

BERLIN ELEMENTARY SCHOOL RAIN GARDEN

A Nature-Based Design to Remove Pollutants From Stormwater

What is Stormwater?

Stormwater runoff occurs when rain falls on hard surfaces such as parking lots, roads, and rooftops. These hard surfaces are called impervious because they prevent the water from being able to soak into the ground. When stormwater flows over impervious surfaces it picks up pollutants along its path such as sediment, oils, bacteria, and metals and rapidly carries these pollutants into streams and lakes. Stormwater runoff can be treated to remove these pollutants before entering surface waters thereby protecting water quality and keeping our waters fishable and swimmable.

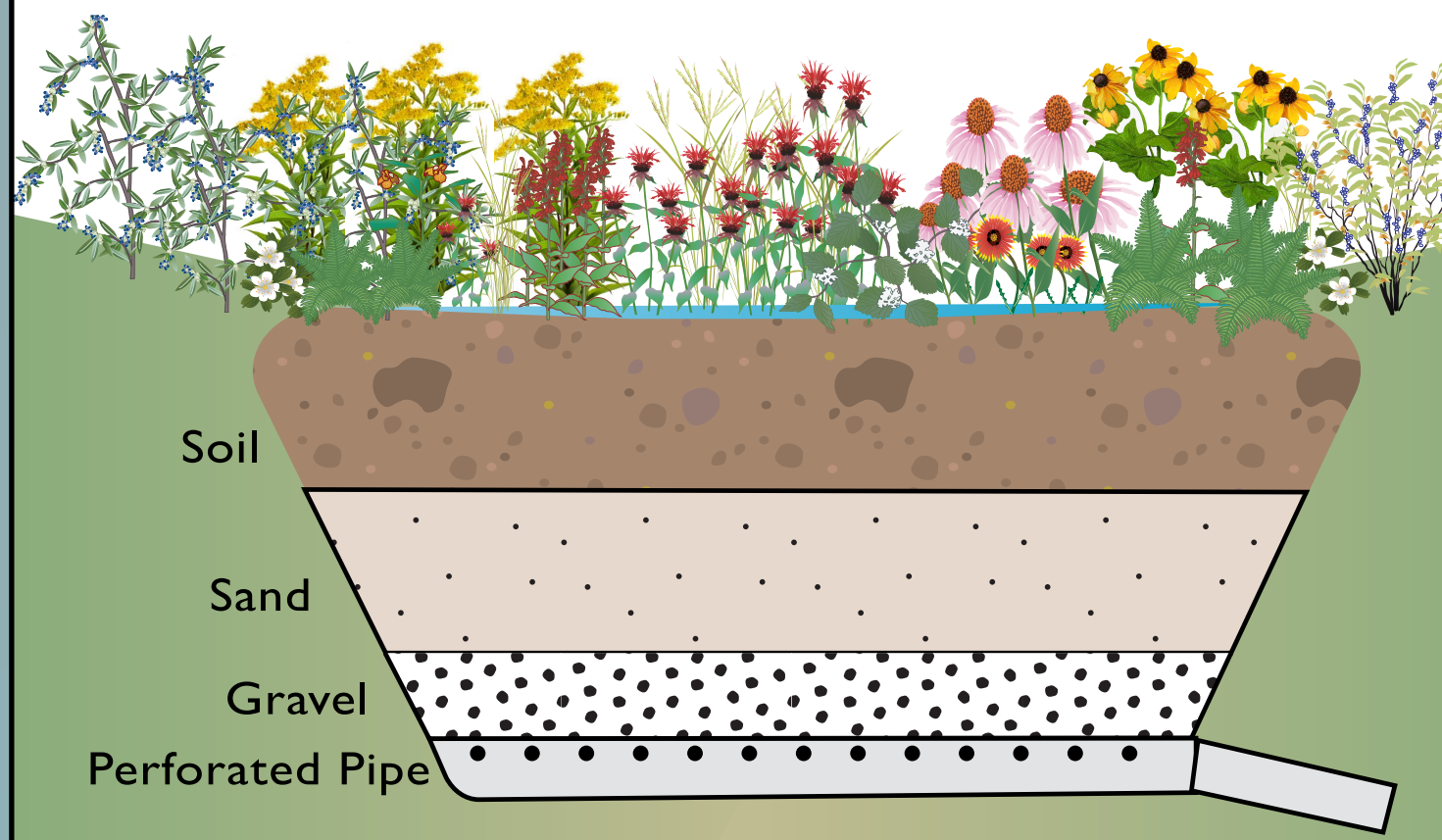


What is a Rain Garden?

Rain gardens are constructed shallow vegetated depressions planted with native vegetation designed to collect, store, infiltrate, and naturally remove pollutants from stormwater. Rain gardens are designed to imitate the natural absorption and pollutant removal functions of a forest, meadow, or wetland. A rain garden is constructed with specifically selected native vegetation including ferns, grasses, and shrubs on the surface and with specially designed permeable soil, sand, and stone layers below. As water infiltrates through the vegetation and soil layers, pollutants are captured and filtered out of the water.

How Does it Work?

1. Stormwater that collects in the rain garden is slowed and absorbed by the plants and infiltrates down through soil and sand layers.
2. The soil, sand, and gravel layers work to remove pollutants and filter the water.
3. The clean water drains out through a perforated pipe to the nearby wetland.



What are the Benefits?

- Removes pollutants from stormwater
- Slows down and detains stormwater
- Replenishes ground water
- Improves wildlife habitat
- Enhances the beauty of the landscape

Fun Facts About This Rain Garden:

- Treats runoff from approximately 59,700 square feet of impervious surfaces
- Manages approximately 30,000 gallons of water
- Reduces phosphorus loading to our surface waters by 1.9 lbs. per year

This project was made possible through a grant from the New England Interstate Water Pollution Control Commission and the Lake Champlain Basin Program. The Central Vermont Regional Planning Commission managed the project with design by Watershed Consulting.



Why Use Native Plants?

Native plants are the species of plants that occur naturally in a region. This means they are best adapted to our local climate and require little care once established. Native plants support and benefit pollinators and our local wildlife which use them for food and shelter. Some of the native plants you will find in this rain garden include:



Red Osier Dogwood
Cornus sericea
Photo by Howard Edward Price



Summersweet
Clethra alnifolia
Photo by Katja Schulz



Ninebark
Physocarpus opulifolius
Photo by Melissa McMasters



Winterberry
Ilex verticillata
Photo by Katja Schulz



Sweet Fern
Comptonia peregrina
Photo by Rob Routledge



Cinquefoil
Potentilla fruticosa
Photo by MPH