

Municipal Day

September 9, 2015

Purpose of the Rules:

- **To protect human health and the environment.**

Program Description:

- **Jurisdiction over all soil-based wastewater systems < 6,500 gallons per day.**
- **Jurisdiction over all non-public water systems.
(Publics include Public Community, Public Non-Transient Non-Community; Public Transient Non-Community; Bottled Water.**
- **Review and approve municipal sewers.**
- **Review and approve sewer and water connections to municipal sewer systems and water supplies.**

Review of a Site for New or Replacement Soil-Based System and Water Supply:

- **landowner needs to hire a designer: Class 1, Class A, or Class B;**
- **conducts soil borings, percolation tests;**
- **prepares site and detail plans;**
- **hydro study for wastewater;**
 1. **less than 24 inches of soil**
 2. **mounds over 1000 gpd**
 3. **in-ground over 2000 gpd**
 4. **filtrate**
- **hydro for water for possible interference**
- **do well and wastewater shields per Act 145; and**
- **submit application for review and approval.**

Basic Criteria for Wastewater Systems:

- **maintain 3 feet between the bottom of the system and the seasonal high; groundwater table and impervious soil.**
- **maintain 4 feet to bedrock;**
- **I/A systems or sand filters treat to 30 BOD and 30 TSS can discharge to a filtrate system;**
- **filtrate systems are allowed a reduction between bottom of the system and the seasonal high groundwater table, impervious soil, and bedrock to 18 inches and**
- **performance based systems or larger systems require to be designed to performance based standards or calculate the rise to the seasonal high groundwater table.**

Provide Designer Training



Look at Vegetation



Look at Surrounding Area for Surface Water, Bedrock Outcrops, Wetlands, Excessive Slopes, Top of Bank



Dig a Hole



Look for Seasonal High Water

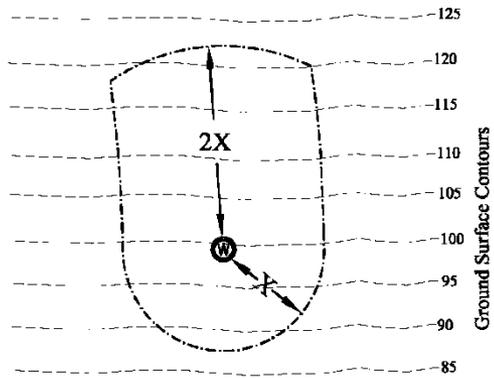


Scrap the Sides of the Hole Looking for Redoximorphic Features, Soil Textures, Soil Structure

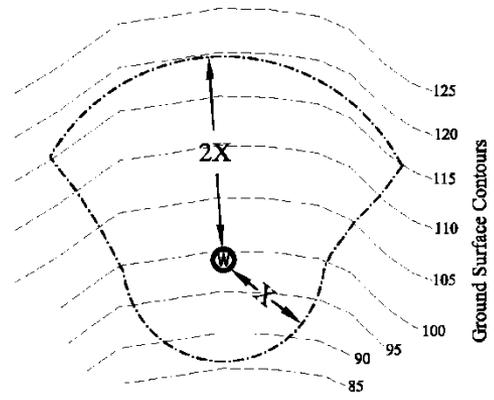


Types of Systems:

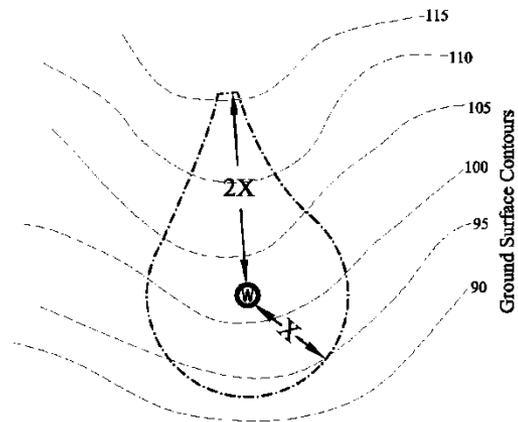
- **In-ground.**
- **Mound.**
- **At-grade.**
- **Store and dose.**
- **Spray Irrigation.**
- **Holding tank for projects owned by municipality, State, non-profit, charitable or religious organizations.**
Design flows limited to 600 gpd.



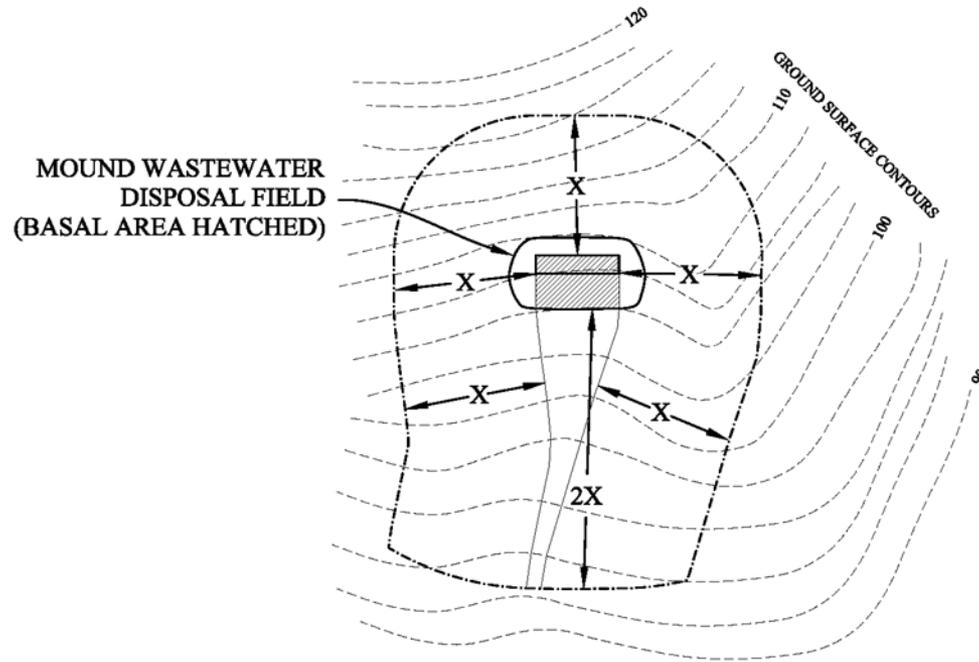
Uniform Slope



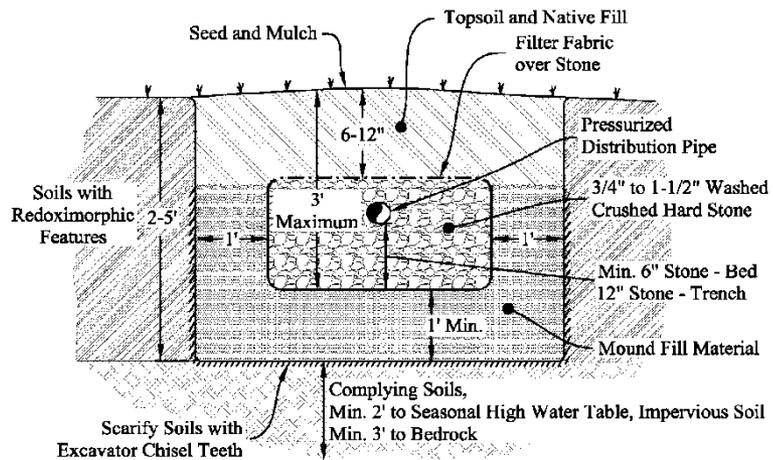
Concave Slope



Convex Slope

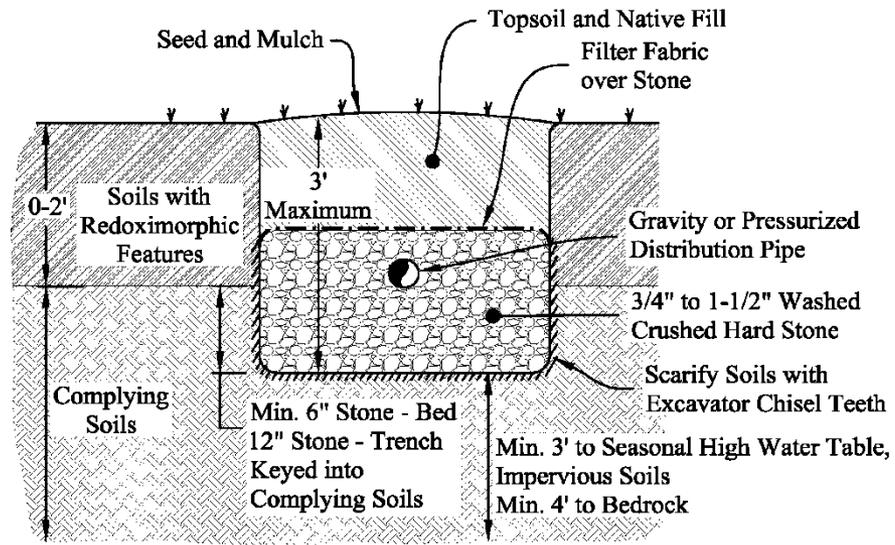


WASTEWATER SYSTEM PROTECTIVE ZONE



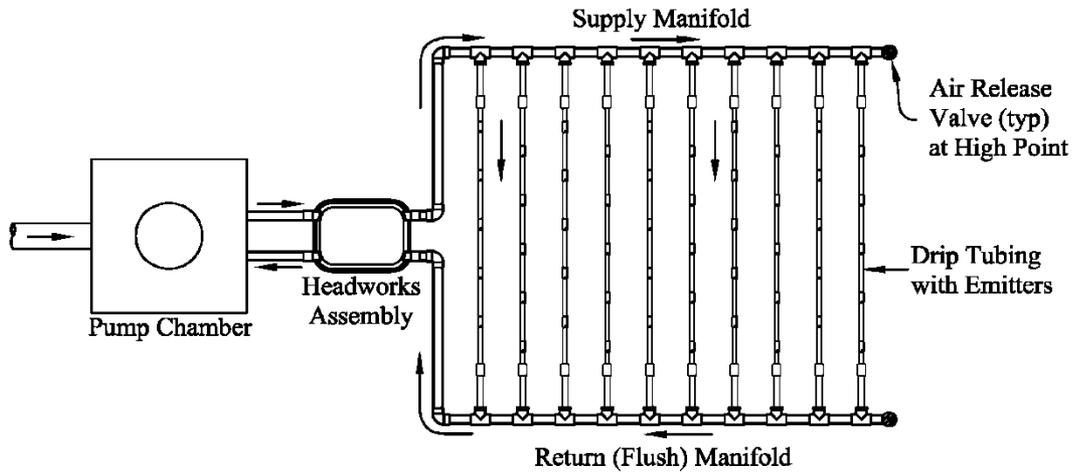
Cross-Section View

Typical Window Special Design - Overburden 2'-5'



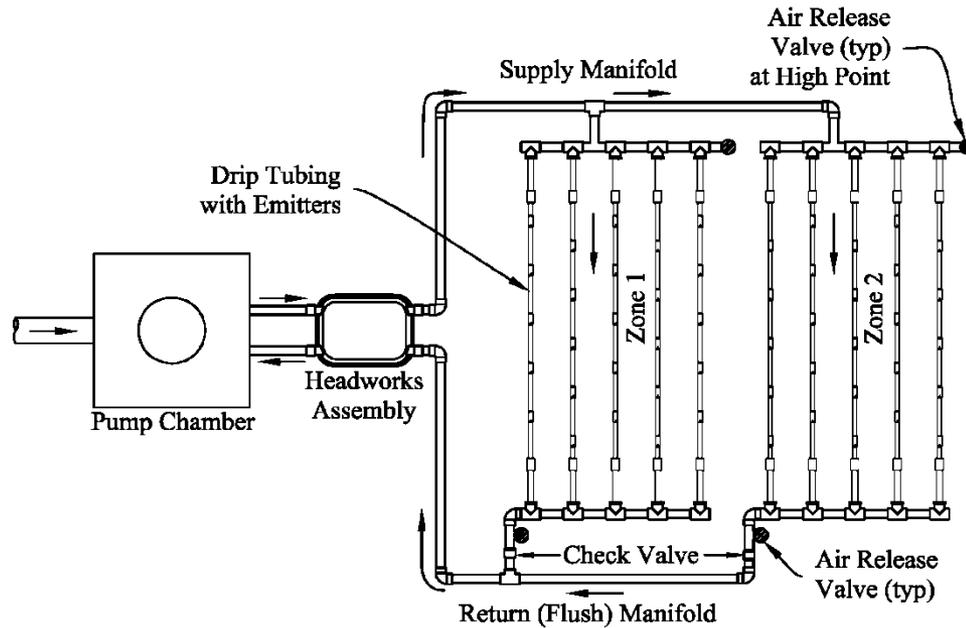
Cross-Section View

Typical Window Special Design - Overburden <2'



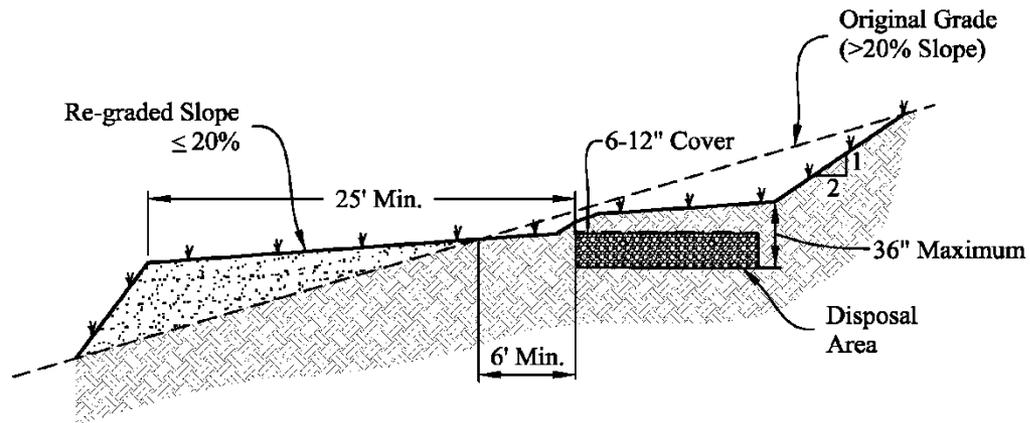
Plan View

Typical Subsurface Drip System - Single Zone



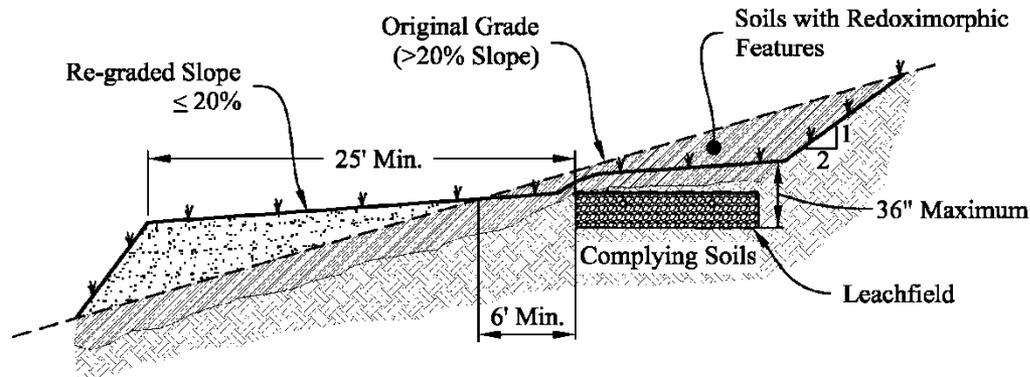
Plan View

Typical Subsurface Drip System - Two Zones



Cross-Section View

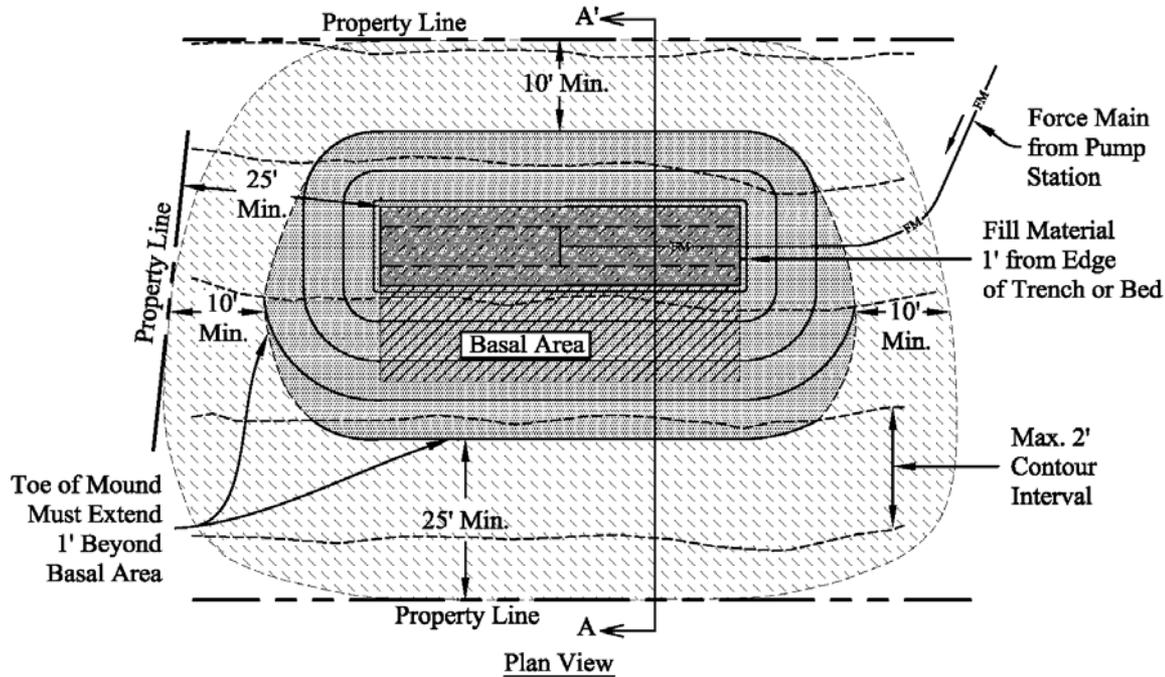
Typical Excessive Slope Alteration Complying Soils



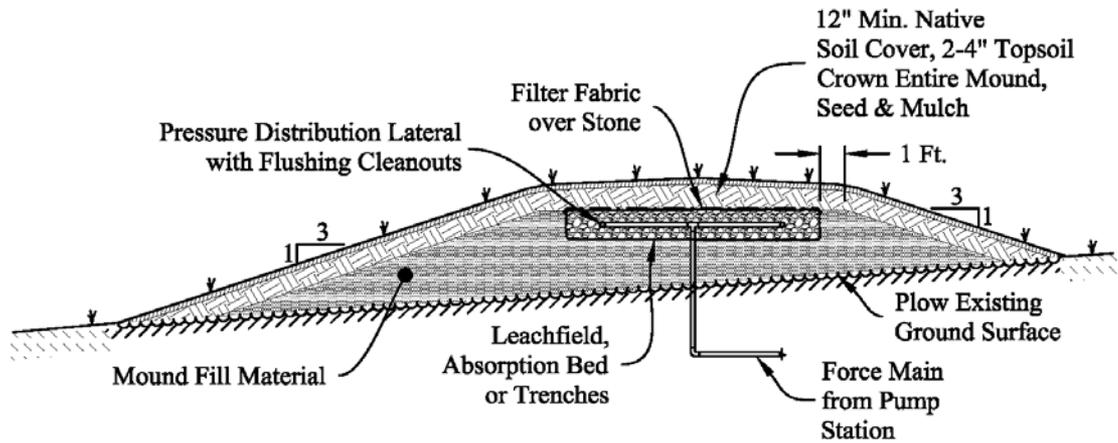
Cross-Section View

Typical Excessive Slope Alteration Non-complying over Complying Soils

Typical Mound Wastewater Disposal System

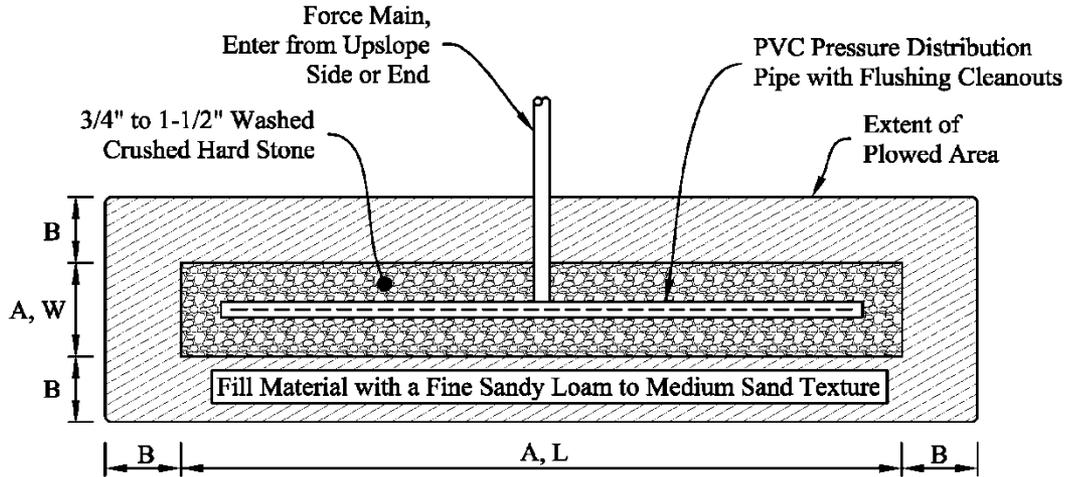


- Extent of Naturally Occurring Soils that Meet the Minimum Site Conditions
- Mound Fill Material
- Native Soil Cover with 2-4" Topsoil to be Seeded and Mulched

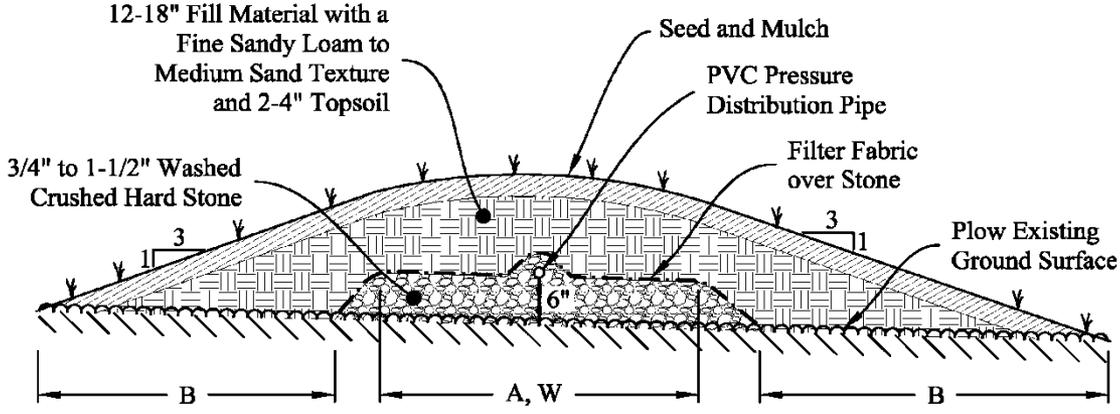


Typical At-Grade Wastewater System with One Infiltration Area (0-3% Site Slope)

- A: Effective Infiltration Area (min. of 6" stone) (3'-6")
- B: Side Slope (3:1 max.)
- L: System Length
- W: System Width



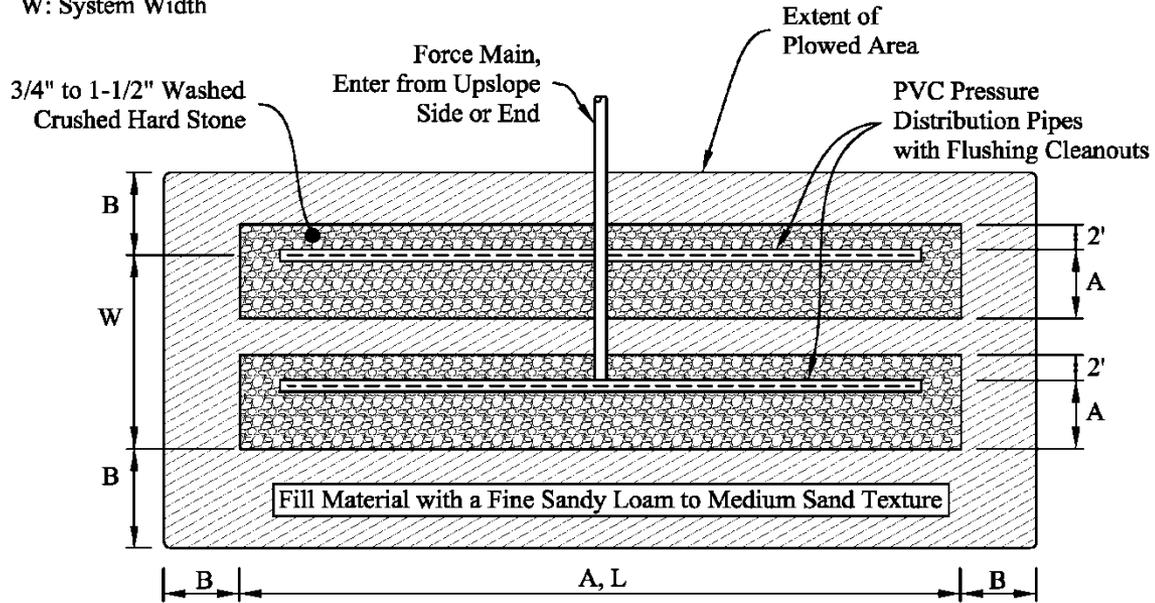
Plan View



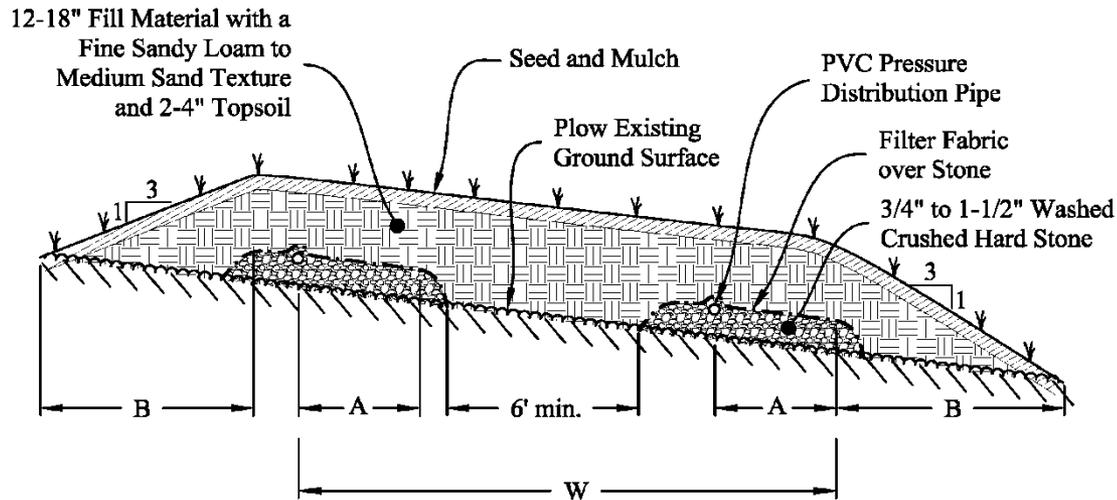
Cross-Section View

Typical At-Grade Wastewater System with Two Infiltration Areas (>3% Site Slope)

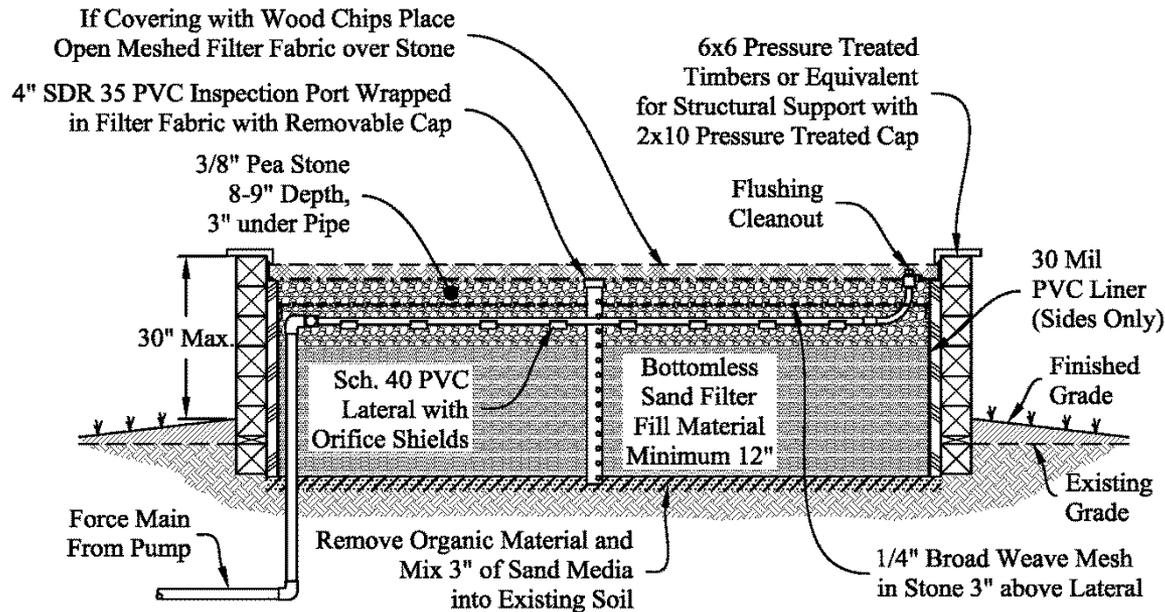
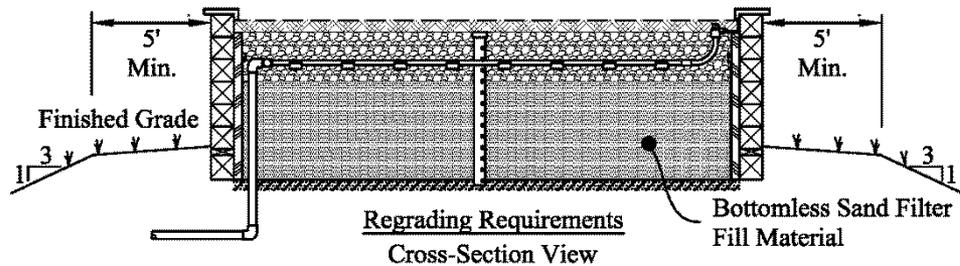
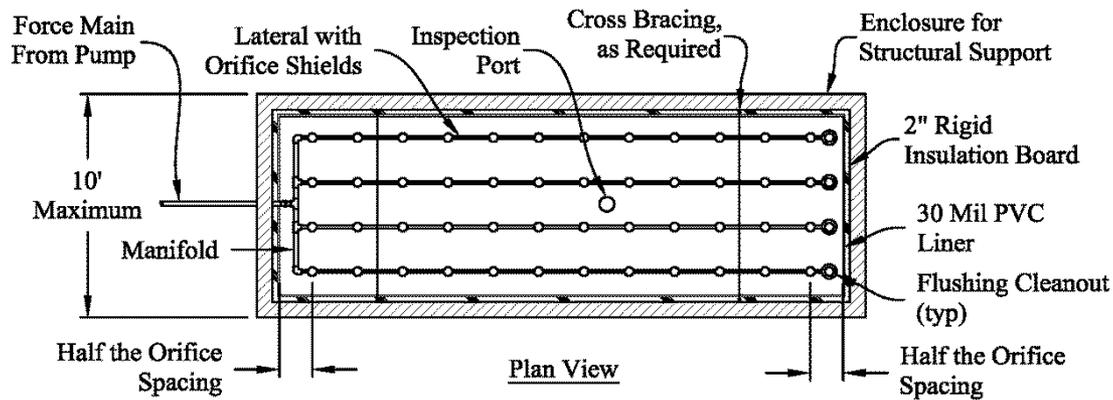
- A: Effective Infiltration Area (min. of 6" stone) (3'-6")
- B: Side Slope (3:1 max.)
- L: System Length
- W: System Width



Plan View



Cross-Section View



Cross-Section View

What's New

- **Partial delegation for municipalities who own both the sewer and water mains.**
- **Expanded use of holding tanks to include charitable, non-profit, and religious organizations with design flows up to 600 gallons per day.**
- **Universal jurisdiction on July 1, 2007 include replacement of failed systems (systems that allow wastewater to pool on top of the ground; discharge directly to surface water; or backup into a building).**

Where are We Headed

- **Installer licensing program.**
- **New Rules to include:**
 - **moving the design requirements for potable water supplies into the WW Rules;**
 - **allowing designers to describe soils based on texture and structure and not conduct percolation tests;**
 - **expand the types of systems to include:**
 - **“window systems”;**
 - **bottomless sand filters;**
 - **time dosing;**
 - **flow equalization; and**
 - **wastewater strength.**

How to Find Us

- <http://drinkingwater.vt.gov/poregionaloffices.htm>
- **Five Regional Offices:**
 - Barre (to become Montpelier)
 - Essex Junction
 - Rutland
 - St. Johnsbury
 - Springfield
 - Staffing cut back by 9 people

<http://www.anr.state.vt.us/Dec/ead/eadstaff.htm>

Permit Specialists