



# Ahead of the Storm

## Hinesburg Garage Stormwater Retention

Beecher Hill Road, Hinesburg

### Introduction

Ahead of the Storm (AOTS) grew out of a group of citizens from Charlotte, Hinesburg, and Shelburne who were concerned about the serious decline of Lake Champlain's health and water quality. Stormwater runoff from driveways, fields, parking areas, and lawns is a major factor in the deterioration of our water quality. Most impervious surfaces were created before regulations requiring water quality treatments were in place or fall below regulatory thresholds. Therefore, runoff is not managed to remove pollutants or slow flows and soils and phosphorus are mobilized and end up in Lake Champlain. AOTS helps communities change the way stormwater is managed on properties to reduce water pollution and be more prepared for extreme weather events and impacts of climate change. Fifteen municipal, educational, and private properties have been selected to become demonstration sites to showcase more optimal conservation practices in a variety of landscape settings. Monitoring and stewardship over time is crucial to successfully addressing water quality issues.

### Why here?

The Hinesburg Town Garage site redevelopment was recently completed to upgrade facilities for both the Town Garage and Chittenden Solid Waste District (CSWD) Drop-Off Center. The Town Garage drains 13 acres of land adjacent to Beecher Hill Brook, which is in poor geomorphic condition. The Stream Corridor Plan and Tactical Basin Plan recommend moving the Town garage operations out of the stream corridor and improving stormwater controls. Runoff from the existing buildings, parking lot, driveway, and some portions of the gravel pit flowed directly into Beecher Hill Brook untreated. Operations were located at the top of the stream bank with no buffer to help filter runoff from the 4.8 acres of impervious surface. Berms concentrated where runoff could leave the site. The redevelopment of the property presented a unique opportunity to improve stormwater runoff, water quality, and flood resiliency.



A CSWD drop off facility is on site



The garage area is mostly all impervious surface



Adjacent Beecher Hill Brook



Take a tour of the AOTS locations at [lewis creek.org](http://lewis creek.org)!

## Design: how can we filter the water?

This project provided the site redevelopment with sound stormwater treatment and river corridor protection. To complement the site design by SAS Architects and Krebs & Lansing, engineers at Milone & MacBroom designed a series of swales and bio-infiltration basins to capture, filter, and infiltrate site runoff and reduce sediment entering Beecher Hill Brook. Soils at the site allowed for infiltration practices that recharge ground water and reduce the peak flows in streams. The project reduced the total impervious surface at the site by 1.6 acres and provided stormwater treatment for the 3.3 acres of remaining and redeveloped impervious surfaces. This is the first phase of a two-phase project; the second phase will address floodplain restoration of Beecher Hill Brook, and is described in the Ahead of the Storm project document "Hinesburg Garage Floodplain Restoration".

## Implementation

The Town passed a bond vote to pay for the site redevelopment, including construction of the stormwater treatment elements. The garage facility was opened in fall of 2018 and stormwater treatment features have been built. Grant funding was obtained to help pay for the design of the stormwater features.



Infiltration basin will collect runoff from gravel pit and garage building



Gravel strip will slow and spread water out onto the vegetated floodplain



Infiltration basin will collect runoff from CSWD and the access road

## How much did it cost?

Funding for this project occurred in phases:

Concept Design \$4,200

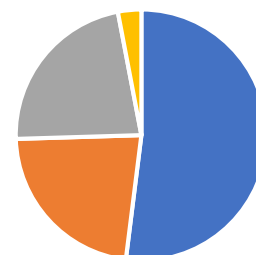
Final Design and Permitting \$33,200

Implementation \$124,000

**Total \$161,400**



### Funding Sources



■ Town Bond  
■ Town In-Kind  
■ Grants  
■ Lewis Creek Association