

Stormwater Management Opportunities at Smilie Memorial Elementary School, Bolton, Vermont



Services / Expertise

Stormwater Assessment
Stormwater Retrofit Design
Feasibility Evaluation
Engineering Survey
Construction Management

Market

Watershed Organizations
Local and Regional Government

Project Location

Bolton, Vermont

Date Completed

2015–2017

Project Owner

Friends of the Winooski River

Project ID#

15-292

Project Manager

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Project Team

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A bioretention area, shown above just after construction, captures and treats runoff from the school's rooftop.

STORMWATER from the Smilie Memorial Elementary School campus flowed, generally un-treated, to Joiner Brook and then to the Winooski River. Building on the success of similar work at Cabot School, the Friends of the Winooski River retained Stone to assess the campus and identify possible practices for stormwater mitigation and water quality improvement. Stone developed a stormwater management plan for the campus, summarizing results from a field screening and feasibility evaluation of potential stormwater mitigation strategies. An initial list of nine site improvements and stormwater treatment opportunities was narrowed to three implementation projects.

Stone worked with the Friends of the Winooski, the facilities director for the Chittenden Easy Supervisory Union, and Smilie School administration to complete final designs for three high-priority stormwater mitigation practices, including a bio-retention area at the school entrance to collect and treat stormwater from the adjacent roof, rain garden with a riser inlet to collect and treat runoff from adjacent roof surface to allow for infiltration, and soil and vegetative restoration of the river access road within the adjoining US Route 2 right-of-way to limit vehicular traffic, reduce compaction, and encourage infiltration. In the final design plans, we estimated that the three practices would reduce stormwater volume by 11,845 cubic feet and improve water quality by reducing the annual sediment and phosphorus load by an estimated 75 and 0.2 pounds respectively.

Stone secured necessary permits, provided construction bid documents, specifications, and bidding process assistance, site stake-out and construction oversight, and assisted Friends of Winooski with approval of contractor pay requests, final construction inspection, and grant/project close-out. In conjunction with the construction of these stormwater mitigation practices, Friends of the Winooski engaged students and school community members in the project, providing participants a hands-on opportunity to learn about ways to protect and improve water quality in Vermont.