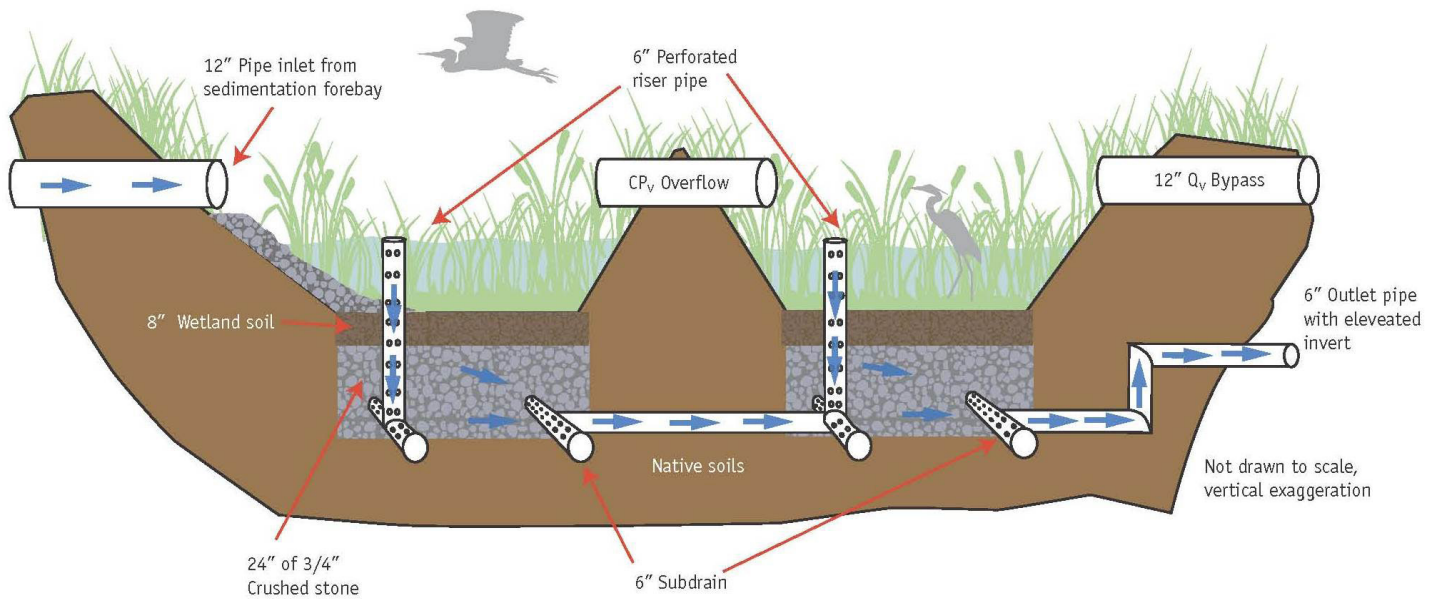


Stormwater Management | Gravel Wetlands

The gravel wetland system consists of one or more flow-through constructed wetland cells, preceded by a forebay for settlement of sediment. The cells are filled with a gravel media, supporting an organic substrate that is planted with wetland vegetation. During low-flow storm events, the system is designed to promote subsurface horizontal flow through the gravel media, allowing contact with the root zone of the wetland vegetation. The gravel and planting media support a community of soil microorganisms. Water quality treatment occurs through microbial, chemical, and physical processes within this media. Treatment may also be enhanced by vegetative uptake.

The outlet of the wetland system is designed to keep the media submerged, to provide the hydrology to support the wetland plant community. The gravel media consists of either crushed rock or processed gravel. An organic soil layer is placed on top of this material, and the wetland plants are rooted in the media where they can directly take up pollutants.

The system can be designed to integrate some stormwater storage, and also to provide infiltration. With these features, the practice would not only remove pollutants, but also contribute to the attenuation of peak rates through temporary storage and reduction in runoff volume through infiltration and evapotranspiration.





A subsurface gravel wetland system near the Andy Williams Skate Park on Burlington's waterfront captures and filters stormwater before it flows into Lake Champlain. Photo Credit Angela Evancie / VPR

