

Thompson Brook Restoration and Aquatic Organism Passage Design



Services / Expertise

Stream Restoration & Floodplain Protection
Topographic Survey & Geomorphic Analysis
Hydrologic Hydraulic Modeling (HEC-RAS)
Infrastructure Stability Analysis
Erosion Prevention & Sediment Control Plan
100% Design and Opinion of Probable Cost
Stakeholder Collaboration

Market

Watershed Protection

Project Location

Surry, New Hampshire

Date Completed

2018—2019

Project Owner

Trout Unlimited, Inc.

Project ID#

18-101

Project Manager

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Project Team

Branden Martin, PE



The grade control structure, made of boulders, seen downstream of the NHDOT culvert.

STONE worked with Trout Unlimited to develop a restoration design to reconnect three miles of an unnamed tributary to Thompson Brook. The connectivity issues were attributed to a hydraulically undersized NHDOT box culvert at the junction of two streams in Surry, New Hampshire. As part of this project, Stone completed topographic and geomorphic surveys of the site, as well as upstream and downstream reaches, performed hydrologic and hydraulic analyses, and developed a restoration design to improve aquatic organism passage (AOP) along the Thompson Brook.

The restoration design plans included the installation of grade controls just downstream of the box culvert structure to raise the channel bed, eliminating the perched condition at the NHDOT culvert outlet and improving AOP. New Hampshire Fish & Game has deemed successful implementation of the project a priority due to a significant brook trout population in the unnamed tributary.

Construction was completed in summer 2019 and oversight was provided by Trout Unlimited and Stone. Construction included washing in fines around grade controls, as well as reshaping a flood channel and existing gravel bar. The contractor matched the existing shape of the channel, while placing roughness boulders throughout the channel bed. In addition, the bank area of the former access road was reshaped using cobble and soil, while the hillside was regraded and stabilized with hay and seed.