pipes, drainage swales, etc. that discharge to or flow on/through the property)

Will runoff from above the project site present problems or need to be controlled during construction?  
\_\_\_\_\_ Yes \_\_\_\_\_ No

Will the completion of your project increase storm water runoff volume or channelize stormwater runoff?  
\_\_\_\_\_ Yes \_\_\_\_\_ No

**Note: If you indicated “yes” to Questions C or D above, this runoff must be addressed in your E&SPC Plan.**

***Please include your stormwater management permit application for controlling post construction stormwater per your local municipality’s Stormwater Management Ordinance.***

## DESCRIPTION OF EROSION AND SEDIMENT POLLUTION CONTROL MEASURES

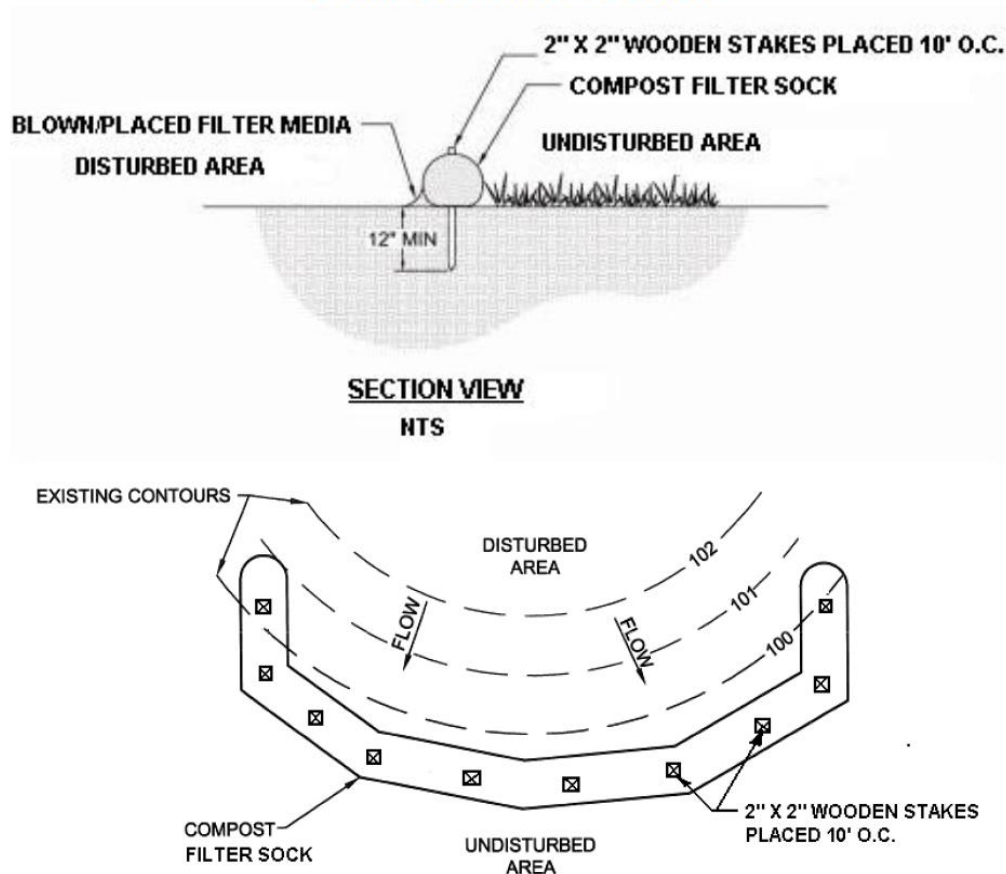
The following standard Best Management Practice (BMP) drawings (Sections A-G) have been provided to assist you in fulfilling the requirements of this plan. If you plan to use any of these recommended BMPs, please check the appropriate boxes for each Section and show the location on the sketch plan. If you plan to use alternative BMPs, you must provide drawings showing the details and specifications.

### A. Compost Filter Sock



Will this BMP be used? Yes ☐ No ☐

### STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK



Compost filter sock shall be placed at existing level grade. Both ends of the sock shall be extended at least 8 feet up slope at 45 degrees to the main sock alignment (Figure 4.1). Maximum slope length above any sock shall not exceed that shown on Figure 4.2. Stakes may be installed immediately downslope of the sock if so specified by the manufacturer.

Traffic shall not be permitted to cross filter socks.

Accumulated sediment shall be removed when it reaches half the aboveground height of the sock and disposed in the manner described elsewhere in the plan.

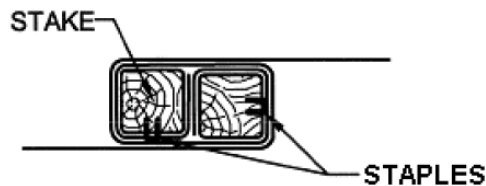
Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.

**B. Filter Fabric Fence**

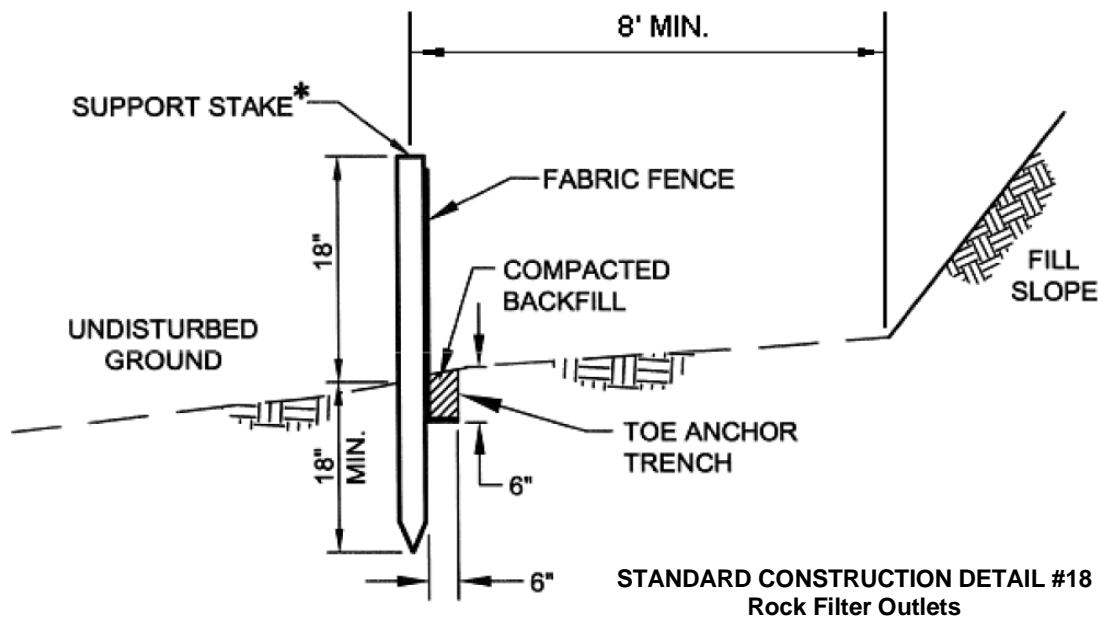
Will this BMP be used? Yes \_\_\_\_ No \_\_\_\_

### STANDARD CONSTRUCTION DETAIL # 4-7 Standard Silt Fence (18" High)

\*STAKES SPACED @ 8' MAX.  
USE 2" x 2" ( $\pm 3/8"$ ) WOOD  
OR EQUIVALENT STEEL  
(U OR T) STAKES



#### JOINING FENCE SECTIONS



**STANDARD CONSTRUCTION DETAIL #18  
Rock Filter Outlets**

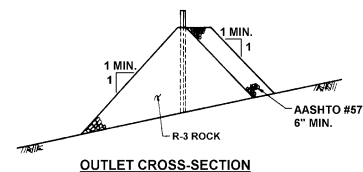
Fabric width shall be 30" minimum. Stakes shall be hardwood or equivalent steel (U or T) stakes.

Silt fence shall be placed at level existing grade. Both ends of the fence shall be extended at least 8 feet up slope at 45 degrees to the main fence alignment (see Figure 4.1).

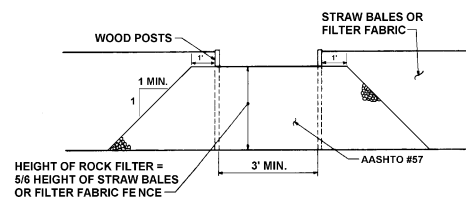
Sediment shall be removed when accumulations reach half the aboveground height of the fence.

Any section of silt fence which has been undermined or topped shall be immediately replaced with a rock filter outlet (Standard Construction Detail # 4-6).

Fence shall be removed and properly disposed of when tributary area is permanently stabilized.



OUTLET CROSS-SECTION



#### **UP-SLOPE FACE**

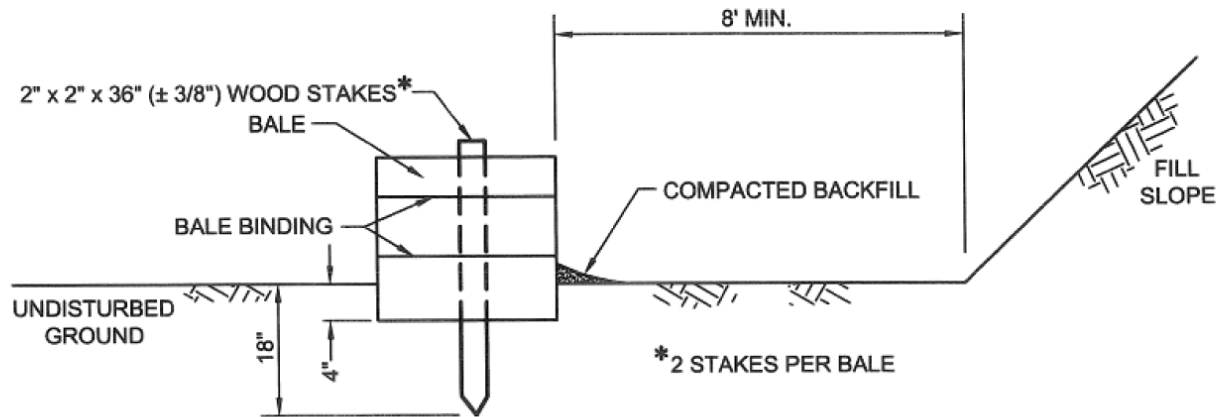
Sediment must be removed when accumulations reach 1/3 the height of the outlet.



### C. Straw Bale Barrier

Will this BMP be used? Yes \_\_\_\_\_ No \_\_\_\_\_

#### STANDARD CONSTRUCTION DETAIL # 4-13 Straw Bale Barrier



PA DEP

Straw bale barriers shall not be used for projects extending more than 3 months.

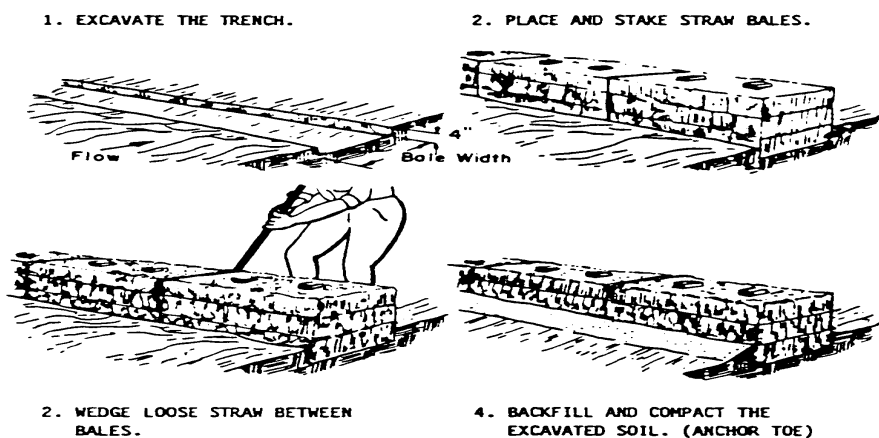
Straw bale barriers shall be placed at existing level grade with ends tightly abutting the adjacent bales. First stake of each bale shall be angled toward adjacent bale to draw bales together. Stakes shall be driven flush with the top of the bale (see Figure 4.4). Both ends of the barrier shall be extended at least 8 feet up slope at 45 degrees to the main barrier alignment (see Figure 4.1).

Compacted backfill shall extend approximately 4 inches above ground level.

Sediment shall be removed when accumulations reach 1/3 the aboveground height of the barrier. Damaged or deteriorated bales shall be replaced immediately upon inspection.

Any section of straw bale barrier which has been undermined or topped shall be immediately replaced with a rock filter outlet (Standard Construction Detail # 4-6).

Bales shall be removed when the tributary area has been permanently stabilized.

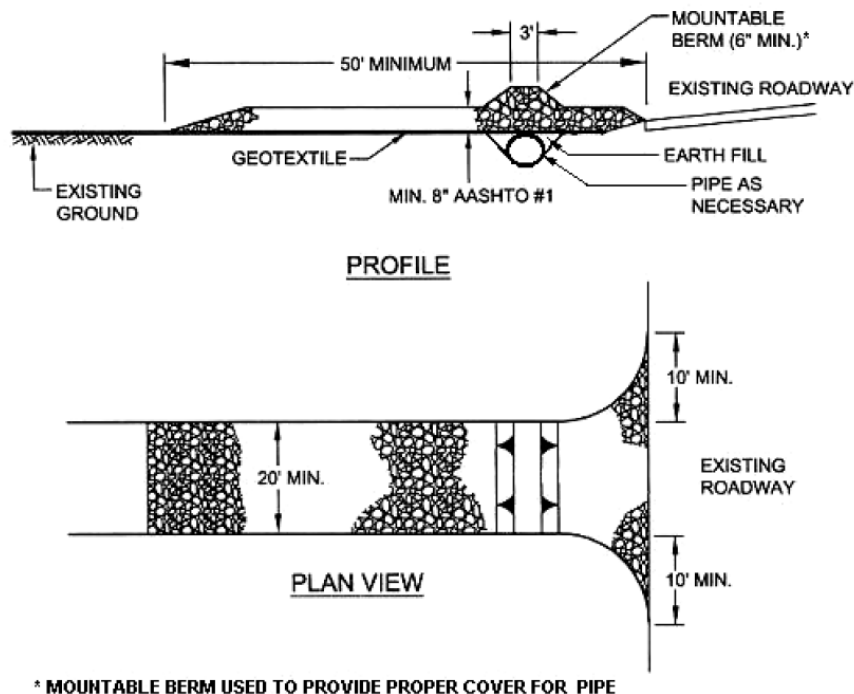


#### D. Stabilized Rock Construction Entrance

The purpose of this is to remove mud from tires and keep it from being tracked onto public roadway. Construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock.

Will this BMP be used? Yes\_\_\_ No\_\_\_

#### STANDARD CONSTRUCTION DETAIL # 3-1 Rock Construction Entrance



Modified from Maryland DOE

Remove topsoil prior to installation of rock construction entrance. Extend rock over full width of entrance.

Runoff shall be diverted from roadway to a suitable sediment removal BMP prior to entering rock construction entrance.

Mountable berm shall be installed wherever optional culvert pipe is used and proper pipe cover as specified by manufacturer is not otherwise provided. Pipe shall be sized appropriately for size of ditch being crossed.

**MAINTENANCE:** Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile shall be maintained on site for this purpose. All sediment deposited on paved roadways shall be removed and returned to the construction site immediately. If excessive amounts of sediment are being deposited on roadway, extend length of rock construction entrance by 50 foot increments until condition is alleviated or install wash rack. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.

**E. Disturbed Area Stabilization** (Indicate below as appropriate.)

+  
 Prior to the completion of the project, state regulations require that the project site be **permanently** stabilized with a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion. Descriptions of revegetation should include the seeding mixture to be used, top soil application, lime, fertilizer and mulch application rates. Cessation of activity for at least 4 days requires **temporary** stabilization.

(TEMPORARY) SPECIES: \_\_\_\_\_  
 % PURE LIVE SEED: \_\_\_\_\_ %  
 APPLICATION RATE: \_\_\_\_\_ LB./ACRE  
 TYPE: \_\_\_\_\_ (X-X-X)  
 FERTILIZER APPL. RATE: \_\_\_\_\_ LB./ACRE  
 LIMING RATE: \_\_\_\_\_ T./ACRE  
 MULCH TYPE: \_\_\_\_\_  
 MULCHING RATE: \_\_\_\_\_ T./ACRE

(PERMANENT) SPECIES: \_\_\_\_\_  
 % PURE LIVE SEED: \_\_\_\_\_ %  
 APPLICATION RATE: \_\_\_\_\_ LB./ACRE  
 FERTILIZER TYPE: \_\_\_\_\_ (X-X-X)  
 FERTILIZER APPL. RATE: \_\_\_\_\_ LB./ACRE  
 LIMING RATE: \_\_\_\_\_ T./ACRE  
 MULCH TYPE: \_\_\_\_\_  
 MULCHING RATE: \_\_\_\_\_ T./ACRE  
 ANCHOR MATERIAL: \_\_\_\_\_  
 ANCHORING METHOD: \_\_\_\_\_  
 RATE OF ANCHOR MATERIAL APPL.: \_\_\_\_\_ LB./ACRE  
 SEEDING SEASON DATES: \_\_\_\_\_

**TABLE 11.1**  
Cubic Yards of Topsoil Required for Application to Various Depths

Depth (in)	Per 1,000 Square Feet	Per Acre
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806
7	21.7	940
8	24.8	1,074

Adapted from VA DSWC

**TABLE 11.2**  
Soil Amendment Application Rate Equivalents

Soil Amendment	Permanent Seeding Application Rate			Notes
	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	
Agricultural lime	6 tons	240 lb.	2,480 lb.	Or as per soil test; may not be required in agricultural fields
10-10-20 fertilizer	1,000 lb.	25 lb.	210 lb.	Or as per soil test; may not be required in agricultural fields
<b>Temporary Seeding Application Rate</b>				
Agricultural lime	1 ton	40 lb.	410 lb.	Typically not required for topsoil stockpiles
10-10-10 fertilizer	500 lb.	12.5 lb.	100 lb.	Typically not required for topsoil stockpiles

Adapted from Penn State, "Erosion Control and Conservation Plantings on Noncropland"

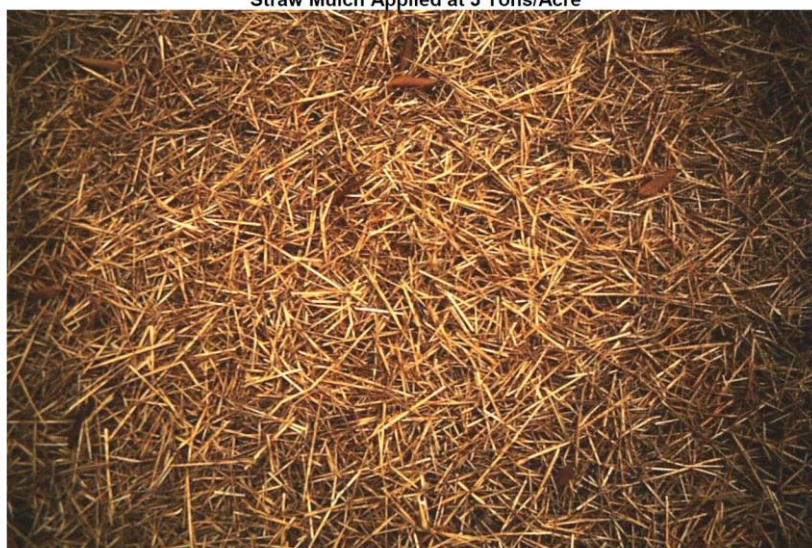
**TABLE 11.4**  
**Recommended Seed Mixtures**

Mixture Number	Species	Seeding Rate - Pure Live Seed <sup>1</sup>	
		Most Sites	Adverse Sites
1 <sup>2</sup>	Spring oats (spring), or	64	96
	Annual ryegrass (spring or fall), or	10	15
	Winter wheat (fall), or	90	120
	Winter rye (fall)	56	112
2 <sup>3</sup>	Tall fescue, or	60	75
	Fine fescue, or	35	40
	Kentucky bluegrass, plus	25	30
	Redtop <sup>4</sup> , or	3	3
3	Perennial ryegrass	15	20
	Birdsfoot trefoil, plus	6	10
4	Tall fescue	30	35
	Birdsfoot trefoil, plus	6	10
5 <sup>8</sup>	Reed canarygrass	10	15
	Crownvetch, plus	10	15
6 <sup>5,8</sup>	Tall fescue, or	20	25
	Perennial ryegrass	20	25
7 <sup>8</sup>	Crownvetch, plus	10	15
	Annual ryegrass	20	25
8	Birdsfoot trefoil, plus	6	10
	Crownvetch, plus	10	15
9 <sup>6</sup>	Tall fescue	20	30
	Redtop <sup>4</sup>	20	30
10	Flatpea, plus	20	25
	Tall fescue, or	20	25
11	Perennial ryegrass	20	25
	Serecia lespedeza, plus	10	20
12 <sup>7</sup>	Tall fescue, plus	20	25
	Redtop <sup>4</sup>	3	3
13	Tall fescue, plus	40	60
	Fine fescue	10	15
14	Deertongue, plus	15	20
	Birdsfoot trefoil	6	10
15	Switchgrass, or	15	20
	Big Bluestem, plus	15	20
16	Birdsfoot trefoil	6	10
	Orchardgrass, or	20	30
17	Smooth brome grass, plus	25	35
	Birdsfoot trefoil	6	10

Penn State, "Erosion Control and Conservation Plantings on Noncropland"

1. PLS is the product of the percentage of pure seed times percentage germination divided by 100. For example, to secure the actual planting rate for switchgrass, divide 12 pounds PLS shown on the seed tag. Thus, if the PLS content of a given seed lot is 35%, divide 12 PLS by 0.35 to obtain 34.3 pounds of seed required to plant one acre. All mixtures in this table are shown in terms of PLS.
2. If high-quality seed is used, for most sites seed spring oats at a rate of 2 bushels per acre, winter wheat at 11.5 bushels per acre, and winter rye at 1 bushel per acre. If germination is below 90%, increase these suggested seeding rates by 0.5 bushel per acre.
3. This mixture is suitable for frequent mowing. Do not cut shorter than 4 inches.
4. Keep seeding rate to that recommended in table. These species have many seeds per pound and are very competitive. To seed small quantities of small seeds such as weeping lovegrass and redtop, dilute with dry sawdust, sand, rice hulls, buckwheat hulls, etc.

**FIGURE 11.4**  
**Straw Mulch Applied at 3 Tons/Acre**



PA DEP

**Rule of thumb: If you are seeing a lot of bare ground, there is not enough straw.**  
(Caution: Too much straw can be as harmful as too little straw.)

**F. Construction Sequence** (List steps, numbering)

(See below for example.)

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Is this BMP provided? Yes\_\_\_\_ No\_\_\_\_

A construction sequence is a step by step description of a proposed earthmoving activity relating the various stages of construction to the BMPs that must be installed prior to each stage. It should also describe the conditions of stabilization that will exist prior to removal of temporary BMPs or the conversion to permanent stormwater management facilities as well as the process of converting those facilities.

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**Example:**

**THE STAGING OF EARTHMOVING ACTIVITIES**

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.

1. At least 7 days before starting any earth disturbance activities, the operator shall invite all contractors involved in those activities, the landowner, all appropriate municipal officials, the erosion and sediment control plan preparer, and the Conservation District to an on-site meeting. Also, at least 3 days before starting any earth disturbance activities, all contractors involved in those activities shall notify the Pennsylvania One Call System Incorporated at 1-800-242-1776 for buried utilities locations.
2. INSTALL Rock Construction Entrance (RCE) and Silt Fence 1 and 2 (SF1 & SF2).
3. After Stages 1 and 2 have been completed and stabilized, CONSTRUCT AND STABILIZE the lot improvements.
4. After Stage 3 has been completed and all areas have achieved final stabilization, REMOVE silt fence, straw bales, etc. and all accumulated sediment. IMMEDIATELY STABILIZE THE AFFECTED AREAS.  
An area shall be considered to have achieved final stabilization when it has a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion.

**G. Erosion and Sediment Pollution Control Plan Drawing:**

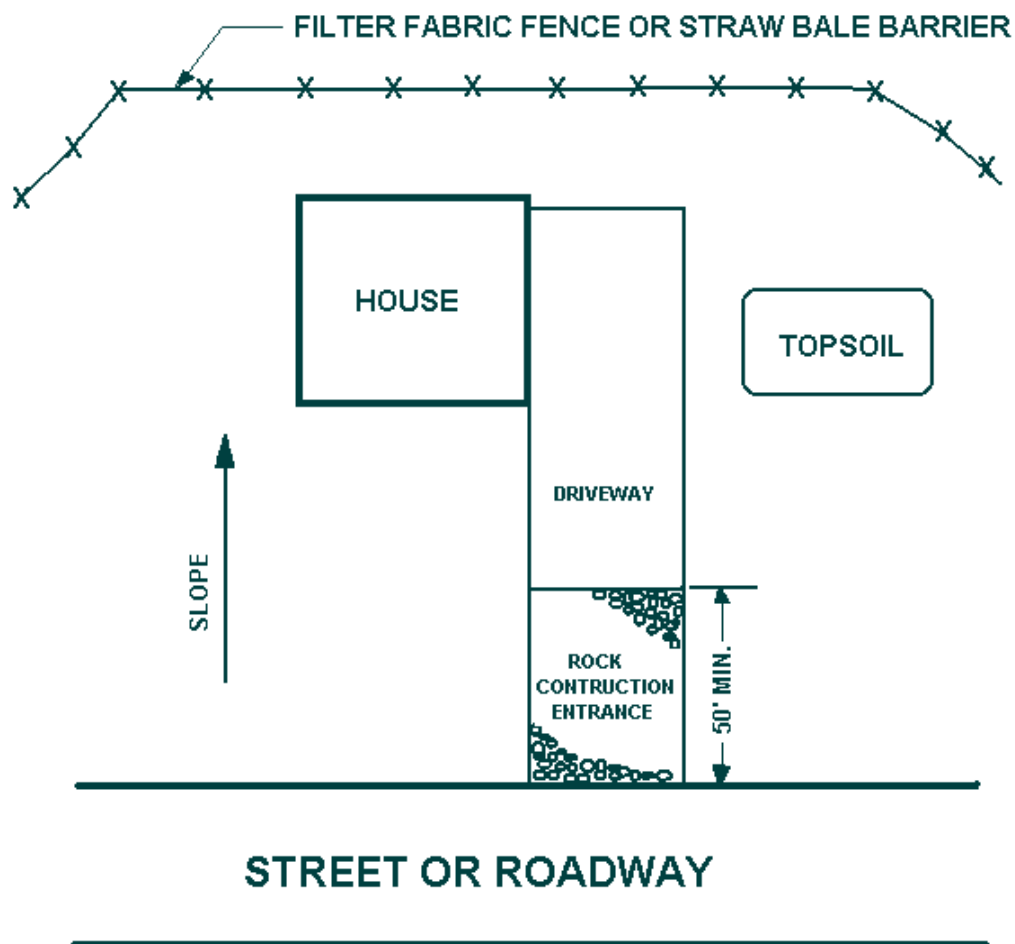
(See below for example.)



Is this BMP provided? Yes\_\_\_\_ No\_\_\_\_

*Include a sketched plan on the following page.*

**Example:**



## **Site Specific Erosion & Sediment Pollution Control Plan Drawing**

## **APPENDIX (REFERENCE MATERIALS)**

### **A. E&SPC PLAN CHECKLIST**

Please provide the following on your E&SPC sketch plan and as part of your plan submittal:

#### **1. EXISTING TOPOGRAPHIC FEATURES OF THE PROJECT SITE**

- ☐ The existing topographic features of the project site and the immediate surrounding area are shown on maps included in the drawings.
- ☐ A location map has been provided (8.5" x 11" copy of USGS map with the outline of the project area).

#### **2. THE TYPES, DEPTH, SLOPES, LOCATIONS OF THE SOILS**

- ☐ Soils map with project area outlined has been provided.

#### **3. CHARACTERISTICS OF THE EARTH DISTURBANCE ACTIVITY**

- ☐ Limits of the project are shown on the plan map (i.e. line boundary for Total Project Area and Total Disturbed Area).
- ☐ Original and proposed contours or slope % are shown on the plan map.

#### **4. THE LOCATION OF SURFACE WATERS WHICH MAY RECEIVE RUNOFF WITHIN OR FROM THE PROJECT SITE**

- ☐ The location(s) of streams or other water bodies which may receive site runoff are shown on the plan map.
- ☐ The Chapter 93 classification of streams or other water bodies which may receive site runoff is provided.

#### **5. THE LOCATIONS AND TYPES OF PERIMETER AND ON-SITE BEST MANAGEMENT PRACTICES (BMPs)**

- ☐ Plan map shows locations of proposed temporary BMPs to control runoff and provide sediment removal.
- ☐ Plan map shows locations of proposed permanent BMPs to control erosion.
- ☐ Construction details and specifications for all proposed BMPs are included with the plan map.

#### **6. Sequence of BMPs installation and removal**

- ☐ A construction sequence has been provided with the plan map.



**B. STANDARD E&SPC PLAN NOTES FOR SMALL PREOJECTS** (Please attach to your plan submittal.)

1. Stockpile heights must not exceed 35 feet Stockpile slopes must be 2: 1 or flatter.
2. The operator shall assure that the approved erosion and sediment control plan is properly and completely implemented.
3. Until the site is stabilization, all erosion and sediment BMPs shall be maintained properly. Maintenance shall include inspections of all erosion and sediment BMPs after each runoff event and on a weekly basis. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, and reseeding, remulching and renetting must be performed immediately.
4. Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices to minimize the potential for erosion and sediment pollution and notify the local conservation district and/or the regional office of the Department.
5. The reviewing agency shall be notified of any changes to the approved plan prior to implementation of those changes. The reviewing agency may require a written submittal of those changes for review and approval at its discretion.
6. All off-site waste and borrow areas must have an E&S plan approved by the local conservation district or the Department fully implemented prior to being activated.
7. All pumping of water from any work area shall be done through a pumped water filter bag over non-disturbed areas.
8. A copy of the approved erosion and sediment control plan must be available on site at all times during construction.
9. E&S BMPs shall remain functional as such until all areas tributary to them are permanently stabilized or until they are replaced by another BMP approved by the local conservation district or the Department.
10. After final site stabilization has been achieved, temporary erosion and sediment BMPs must be removed or converted to permanent post construction stormwater management BMPs. Areas disturbed during removal or conversion of the BMPs shall be stabilized immediately.
11. At least 7 days prior to starting any earth disturbance activities, including clearing and grubbing, the owner and/or operator shall invite all contractors, the landowner, all appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, the licensed professional responsible for oversight of the critical stages of implementation of the PCSM plan, and a representative from the local conservation district to an on pre-construction meeting.
12. At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
13. All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawing. Deviation from that sequence must be approved in writing from the local conservation district or by the Department prior to implementation.
14. Immediately after earth disturbance activities cease in any area or subarea of the project, the operator shall stabilize all disturbed areas. During non-germinating months, mulch or protective blanketing shall be applied as described in the plan. Areas not at finished grade, which will be reactivated within 1 year, may be stabilized in accordance with the temporary stabilization specifications. Those areas which will be reactivated within 1 year shall be stabilized in accordance with the permanent stabilization specifications.
15. Permanent stabilization is defined as a minimum uniform, perennial 70% vegetative cover or other permanent non- vegetative cover with a density sufficient to resist accelerated surface erosion. Cut and fill slopes shall be capable of resisting failure due to slumping, sliding, or other movements.
16. Hay or straw mulch must be applied at 3.0 tons per acre.
17. All sediment removed from BMPs shall be disposed of in a manner described on the plan drawings.
18. All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1 et seq., and 287.1 et seq. No building materials or wastes or unused building materials shall be burned, buried, dumped or discharged at the site.

## C. CHAPTER 93 STREAM CLASSIFICATIONS

Stream (numbers indicate hydrological order)	Zone	County	Water Uses Protected*
2—Lehigh River	Basin, Source to Tobyhanna Creek	Luzerne-Monroe-Carbon	EV, MF
1—Susquehanna River	Main Stem, PA-NY State Border near Milltown to Lackawanna River	Luzerne	WWF, MF
2—Unnamed Tributaries to Susquehanna River	Basins, Wyalusing Creek to Lackawanna River	Bradford- Wyoming- Lackawanna- Luzerne	CWF, MF
3—South Branch Bowman Creek	Basin, Source to Confluence with North Branch	Luzerne	HQ-CWF, MF
3—North Branch Bowman Creek	Basin, Source to Confluence with South Branch	Luzerne	HQ-CWF, MF
3—Unnamed Tributaries to Bowman Creek	Basins, Confluence of South and North Branches to Mouth	Luzerne- Wyoming	HQ-CWF, MF
3—Bean Run	Basin	Luzerne	HQ-CWF, MF
3—Wolf Run	Basin	Luzerne	HQ-CWF, MF
3—Beth Run	Basin	Luzerne	HQ-CWF, MF
3—Butternut Run	Basin	Luzerne	HQ-CWF, MF
2—Dymond Creek	Basin	Luzerne	CWF, MF
2—Sutton Creek	Basin	Luzerne	CWF, MF
2—Lewis Creek	Basin	Lackawanna	CWF, MF
2—Gardner Creek	Basin	Luzerne	CWF, MF
2—Obendoffers Creek	Basin	Luzerne	CWF, MF
2—Hicks Creek	Basin	Luzerne	CWF, MF
2—Lackawanna River	Main Stem, SR 0347 Bridge to Mouth	Luzerne	CWF, MF
3—Unnamed Tributaries to Lackawanna River	Basins, SR 0347 Bridge to Mouth	Luzerne	CWF, MF
3—St. Johns Creek	Basin	Luzerne	CWF, MF
3—Red Spring Run	Basin	Luzerne	CWF, MF
2—Unnamed Tributaries To Susquehanna River	Basins, Lackawanna River to Mahoning Creek	Luzerne- Columbia- Montour- Northumberland	CWF, MF
2—Abrahams Creek	Basin	Luzerne	CWF, MF
2—Mill Creek (Warden Creek)	Basin	Luzerne	CWF, MF
2—Toby Creek	Basin, Source to Huntsville Creek	Luzerne	CWF, MF
3—Huntsville Creek	Basin	Luzerne	CWF, MF
2—Toby Creek	Basin, Huntsville Creek to the point where the stream is piped underground at Pringle	Luzerne	TSF, MF
2—Toby Creek	Basin, from the point where the stream is piped underground at Pringle to the Mouth	Luzerne	WWF, MF
2—Brown Creek	Basin	Luzerne	CWF, MF
2—Wadham Creek	Basin	Luzerne	CWF, MF
2—Coal Creek	Basin	Luzerne	CWF, MF
2—Solomon Creek	Basin, Source to Pine Creek	Luzerne	HQ-CWF, MF
3—Pine Creek	Basin	Luzerne	CWF, MF
2—Solomon Creek	Basin, Pine Creek to Mouth	Luzerne	CWF, MF
2—Warrior Creek	Basin	Luzerne	CWF, MF
2—Nanticoke Creek	Basin	Luzerne	CWF, MF
2—Harvey Creek	Basin, Source to Pikes Creek	Luzerne	HQ-CWF, MF
3—Pikes Creek	Basin	Luzerne	HQ-CWF, MF

2—Harvey Creek	Basin, Pikes Creek to Mouth	Luzerne	CWF, MF
2—Hunlock Creek	Basin	Luzerne	CWF, MF
2—Shickshinny Creek	Main Stem	Luzerne	CWF, MF
3—Unnamed Tributaries to Shickshinny Creek	Basins	Luzerne	CWF, MF
3—Culver Creek	Basin	Luzerne	CWF, MF
3—Reyburn Creek	Basin	Luzerne	CWF, MF
3—Little Schickshinny Creek	Basin	Luzerne	HQ-CWF, MF
2—Black Creek	Basin	Luzerne	CWF, MF
2—Turtle Creek	Basin	Luzerne	CWF, MF
2—Rocky Run	Basin	Luzerne	CWF, MF
2—Little Wapwallopen Creek	Basin	Luzerne	CWF, MF
2—Wapwallopen Creek (Big Wapwallopen Creek)	Basin	Luzerne	CWF, MF
2—Walker Run	Basin	Luzerne	CWF, MF
2—Salem Creek	Basin	Luzerne	CWF, MF
2—Nescopeck Creek	Basin, Source to PA 309 Bridge	Luzerne	HQ-CWF, MF
2—Nescopeck Creek	Main Stem, PA 309 Bridge to Mouth	Luzerne- Columbia	TSF, MF
3—Unnamed Tributaries to Nescopeck Creek	Basins, PA 309 Bridge to Mouth	Luzerne- Columbia	CWF, MF
3—Creasy Creek	Basin	Luzerne	CWF, MF
3—Little Nescopeck Creek	Basin	Luzerne	CWF, MF
3—Oley Creek	Basin, Source to farthest downstream crossing of State Game Lands No. 187 Border	Luzerne	HQ-CWF, MF
3—Oley Creek	Basin, Farthest down-stream crossing of State Game Lands No. 187 Border to Mouth	Luzerne	CWF, MF
3—Long Run	Basin	Luzerne	CWF, MF
3—Little Nescopeck Creek	Basin	Luzerne	CWF, MF
3—Black Creek	Basin	Luzerne	CWF, MF
3—Huntingdon Creek	Basin, Source to Kitchen Creek	Luzerne	HQ-CWF, MF
4—Kitchen Creek	Basin	Luzerne	HQ-CWF, MF
4—Unnamed Tributaries to Huntingdon Creek	Basins, Kitchen Creek to Mouth	Luzerne	CWF, MF
4—Rogers Creek	Basin	Luzerne	CWF, MF
4—Kingsbury Brook	Basin	Luzerne	CWF, MF
4—Pine Creek	Basin	Luzerne	CWF, MF
3—Unnamed Tributaries to Catawissa Creek	Basins, Source to Rattling Run	Luzerne-Schuylkill	CWF, MF
3—Hunkydory Creek	Basin	Luzerne	CWF, MF

\*Water Uses Protected Symbols:

**Aquatic Life:**

**CWF** Cold Water Fishes—Maintenance or propagation, or both, of fish species including the family Salmonidae and additional flora and fauna which are indigenous to a cold water habitat.

**WWF** Warm Water Fishes—Maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat.

**MF** Migratory Fishes—Passage, maintenance and propagation of anadromous and catadromous fishes and other fishes which move to or from flowing waters to complete their life cycle in other waters.

**TSF** Trout Stocking—Maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat.

**Special Protection:**

**HQ** High Quality Waters

**EV** Exceptional Value Waters

## D. DEFINITIONS OF COMMONLY USED E&S TERMS:

**AASHTO #1 Stone** – A standard size range for Coarse Aggregate Stone ranging from ¾" to 4" in diameter.

**Acre** – A measure of area equal to 43,560 square feet (4,046.87 square meters). One square mile equals 640 acres.

**Best Management Practice (BMP)** – Activities, facilities, measures, planning or procedures used to minimize accelerated erosion and sedimentation and manage stormwater to protect, maintain, reclaim, and restore the quality of waters and the existing and designated uses of waters within this Commonwealth before, during and after earth disturbance activities.

**Chapter 102** – The Department's regulations concerning Erosion and Sediment Control found in Chapter 102 of Title 25 of the Pa. Code.

**Clean Streams Law (CSL)** – (35 P.S. § 691.1 – 691.1001) Pennsylvania law passed in 1937 to preserve and improve the purity of the waters of the Commonwealth.

**Construction Detail** – A drawing of a BMP showing all critical dimensions and elevations.

**Construction Sequence (aka BMP sequence)** – A step by step description of a proposed earthmoving activity relating the various stages of construction to the BMPs that are to be installed prior to each stage. It should also describe the conditions of stabilization that will exist prior to removal of temporary BMPs or their conversion to permanent stormwater management facilities as well as the process of converting those facilities.

**Contour** – A line connecting points having the same elevation on a topographic map.

**DEP or Department (The)** – The Pennsylvania Department of Environmental Protection.

**Disturbed Area** – That part of an earthmoving project from which the vegetative cover has been removed to the extent that the potential for accelerated erosion exists.

**Earth Disturbance Activity** – A construction or other human activity which disturbs the surface of the land, including land clearing and grubbing, grading, excavations, embankments, land development, agricultural plowing or tilling, operation of animal heavy use areas, timber harvesting activities, road maintenance activities, oil and gas activities, well drilling, mineral extraction, and the moving, depositing, stockpiling, or storing of soil, rock or earth minerals.

**Erosion** – The loosening and removal by wind and/or water of soil and/or rock from its location and moving it to a place of deposition.

- **Accelerated Erosion** -----Erosion much more rapid than normal, primarily due to human activity
- **Geologic Erosion** -----The normal or natural erosion caused by geological processes acting over long periods of time, resulting in wearing away of mountains and building up of floodplains.
- **Gully Erosion** -----The erosion process whereby water accumulates in narrow channels over short periods, and removes the soil from this narrow area to considerable depths.
- **Natural Erosion** -----Wearing away of the earth's surface by water, ice, or other natural agents under natural environmental conditions of climate, vegetation, etc.
- **Normal Erosion** -----The gradual erosion of land use by man that does not greatly exceed natural erosion.
- **Rill Erosion** -----An erosion process in which numerous small channels only several inches deep are formed.
- **Sheet Erosion** -----The removal of a fairly uniform layer of soil from the land surface by stormwater runoff.
- **Splash Erosion** -----The spattering of small soil particles caused by the impact of raindrops on unprotected soil. The loosened particles are often removed by subsequent surface runoff.

**Erosion & Sediment Pollution Control (E&SPC) Plan** – A site-specific plan identifying BMPs to minimize accelerated erosion and sedimentation and which meets the requirements of 25 Pa. Code Chapter 102 regulations. For agricultural plowing or tilling activities, the E&SPC Plan is that portion of a conservation plan identifying BMPs to minimize accelerated erosion and sedimentation.

**Filter Fabric** – A manufactured water-permeable geotextile material — woven or non-woven — used to filter sediment from runoff coming from a disturbed area. It is typically made from synthetic products such as polypropylene.

**Filter Fabric Fence or Silt Fence** – A sediment barrier constructed from filter fabric attached to support stakes.

**Hydric Soil** – A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions. When such a soil present in an area that has hydrophytic vegetation and wetland hydrology, a wetland is present.

**Limit of Disturbance** – The boundary within which it is anticipated that earthmoving (including installation of BMPs) will take place.

**Limiting Exposed Areas** – 1. Minimizing the area to be disturbed by proposed earthmoving. 2. Minimizing the time period from initial disturbance to final stabilization.

**Location Map** – Map insert on Plan Drawings and in the Narrative showing the location of the project. A photocopy of the USGS Quad with the project outlined and the quad name provided is recommended.

**Maintenance** – The regular inspection of BMPs to ensure proper functioning and timely repairs to damaged BMPs.

- Mulch** – A natural or artificial layer of plant residue or other materials placed on the soil surface to protect seeds, prevent blowing, retain soil moisture, curtail erosion, aid in establishing plant cover, and minimize soil temperature fluctuations.
- Narrative** – The part of an E&SPC plan which contains the applicant and plan designer information, soil use limitations and resolutions, wetland identification and delineation information, supporting calculations, stream classification information and any other pertinent data not required to be on the plan drawings.
- Permanent Stabilization** – Long-term protection of soil and water resources from accelerated erosion.
- Plan Drawings** – The drawings used by a contractor to construct a project. In E&SPC Plans, these drawings should include maps, construction details and typicals, sequencing, maintenance information, seeding and mulching specs, and other information needed by the contractor to comply with the Department's rules and regulations.
- Potential Sediment Pollution** – Site conditions, such as a failure to install or maintain BMPs specified in the E&S Plan that if not corrected, could result in sediment pollution to surface waters if a design storm occurs.
- Pumped Water Filter Bag** – A bag manufactured from filter fabric and used to filter water pumped from a disturbed area prior to discharging it to Surface waters.
- Revegetation** – Reestablishing vegetative cover on ground that has been disturbed, such as a construction site.
- Rock Filter Outlet** – A sediment barrier constructed at points where concentrated flow is anticipated at a Filter Fabric Fence or Straw Bale Barrier or where concentrated flow has caused the failure of a barrier.
- Runoff** – That portion of a rainfall or snow melt which flows over the surface.
- Sediment** – Soils or other erodible materials transported by stormwater as a product of erosion.
- Sediment Barrier** – A permeable wall or fence constructed used to filter sediment out of runoff from a disturbed area.
- Sediment Pollution** - Discharging sediment to surface waters.
- Slope** – Deviation of a surface from horizontal measured in ratio, percent, or degrees, such as ft/ft with the first number typically being the horizontal distance [run] and the second the vertical [rise]. percent, or degrees.
- Soil Classification** – The systematic arrangement of soils into groups or categories based on their characteristics.
- Soil Map** – A map showing soil boundaries, such as those in the Soil Survey.
- Soil Survey** – A publication by the NRCS on a county-wide basis containing soil maps, soil descriptions, and tables of soil characteristics and limitations.
- Standard Construction Detail** – Typical details provided by the Department for use on Plan Drawings to provide information to contractors necessary to install BMPs according to Department standards.
- Standard Silt Fence** – 18" High Silt Fence. Also called a Standard Filter Fabric Fence.
- Stabilization** – The proper placing, grading, constructing, reinforcing, lining, and covering of soil, rock or earth to ensure their resistance to erosion, sliding or other movement.
- Straw Bale Barrier** – A sediment barrier constructed from stakes straw bales.
- Temporary Vegetation** – A vegetative cover — annual or perennial, but typically rapid growing annual grasses, small grains, or legumes — used to provide erosion protection to a disturbed area until active earthmoving resumes or permanent protection is provided.
- Vegetative Stabilization** – 1. A vegetative cover that has achieved a Uniform 70% Cover. 2. Protection of erodible soil in a disturbed area by the establishment of a uniformly thick, perennial vegetation that is erosion-resistant.
- Wetland** – 1. An area that meets the criteria — hydric soils, hydrophytic plants, and hydrology — set forth in the 1987 Corps of Engineers Wetlands Delineation Manual 2. An area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs and similar areas.



## CLUES TO WETLAND IDENTIFICATION: QUESTIONS FOR DEVELOPERS, CONTRACTORS, SURVEYORS, FARMERS AND LAND OWNERS

Wetlands are areas where ground and/or surface water lingers for brief periods of time during the growing season (see Department of Environmental Protection (DEP) fact sheet, *An Introduction to Wetlands* and the enclosed map, "Growing Seasons for Wetland Hydrology").

In Pennsylvania, wetlands are protected by both state and federal regulations and may also be protected by local (municipal) regulations or ordinances. Wetlands are valuable because they function in ways that benefit the natural world, including the human community (see DEP fact sheet, *Wetlands: Functions at the Junctions*).

**ARE WETLANDS PRESENT ON THE SITE?** Take a walking inventory of fields, forests and woodlots. Ask the following questions:

Yes    No

- |                          |                          |  |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Are there open bodies of water, ponds, lakes, streams, or reservoirs?  |
| <input type="checkbox"/> | <input type="checkbox"/> | Are there natural drainage channels (permanent or temporary)?  |
| <input type="checkbox"/> | <input type="checkbox"/> | Is the ground soggy or spongy under foot at any time during the growing season (see "Growing Seasons" map)?  |
| <input type="checkbox"/> | <input type="checkbox"/> | Are there "low spots" or depressions where water lies or pools for more than seven days during the growing season?   |
| <input type="checkbox"/> | <input type="checkbox"/> | Are swales, springs or seeps present?  |
| <input type="checkbox"/> | <input type="checkbox"/> | Are there areas that should not be crossed with vehicles, tractors or other machinery for fear of "getting stuck"?   |
| <input type="checkbox"/> | <input type="checkbox"/> | Has the site been "ditched" or "tiled" in spots to "dry it out"?   |
| <input type="checkbox"/> | <input type="checkbox"/> | Do some plants have roots growing from their stems, above the soil line?   |
| <input type="checkbox"/> | <input type="checkbox"/> | Are these plants present: cattails, sedges (frequently with triangular stems), iris (flags), arrowheads, joe pyeweed, touch-me-not (jewelweed), rushes, sensitive fern, ironweed or skunk cabbage? |
| <input type="checkbox"/> | <input type="checkbox"/> | Are these trees or saplings present: willows, red or silver maples, box elders, black or green ash, sycamore or black gum?   |
| <input type="checkbox"/> | <input type="checkbox"/> | Are tree trunks expanded or swollen at the base?   |
| <input type="checkbox"/> | <input type="checkbox"/> | Are any trees "blown down" (windthrows), exposing a shallow but extensive root system?   |
| <input type="checkbox"/> | <input type="checkbox"/> | Are any of these shrubs present: blueberry, bush-type dogwoods (for example, red osier), alders, buttonbush or spicebush?  |
| <input type="checkbox"/> | <input type="checkbox"/> | Are there cleared areas where water has scoured the surface and removed the plants?  |
| <input type="checkbox"/> | <input type="checkbox"/> | Are there places where fallen leaves are discolored gray or black?   |
| <input type="checkbox"/> | <input type="checkbox"/> | Are there silt/sedimentation deposits on decaying leaves lying on the ground or on living plant leaves, or on stems or tree trunks?  |
| <input type="checkbox"/> | <input type="checkbox"/> | Are there drift lines (wrack lines) where sticks, leaves and other water-carried debris have lodged along a contour or at the base of vegetation?  |

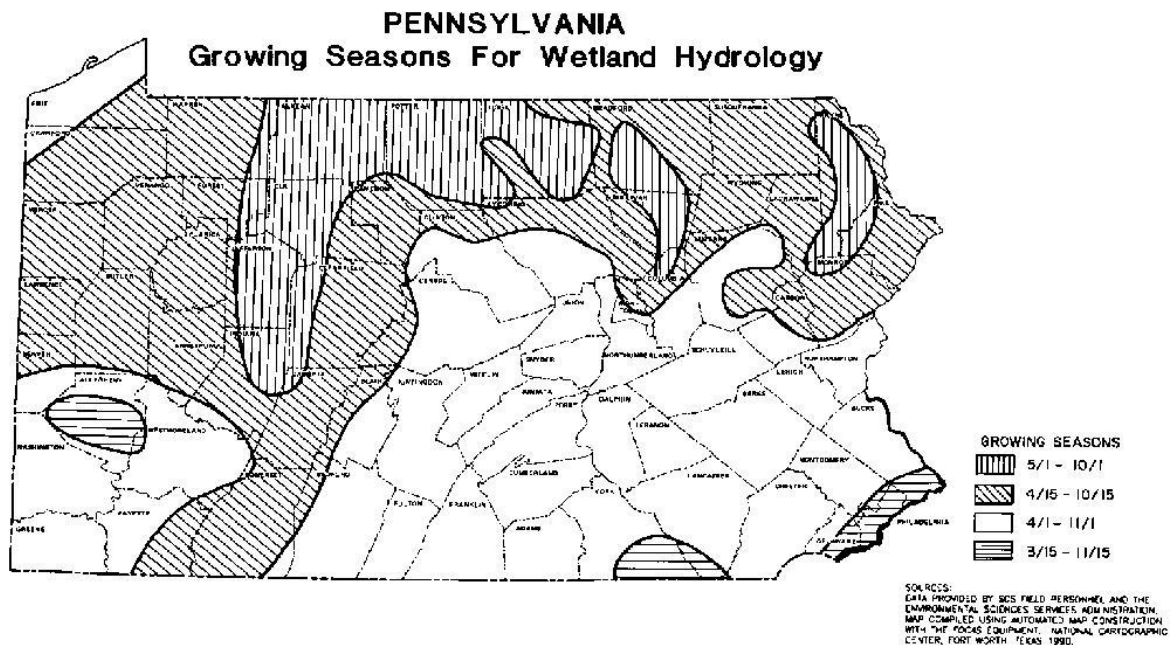


Yes No

- ☐ ☐ Is there a dark-brown layer of organic matter, over two inches thick, on the soil surface?
- ☐ ☐ Does sphagnum moss (a lush, green, juicy moss) cover the site?
- ☐ ☐ Is the soil composed primarily of peat (decaying sphagnum moss)?
- ☐ ☐ Does the soil smell like rotten eggs (sulfur)?
- ☐ ☐ Digging to a depth of 18 inches, is the soil color gray, gray-blue or gray-green or marked with spots, streaks or lines of different color? Note: In agricultural fields, these characteristics are observed below the plow-line.
- ☐ ☐ Does a soil test pit (a hole dug to 18 inches) fill with water or does water "trickle down the sides"?

If the answer is "Yes" to any of these questions, a wetland may be present on the property.

Further information and assistance is available. Observe! Ask questions! Be alert to changes in state and federal regulations! Be aware of local regulations/ordinances! Seek professional advice at state, federal and private levels! **It is important to note that permits are normally needed before any work is performed in a wetland.** Contact: regional offices of DEP Bureau of Waterways Engineering and Wetlands, Division of Wetlands, Encroachments and Training, the local county conservation district, or the Natural Resource Conservation Service.



For more information, visit [www.dep.state.pa.us](http://www.dep.state.pa.us), keyword: Wetlands,

or contact:

Department of Environmental Protection  
Bureau of Waterways Engineering and Wetlands  
Division of Wetlands, Encroachments and Training  
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