

# NHDOT SPR2 PROGRAM

## RESEARCH PROGRESS REPORT

<b>Project #</b> SPR 42372E		<b>Report Period:</b> 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)	
<b>Project Title:</b> Crushed Gravel for Shoulder Leveling 304.32			
<b>Project Investigator:</b> Kevin Belanger <b>Phone:</b> 603-352-2303		<b>E-mail:</b> Kevin.J.Belanger@dot.nh.gov	
<b>Project Start Date:</b> 4/22/2021	<b>Project End Date:</b> 12/31/2022	<b>Project schedule status:</b> <input checked="" type="checkbox"/> On schedule <input type="checkbox"/> Ahead of schedule <input type="checkbox"/> Behind schedule	

**Brief Project Description:**

After the Department’s resurfacing contracts are complete and accepted, gravel is placed to level the shoulder along the newly paved roadway sections. This material tends to ravel or wash out depending on factors that include the profile grade, amount of stormwater runoff, and the extent of vehicle off tracking. Shoulder gravel material on the paved roadway presents a safety hazard and creates a maintenance issue for the District workforce. Concerns that the current specification does not provide a final product that is well compacted and stay in place may be related to the material where other factors may include the site condition and/or placement method.

The Bureau of Highway Maintenance will establish test sections for the purpose of evaluating different gradations and compaction methods when placing shoulder gravel. The outcome of this project will be to recommend improvements to the Department’s specification 304.32, Crushed Gravel for Shoulder Leveling that improves performance of gravel used for shoulder leveling.

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

A project kick-off TAG meeting was held on May 13<sup>th</sup> 2021. It was decided at that meeting to first do a test with three different compactors to determine which may be the most effective, and then select one compactor to use for the remainder of the experiment evaluating the different gradations, so all segments receive the same compaction effort.

A roadway segment on this year’s paving list has been chosen for the test segments in D4 on Route 31 Greenville into Wilton, NH. A source of material for the shoulder gravel has also been chosen. NHDOT M&R tested the material and confirmed that it falls within the current specifications.

Several test sections have been selected in D1. samples from different sources have been sent to the NHDOT materials lab for testing to evaluate options for possible material sources and to evaluate differences between pits’ gradation.

Rental agreements are being put in place for the offset roller, and a second soil compactor similar to what most contractors are currently using to “set” the shoulder gravel per the current specification.

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

Final material sources for the D1 test segments need to be finalized.

**Anticipated research next three (3) months:**

Complete Roller comparison mini test, and select compactor to be used for different gradation sections.

Place shoulder gravel test sections in Districts 1 and 4 and begin to document the performance.

**Circumstances affecting project:**

The District 4 resurfacing contract is slightly behind the planned start schedule for paving, which could affect the availability of the test segments.

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<b>Tasks (from Work Plan)</b>	<b>Planned % Complete</b>	<b>Actual % Complete</b>
Select roadway segments to place test sections	100	100
Establish gradations to be tested	100	75
Determine methods of consolidation/Compaction	75	75
Install shoulder gravel Segments	0	0
Monitor segments Document results.	0	0
Evaluate results and make recommendations for specifications.	0	0
Prepare reports.	0	0

**Barriers or constraints to implementing research results**

We do not currently foresee any issues with completing the project.