

NHDOT SPR2 PROGRAM

RESEARCH PROGRESS REPORT

Project # SPR 42372H	Report Period Year 2023 <input checked="" type="checkbox"/> Q1 (Jan-Mar) <input type="checkbox"/> Q2 (Apr-Jun) <input type="checkbox"/> Q3 (Jul-Sep) <input type="checkbox"/> Q4 (Oct-Dec)	
Project Title: Water Quality Test Site and Public Outreach at the I-89 Sutton Rest Area		
Project Investigator: Tom Ballestero Phone: 603.862.1405 E-mail: tom.ballestero@unh.edu		
Project Start Date: 5/5/2021	Project End Date: 1/31/2024	Project schedule status: <input type="checkbox"/> On schedule <input type="checkbox"/> Ahead of schedule <input checked="" type="checkbox"/> Behind schedule

Brief Project Description:

NHDOT has been and will continue to construct water quality best management practices to meet stormwater runoff quality regulations. The size of the measures required often extend beyond the available right-of-way (ROW) and require the acquisition of private property. These measures also require maintenance to remain effective. NHDOT would benefit from solutions that require less space, that can be constructed in our linear ROWs, and be very low or zero maintenance. The current construction project, Sutton 42419, will explore the design, construction, efficiency, and monitoring of smaller, linear water quality measures that will require very little to no maintenance.

Another potential component to this project is public outreach. Due to the location of this test site there is an opportunity to share this research with the public who stop to use the rest area. This outreach may help the public understand the reason NHDOT constructs these features along the highways and may influence others to think about storm runoff and the impact it can have on the environment.

Progress this Quarter (include meetings, installations, equipment purchases, significant progress, etc.):

January through March 2023, the UNH Stormwater Center has been collecting conductivity measurements using ONSET HOBO conductivity loggers. Three loggers are placed throughout the rest stop along the stream that is plumbed below the site. One placed in the stream upstream of the rest stop, one in the catch basin just downstream of the site, and one placed across I-89 downstream. These loggers are downloaded every 41 days. Conductivity is a surrogate variable for road salt and other pollutants.

Items needed from NHDOT (i.e., Concurrence, Sub-contract, Assignments, Samples, Testing, et):

At the present time, the site is closed and has been closed since early 2022. If we are to complete the project by the scheduled end date (January 2024), the site needs to be constructed and open by August 2023. Otherwise, we should consider a contract extension and budget revision. In the bigger picture, with the site closed, any water quality data collected now does not reflect the runoff from an active site. This then defeats the original purpose of the project which was to demonstrate how green stormwater infrastructure improves runoff water quality. It is recommended to cease monitoring until the site is opened back up.

Anticipated research next three(3) months:

During the April through June, 2023 months, downloading the real-time conductivity data will continue. No water sampling equipment will be deployed until construction is completed and the site stabilized.

**NHDOT SPR2 PROGRAM
RESEARCH PROGRESS REPORT**

Circumstances affecting project:

The site is inactive and therefore runoff does not represent that of an active site.

Tasks (from Work Plan)	Planned % Complete	Actual % Complete
Task 1 Set-up Pre-construction Monitoring equipment and sample	100	100
Task 2 Provide design details for stormwater systems	100	100
Task 3 Set-up Post-construction Monitoring equipment and sample	0	0
Task 4 Assist with development of public outreach materials	0	0
Task 5 TAG Meetings and Quarterly Reports	50	50
Task 6 Final Report	0	0

Barriers or constraints to implementing research results

Without the construction end date at this time, project most likely cannot meet monitoring and research objectives.