

PLAN APPENDIX H
ACT 167 Stormwater Management Requirements
For Individual Homeowners

LITTLE CONEMAUGH RIVER WATERSHED

CAMBRIA COUNTY, PENNSYLVANIA

ACT 167 Stormwater Management Requirements

For Individual Homeowners

On Single Family Lots

PREPARED BY:

BORTON-LAWSON ENGINEERING. INC.

What are the ACT 167 Stormwater Management Requirements?

Pennsylvania ACT 167 was authorized on October 4, 1978 (32 P.S., P.L. 864) and gave Pennsylvania Municipalities the power to regulate activities that affect stormwater runoff, surface and groundwater quantity and quality. Specific stormwater management requirements for the Little Conemaugh River watershed were developed in 1994 by the Cambria County Conservation District and updated in 2004 to include requirements for water quality and groundwater recharge.

Who is affected by these requirements?

The ACT 167 Stormwater Management Requirements affect all NEW development in the Little Conemaugh River watershed. Individual home construction projects on single family lots which result in less than 10,000 square feet of impervious area (including the building footprint, driveway, sidewalks and parking areas) are not required to submit formal drainage plans to the Municipality or County, however they must still address Water Quality and Groundwater Recharge criteria specified in the Little Conemaugh River Watershed Stormwater Ordinance (Ord. Sections 305 and 306).

Do I require professional services to meet these requirements?

This brochure has been developed to assist the individual homeowner in meeting the Water Quality and Groundwater Recharge requirements of the Little Conemaugh River Watershed Stormwater Ordinance. If the guidelines presented in this brochure are followed, the individual homeowner will not require professional services to comply with the Stormwater Management Requirements.

What is required to be sent to the Municipality?

Even though a formal drainage plan is not required for individual lot owners, a brief description of the proposed infiltration facilities, including types of material to be used, total impervious areas and volume calculations as shown above, and a simple sketch plan showing the following information shall be submitted to the municipality prior to construction:

- ?? Location of proposed structures, driveways or other paved areas with approximate size in sq. feet.

Determination of Recharge Volume

The amount of recharge volume which must be provided can be determined by following the simple steps below. Impervious area calculations should include all areas on the individual lots which are covered by roof area or pavement which would prevent rain from naturally percolating into the ground, including sidewalks, driveways or parking areas. Sidewalks, driveways or patios which are constructed with gravel or turf pavers and will not be blacktopped in the future, need not be included in this calculation.

STEP 1 – Determine Total Impervious Surfaces

House Roof (Front)	12 ft x 48 ft	=	576 sq. ft.
House Roof (Rear)	12 ft x 48 ft		576 sq. ft.
Driveway	12 ft x 50 ft	=	600 sq. ft.
Parking Pad	12 ft x 12 ft	=	144 sq. ft.
Walkway	6 ft x 20 ft	=	120 sq. ft.

			1,440 sq. ft.

STEP 2 – Determine Required Infiltration Volume using Equation

$R_v = 0.3 \times \text{(total impervious area in square feet)} = \text{_____ cubic feet of recharge}$

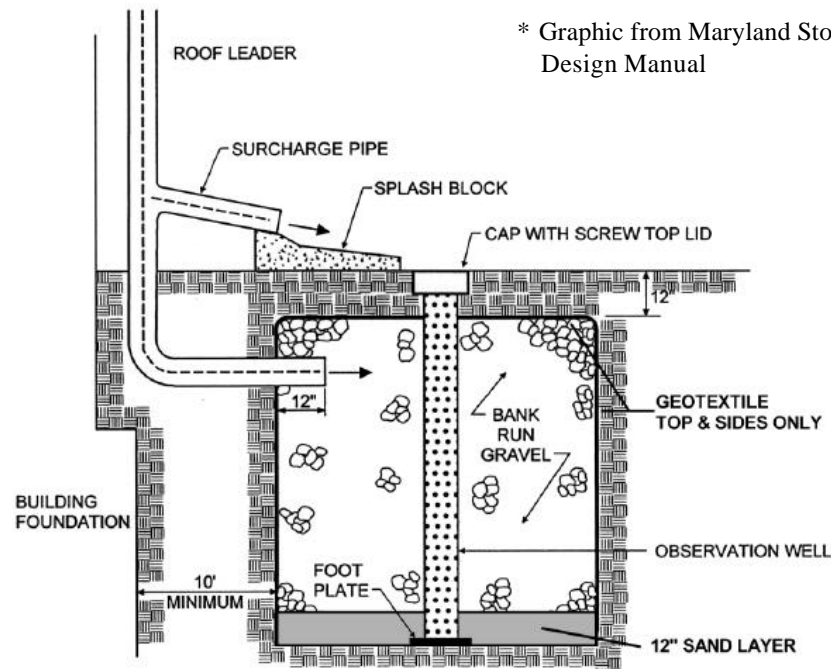
$$R_v = 0.3 \times 1,440 \text{ sq. ft.} = 432 \text{ cu. ft.}$$

STEP 3 – Sizing of Selected Infiltration Method

The following pages show several methods of infiltrating stormwater runoff from residential areas. Their appropriateness depends on the amount of infiltration volume required and the amount of land available. More than one method can be implemented on a site, depending on site constraints. Dry wells should be used only for receiving runoff from roof drains. Infiltration trenches are appropriate for receiving runoff from driveways, sidewalk or parking areas. Other methods may be appropriate, but these should be discussed with the municipal engineer prior to installation.

Dry Wells

Dry wells are effective methods of infiltrating runoff from roof leaders. These facilities should be located a minimum of 10 feet from the building foundation to avoid seepage problems. A dry well can be either a structural prefabricated chamber or an excavated pit filled with aggregate. Construction of a dry well should be performed after all other areas of the site are stabilized, to avoid clogging. During construction, compaction of the subgrade soil should be avoided and construction should be performed with only light machinery. Depth of dry wells in excess of 3 ½ feet should be avoided. Gravel fill should be an average 1.5 – 3.0 inches in diameter. Dry wells should be inspected at least four times annually as well as after large storm events.



* Graphic from Maryland Stormwater Design Manual

Typical Dry Well Configuration

Sample Sizing:

STEP 1 – Determine Total Impervious Surfaces

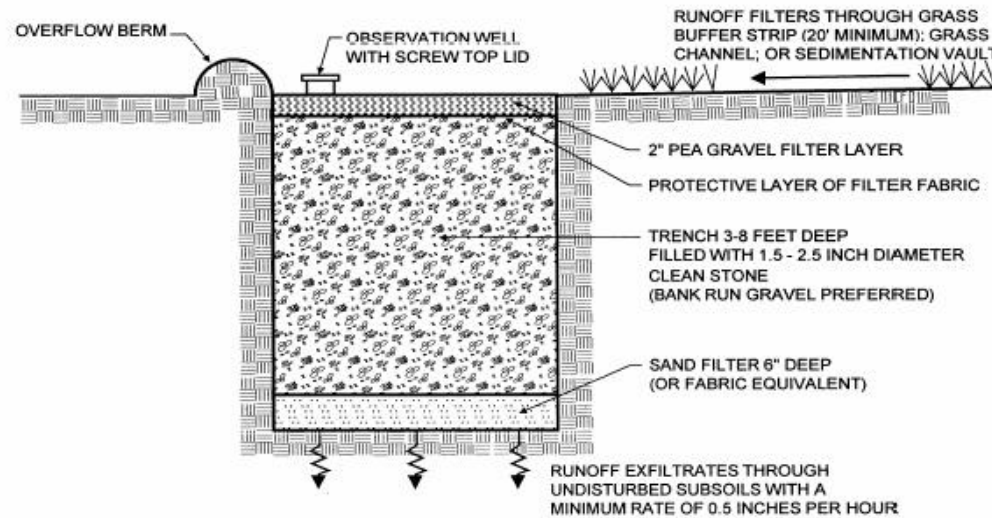
House Roof Area: 12 ft x 48 ft = 576 sq. feet

STEP 2 – Determine Require Infiltration Volume using Equation

0.2 576 0.1 172.8

Infiltration Trenches

An infiltration trench is a long, narrow, rock-filled trench with no outlet that receives stormwater runoff. Runoff is stored in the void space between the stones and infiltrates through the bottom and into the soil matrix. Infiltration trenches perform well for removal of fine sediment and associated pollutants. Pretreatment using buffer strips, swales, or detention basins is important for limiting amounts of coarse sediment entering the trench which can clog and render the trench ineffective.



Typical Infiltration Trench Configuration

Sample Sizing:

STEP 1 – Determine Total Impervious Surfaces

Driveway	12 ft x 50 ft	=	600 sq. ft.
Parking Pad	12 ft x 12 ft	=	144 sq. ft.
Walkway	6 ft x 20 ft	=	120 sq. ft.

			864 sq. ft.

STEP 2 – Determine Require Infiltration Volume using Equation

$$0.3 \times 864 \text{ sq. ft.} = 518 \text{ cu. ft.}$$

STEP 3 – Sizing of Select Infiltration Method

$$\text{Volume of facility} = \text{Depth} \times \text{Width} \times \text{Length}$$

Set D = 3.5 ft. Determine Required Surface Area of Trench

Sample Site Sketch Plan

