



FRANKLIN COUNTY CONSERVATION DISTRICT

185 Franklin Farm Lane
Chambersburg PA 17202
717-264-5499



EROSION CONTROL GUIDELINES FOR SINGLE RESIDENTIAL LOTS



What is Soil Erosion?

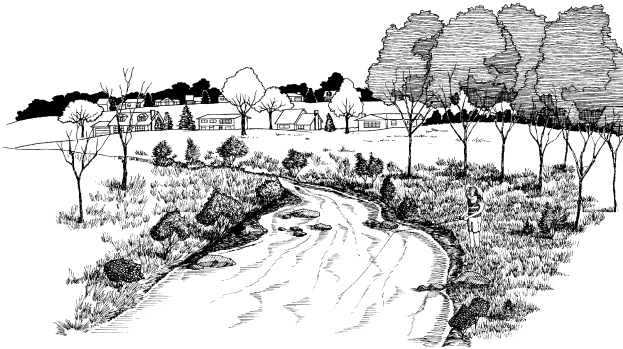
Erosion is the wearing away of soil and its parent material (rock) through the natural processes of wind and rain. Sedimentation, which results from erosion, is the transport and deposition of these soils and rock particles to a location away from their origin, usually to the “waters of the commonwealth” such as streams, lakes, wetlands, and stormsewers. Through man’s activities (*earth moving activities*) however, the rates of erosion and sedimentation are greatly accelerated. The PA DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) defines an earthmoving activity as “.. any construction or other activity which disturbs the surface of the land including, but not limited to, excavations, rock, or earth.” Interpreted as, if the vegetative cover (grass, and other plant material) is removed or covered, leaving the earth surface exposed, an earthmoving activity has occurred. Without proper controls, the exposed soil will erode.

WHAT CAN I DO?

-DEVELOP and IMPLEMENT A PLAN for controlling accelerated erosion during construction.

- LEAVE IT GREEN! Soil covered with vegetation will not erode easily. *Disturb* only those areas needed to build your home. Grade lawn areas only when ready to plant.

If the site has features such as steep slopes, flowing streams, wetlands, springs, highly erodible soils, etc., specific care and planning must be taken to control erosion. Assistance is available from private consultants or the FRANKLIN COUNTY CONSERVATION DISTRICT. (717) 264-8074 EXT:5

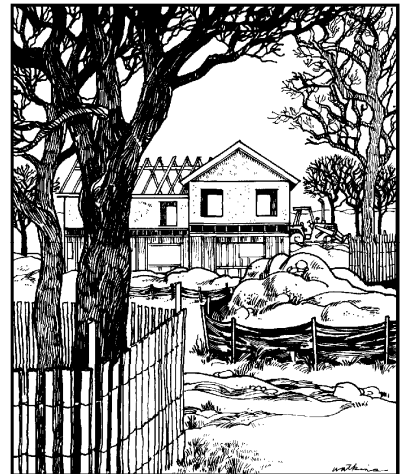


WHY SHOULD I CARE?

The **PA CLEAN STREAMS LAW AS AMENDED** defines sediment as a pollutant. Sediment has become the number one pollutant by volume to the *waters of the Commonwealth*. The soil particles contained in sediment also carry and retain chemical pollutants such as herbicides, pesticides, and fertilizers. Accelerated sedimentation that flows into the *waters of the Commonwealth* can:

1. Raise the levels of streams, lakes, etc. and increase flooding.
2. Decrease oxygen in the waters, suffocating fish and other aquatic life.
3. Deposit sediment over the breeding beds (eggs) of aquatic life.
4. Increase filtering costs of public water supply (e.g. Codorus, Conewago)
5. Ruin the scenic values of the waters

The total cost of damages caused by sedimentation is about 500 million dollars per year nationally.

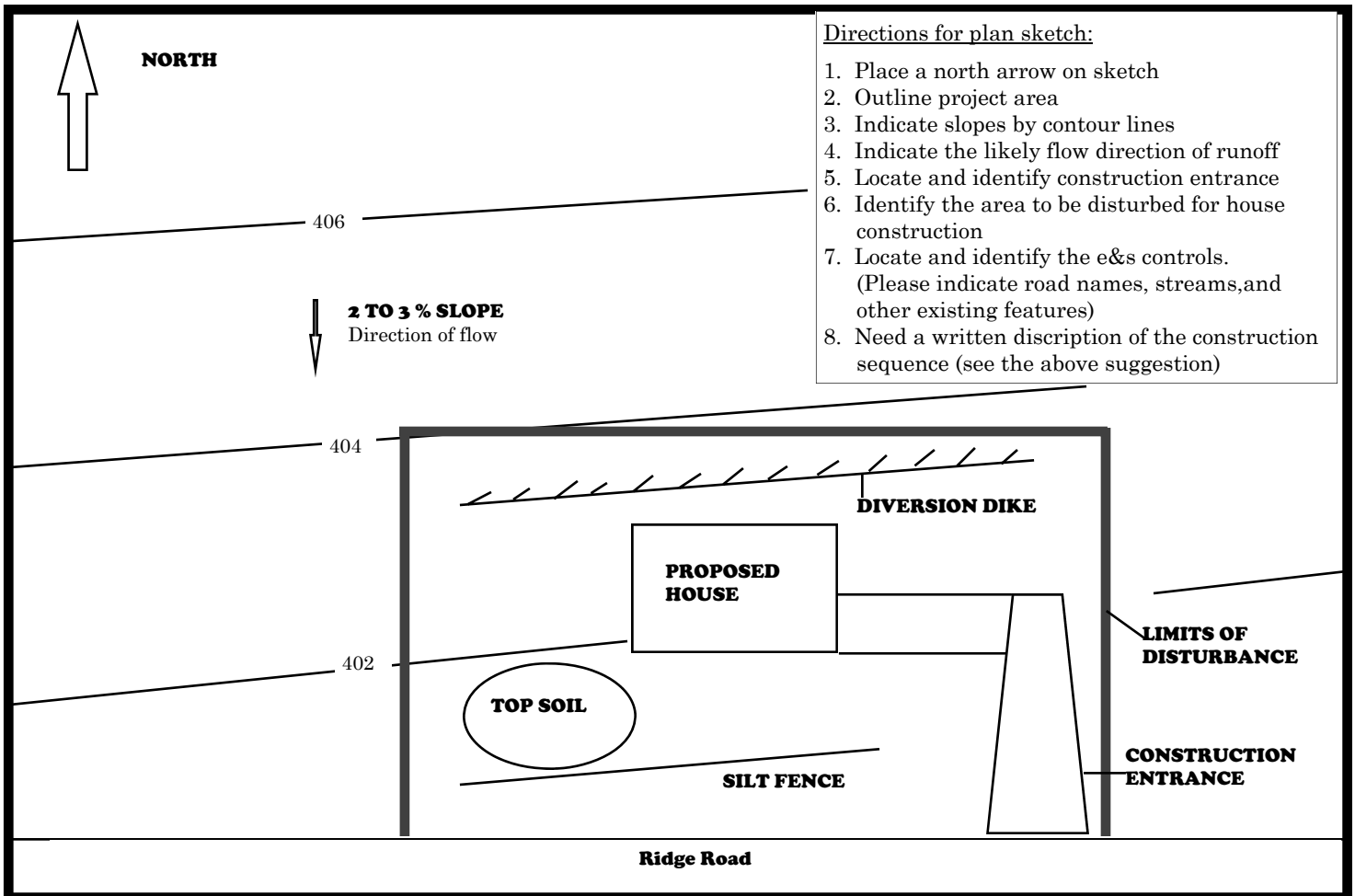


THIS PAMPHLET CONTAINS AN OVERVIEW OF PA STATE REGULATIONS GOVERNING SOIL EROSION, A SAMPLE PLAN FOR A SINGLE RESIDENTIAL LOT, AND INSTALLATION DETAILS FOR COMMON EROSION AND SEDIMENTATION POLLUTION CONTROLS.

TYPICAL SINGLE LOT EROSION AND SEDIMENT POLLUTION CONTROL PLAN

SUGGESTED SEQUENCE OF EARTHMOVING ACTIVITIES

1. Install a construction entrance. (for vehicles and equipment to enter property) A culvert pipe may be needed if there is a roadside ditch. (Grade breaks maybe needed across driveway to prevent washing of drive.)
2. Install temporary control measures: straw bales, silt fence, diversion dikes, and/or a sediment trap. (See detail page)
3. Rough grade site and stockpile topsoil to divert runoff around the construction area.
(All stock piles need to be temporarily seeded and mulched with annual rye and straw or hay)
4. Grade for building site. Construct dwelling and all other utilities.
5. Finish grade and permanently stabilize (seed, mulch, lime, fertilize) the site. ** Silt fence and or strawbales should remain on downslope area until grass is established.**

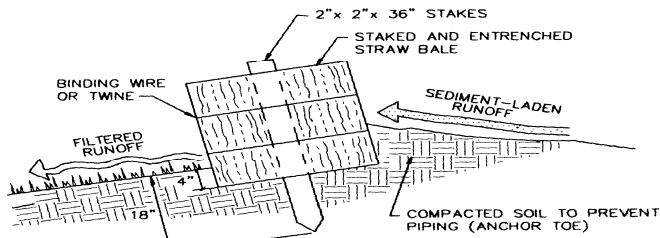


IF THE FOLLOWING EXIST ON THE SITE, THE ABOVE PLAN IS NOT ADEQUATE AND A SEPARATE SITE SPECIFIC PLAN MUST BE DEVELOPED

- * More than 1 acre is disturbed.
- * Slope of building site is greater than 8 percent.
- * Earthmoving activities within 50 feet of a wetland or stream. (Permits may be needed)
- * Long, steep driveways - need to consider future stormwater problems.

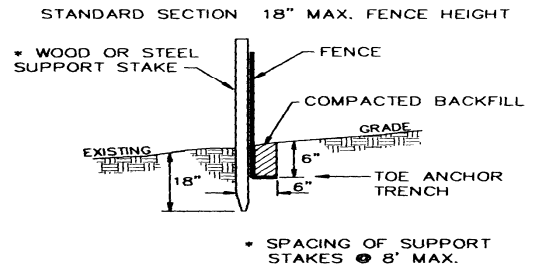
EROSION CONTROL DETAILS

STRAW BALE INSTALLATION



**CROSS-SECTION
STRAW BALE BARRIER**
NO SCALE

SILT FENCE INSTALLATION

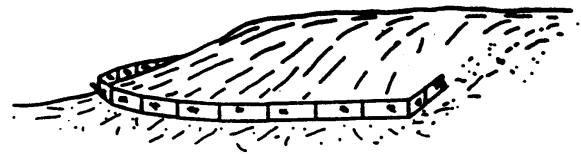


**FILTER FABRIC FENCE
INSTALLATION**
NO SCALE

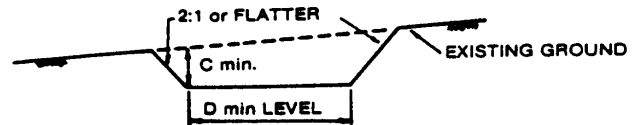
SILT FENCE AND OR STRAW BALES SHOULD BE INSTALLED LEVEL WITH GROUND AND BE TRENCHED IN.

EXTEND END OF SILT FENCE AND/OR STRAW BALES UPSLOPE

MAXIMUM SLOPE LENGTHS FOR		
SLOPE PERCENT	SILT	FENCE
	18" or straw bales	36"
2	250 ft	500 ft
5	100 ft	250 ft
10	50 ft	150 ft
15	35 ft	100 ft
20	25 ft	70 ft
25	20 ft	55 ft
30	15 ft	45 ft
35	15 ft	40 ft
40	15 ft	35 ft
45	10 ft	30 ft



TEMPORARY SWALE OR DIVERSION DIKE

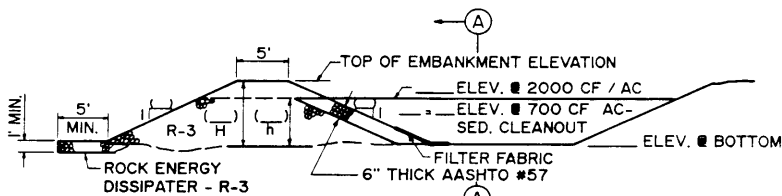


CROSS SECTION

DIMENSIONS

- C. - Depth 1.5' (includes 1/2' freeboard)
- D. - Bottom width 4'

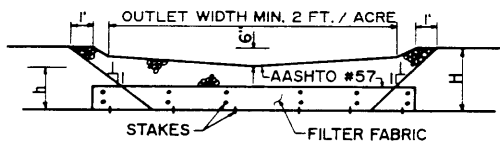
SEDIMENT TRAP DETAILS



SECTION THROUGH SED. TRAP OUTLET
NO SCALE

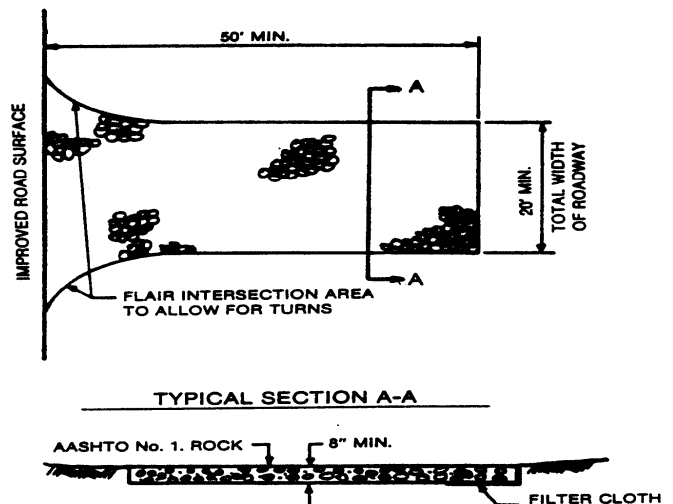
NOTE: THE OUTLET EMBANKMENT IS TO BE COMPOSED ENTIRELY OF ROCK. THE MAIN BODY SHOULD BE LARGER STONE (R-3) WITH AN UPSTREAM LAYER OF SMALLER STONE (AASHTO #57)

SEDIMENT TRAP NO. _____
REQUIRED DIMENSIONS _____ x _____



SECTION A-A
NO SCALE

CONSTRUCTION ENTRANCE DETAILS



TYPICAL SECTION A-A

THE E&S PLAN SHOULD CONSIDER:

- **Minimize the Area** and Time of Exposure. **Save** existing vegetation. **Avoid** Steep Slopes
- The existing topography of the site: slope or grade of the land; location of any water (**Protect** streams, ponds, wetlands, springs, etc.); or any other significant features of the site.
- The types of soils on the site
(Available from the Franklin Natural Resource Conservation Service NRCS)
- The amount of runoff from the project area (water flowing across or from the site).
- Determine the sequence in which the earthmoving will occur, (disturb only those areas necessary for construction). Disturbed areas should be stabilized immediately after earthmoving has been completed. In addition the State Regulations mandate “... where the activity ceases for more than 20 days, interim stabilization measures shall be implemented promptly.”
- Temporary Controls (e.g. straw bales, silt fence, diversion dikes, sediment traps, etc.) and maintenance.
- Final Stabilization (e.g. seeding, mulching) and maintenance until vegetation is established.

SEED AND MULCH SPECIFICATIONS

- * Temporary seeding should be an annual grass. (e.g. Annual Rye at a rate of 1 pound per 1000 sq. feet)
- * Permanent seeding should be perennial grasses. (e.g. Kentucky Bluegrass, Fescue, Perennial Rye at a rate of 5 pounds per 1000 sq. feet)
- * Straw or wood chip mulch should be applied at a rate of 3 tons per acre.
- * Hydroseeding is permissible **only** during the growing season: (Recommend to use straw mulch)

For additional information on lawn establishment, consult the Penn State Agronomy Guide available from the Franklin County Cooperative Extension Service (717) 263-9226

STATE REGULATIONS:

In an attempt to control sediment pollution, the DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) adopted strict rules and regulations concerning Erosion and Sedimentation Control in 1972. The rules and regulations, known as PA CODE TITLE 25 CHAPTER 102 EROSION CONTROLS states “... any landowner... engaged in earthmoving activities shall develop, implement and maintain erosion and sedimentation controls measures which effectively minimize accelerated erosion and sedimentation. These erosion and sedimentation measures must be set forth in a plan... and must be available at the site at all times during construction.”

Failure to follow the rules and regulations of Chapter 102 and the PA CLEAN STREAMS LAW carries strict penalties ranging up to \$10,000 dollars per day per violation.

The Franklin County Conservation District has been granted authority by DEP to review E&S plans and to enforce these rules and regulations.

Please remember the **landowner** is the **responsible person** for any violation that may occur on their property.

Any earth disturbance near a body of water or wetland may need a permit from the PA DEP. For further information, please contact:

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185 Franklin Farm Lane
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www.franklinccd.org