

**NHDOT SPR2 PROGRAM
RESEARCH PROGRESS REPORT**

Project # SPR 42372H		Report Period: Year 2021 <input type="checkbox"/> Q1 (Jan-Mar) <input checked="" 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 checked="" type="checkbox"/> On schedule <input type="checkbox"/> Ahead of schedule <input 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.):

Some site monitoring equipment was installed (conductivity and temperature probes) in December 2020 in order to understand baseline site flow and water quality characteristics. In the reporting quarter, all monitoring equipment (probes and solar-powered auto samplers) was installed. At least one runoff event was captured by the autosamplers, samples brought to a contract lab for analysis of wet chemistry. One video meeting was held as well as an onsite on April 20, 2021 in which types of equipment, locations, system alternatives, system locations, and data collection were all discussed and defined.

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

We are working collaboratively with NHDOT in the design of the stormwater systems such that they are integrated with all other aspects of the rest area redesign. Therefore, NHDOT will continue to supply design modifications as they occur.

Anticipated research next three (3) months:

Continue site monitoring, water analyses, data reduction/synthesis.

Circumstances affecting project:

The biggest challenge with any field monitoring of water aspects is having Mother Nature Cooperate. At the project outset, NH was in severe drought, which makes sampling runoff impossible without rainfall. Aside from that, the site has easy access by the public and, therefore, all equipment needs protection.

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Tasks (from Work Plan)	Planned % Complete	Actual % Complete
Task 1 Set-up Pre-construction Monitoring equipment and sample	75	75
Task 2 Provide design details for stormwater systems	75	75
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	7	7
Task 6 Final Report	0	0

Barriers or constraints to implementing research results

Some of the equipment deployed last winter was stolen or tampered with, thereby interrupting data collection. New equipment was deployed and better hidden from the public eye, however vandalism like this is challenging.