

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Date: 9/30/2014

Lead Agency (FHWA or State DOT): Vermont Agency of Transportation

INSTRUCTIONS:

Project Managers and/or research project investigators should complete a quarterly progress report for each calendar quarter during which the projects are active. Please provide a project schedule status of the research activities tied to each task that is defined in the proposal; a percentage completion of each task; a concise discussion (2 or 3 sentences) of the current status, including accomplishments and problems encountered, if any. List all tasks, even if no work was done during this period.

<p>Transportation Pooled Fund Program Project # (i.e., SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</p> <p>TPF-5(222)</p>	<p>Transportation Pooled Fund Program - Report Period:</p> <p><input type="checkbox"/> Quarter 1 (January 1 – March 31)</p> <p><input type="checkbox"/> Quarter 2 (April 1 – June 30)</p> <p><input checked="" type="checkbox"/> Quarter 3 (July 1 – September 30)</p> <p><input type="checkbox"/> Quarter 4 (October 1 – December 31)</p>	
<p>Project Title: New England Transportation Consortium (VI)</p>		
<p>Name of Project Manager(s): Bill Ahearn</p>	<p>Phone Number: 802-828-2561</p>	<p>E-Mail Bill.Ahearn@state.vt.us</p>
<p>Lead Agency Project ID: CA0306</p>	<p>Other Project ID (i.e., contract #): NETC 06-4 NETC 07-1 NETC 09-2 NETC 09-3 NETC 10-3 NETC 13-1 NETC 13-2</p>	<p>Project Start Date: 9/16/13 7/1/13 9/1/13 9/1/13 9/16/13 9/1/14 6/1/14</p>
<p>Original Project End Date: NETC 06-4 9/15/15 NETC 07-1 3/31/16 NETC 09-2 2/28/16 NETC 09-3 8/31/15 NETC 10-3 9/15/15 NETC 13-1 8/31/16 NETC 13-2 5/31/16</p>	<p>Current Project End Date: 9/15/15 3/31/16 2/28/16 8/31/15 9/15/15 8/31/16 5/31/16</p>	<p>Number of Extensions: 0 0 0 0 0 0 0</p>

Project schedule status:

- On schedule
 On revised schedule
 Ahead of schedule
 Behind schedule

Overall Project Statistics:

Total Project Budget		Total Cost to Date for Project	Percentage of Work Completed to Date
NETC 06-4	\$242,909	\$5,247.26	15%
NETC 07-1	\$198,154	\$90,489.26	35%
NETC 09-2	\$80,000	\$17,295.14	35%
NETC 09-3	\$165,000	\$38,810.83	69%
NETC 10-3	\$150,158	\$13,611.77	25%
NETC 13-1	\$174,923	\$0	5%
NETC 13-2	\$249,785	\$0	0%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter			Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
NETC 06-4	\$5,247.26	2.16%	\$5,247.26	52%
NETC 07-1	\$90,489.26	21.21%	\$42,027.12	44%
NETC 09-2	\$17,295.14	20.26%	\$16,211.94	40%
NETC 09-3	\$38,810.83	3.09%	\$5,102.98	52%
NETC 10-3	\$13,611.77	9.06%	\$13,611.77	52%
NETC 13-1	\$0	0%	\$0	5%
NETC 13-2	\$0	0%	\$0	11%

Project Description:

- 06-4 Preventative Maintenance and Timing of Applications
- 07-1 In-Place Response Mechanisms of Recycled Layers Due to Temperature and Moisture Variations
- 09-2 Effective Establishment of Native Grasses on Roadsides
- 09-3 Advanced Composite Materials: Prototype Development and Demonstration
- 10-3 Low Temperature and Moisture Susceptibility of RAP Mixtures with Warm Mix Technology
- 13-1 Development of High-Early Strength Concrete for Accelerated Bridge Construction Closure Pour Connections
- 13-2 HMA Mixtures Containing Recycled Asphalt Shingles (RAS): Low Temperature and Fatigue Performance of Plant-Produced Mixtures

Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):

06-4, In September 2014, UMass Dartmouth formally requested a no additional cost time extension for this project of twelve month (new end date 9/15/2016). The research team is requesting the extension in order to include more new pavement preservation projects ongoing in the New England states. New Hampshire DOT provided valuable data during the last quarter to include in the project and the research team is currently seeking similar data from the remainder of the New England state transportation agencies. Furthermore, the research team is still investigating the best vender to purchase the needed testing devices required for Task 6. Furthermore, more time is needed for field evaluation of the preservation projects included in the study. These evaluations will help identify the best time for applying a pavement preservation which is the main scope of the project. UMass Dartmouth is waiting for a response on this time extension request. UMass Dartmouth continued work on the literature review and internet survey (Task 2 and 3).

07-1, Accomplishments this period include instrumentation and testing of soils samples from the two new ME sites. Summaries of the activities are provided in the sections below. ME Instrumentation Sites: The site located in Waterford, ME on Rt 118 was instrumented last quarter and the paving was completed over the summer. The site located on Rt 122 in Auburn ME was instrumented on August 21, 2014 once the full-depth reclamation with emulsion was done and before the surface layer was placed. The post for the data logger at this site will be installed in the coming quarter and data collection will begin. Field and Lab Tests for ME sites: During drilling operations for instrument installation, standard penetration testing (SPT) was conducted, and samples were obtained for laboratory testing. In the lab, sieve analysis and moisture content determination were performed on each sample, and then each sample was classified according to the USCS and AASHTO classification systems.

09-2, The following activities were implemented during this reporting period:

Maintenance of the demonstration sites along Rt. 6

- During July 1-September 30:
 - Kuzovkina and Campanelli conducted weekly visits to the three sites to evaluate the germination rates of grasses and forbs as well as weed pressure.
 - Botanists from the Arnold Arboretum were consulted to assist with the identification of native and introduced plant species along Rt. 6.
- July 8, 2014: Inspection of the demonstration sites along Rt. 6 with Mark Lavoie from the Colonial Seed Co to assess the early establishment success of plantings as well as herbicide needs.
- July 28, 2014: Application of Quinclorac to control crabgrass (sites 1 and 2) and SpeedZone to control dicots weeds (the hillside near site 1).
- August 8: Inspection of the demonstration sites along Rt. 6 with Don Woodall from the Colonial Seed Co. to discuss management strategies.
- August 31-5: Applications of Round Up and Plateau to the newly established small plots along Rt. 6 to study the augmentation of pre-existing native populations approach.
- September 29: Inspection of the demonstration sites along Rt. 6 with Glenn Dreyer from the Colonial Seed Co to discuss management strategies.
- August 7: Kuzovkina and Campanelli visited a meadow in Western Connecticut installed by Larry Weaner.
- September 30: Participation in the Colonial Seed Company Open House to discuss various protocols for the establishment of native grasses and forbs.

Survey and Interviews:

- Ricard and Campanelli developed a survey instrument based on the qualitative research approach to survey the New England DOT officers. The actual face-to-face interviews will be conducted during October-November.

Other projects:

- July 1-August 31- establishment of a demonstration garden at the UConn Research Farm which includes native grasses and forbs suitable for New England roadsides; this garden serves for educational purposes and for the preparation of a portfolio of pictures which will be used for the Manual.
- July 1-August 31 - establishment of the research plots for the bluestem ecotype study at the UConn Research Farm; this study will characterize and compare 12 ecotypes of little bluestem from various states of New England, Pennsylvania and New York to determine which ecotypes should be used for the roadsides in New England.

09-3, The following activities were implemented during this reporting period:

- Vendors have been screened and selected for participation.
- Drain designs from participating DOTs were collected for review and comparison.
- Material properties are under review and being evaluated for inclusion to the specifications
- Specifications are being re-written to comply to the FHWA specification format, completion date for end of January 2014.
- Questionnaire drafted and circulated to DOTs regarding problem areas and best practices as viewed by design and field maintenance departments.

10-3, UMass Dartmouth conducted additional meetings with the two contractors, (Palmer Paving - MA, & Tilcon - CT) who committed to produce mixtures for this study to determine when the mixtures will be produced. Each responded they will be produced in the fall of 2014. In September 2014, UMass Dartmouth formally requested a no additional cost time extension for this project of twelve months (new end date 9/15/2016). The basis of the request is that the contractors have not produced or provided the mixtures required for this study. Recently, the contractors informed the PI that the mixtures should be produced very soon in the fall of 2014. Therefore, an extension is needed as the testing will require sixteen months for completion (as listed in the proposal). UMass Dartmouth is waiting for a response on this time extension request. UMass Dartmouth continued work on Task 1: Literature Review and Task 2: Determine Critical Information (Survey).

13-1, The following activities were performed during this reporting period:

- Initiated the literature review by collecting and summarizing research reports and journal papers.

- Reviewed ASTM/AASHTO materials testing standards that are applicable to the project.
- Prepared a survey that was sent to New England State DOTs and precast/prestressed producer members of the PCI Northeast Bridge Technical Committee.
- Met at the PCI Northeast Bridge Technical Committee to discuss project and seek feedback.

NETC 13-2, UMass Dartmouth contacted several producers of asphalt mixtures in New England about their availability and willingness to participate in the study.

Anticipated work next quarter:

06-4, Continue to obtain information on new or planned pavement preservation projects in New England. Order laboratory testing equipment required for Task 6. Begin assessment of PM practices in New England.

07-1, The research team will be analyzing the FWD tests from all sites and develop a plan for the 2015 spring thaw testing. Instrumentation from all sites will be monitored on a regular basis.

09-2, Contact the DOT officers to schedule interview visits. Continue to provide maintenance of the demonstration plots. Establish small plots along Rt. 6 to evaluate dormant seeding techniques.

09-3, Completion of specifications, Determine list of bridge projects that can be included for demonstrations, Review of specifications and RFQs with vendors for listed projects, Vendor evaluation checklist to be developed.

10-3, Finalize survey and submit to technical committee for approval and distribution. Obtain plant produced mixture and commence laboratory testing (Task 7).

13-1, Meet with NETC Project Technical Committee, Compile results from survey, Prepare concrete mixture specifications after receiving feedback from surveys and meetings with technical committees (PCI-NE Bridge Tech and NETC Project Technical Committee)

13-2, Complete Literature Review. Determine Critical Information.

Significant Results:

None as of this reporting period.

Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might affect the completion of the project within the time, scope and fiscal constraints set forth in the agreement, along with recommended solutions to those problems).

NETC 06-4, No Cost Extension requested for the following reason: The research team is requesting the extension in order to include more new pavement preservation projects ongoing in the New England states. New Hampshire DOT has provided valuable data to include and the research team is currently seeking similar data from the remainder of the New England state transportation agencies. Furthermore, the research team is still investigating the best vender to purchase the needed testing devices. The plan of the research team is to obtain the necessary data and purchase the devices no later than Fall 2014. Furthermore, more time is needed for field evaluation of the preservation projects included in the study. These evaluations will help identify the best time for applying a pavement preservation which is the main scope of the project. Per the original scope of work and corresponding cost outlined in the proposal, the work shall be done at cost not to exceed the existing project budget listed above and on a time schedule not to exceed the end date requested.

NETC 07-1, The solar recharge in Waterford data logger stopped working effectively about midway through July. The research team worked with the manufacturer (BeadedStream) to diagnose the issue and a replacement data logger was installed two weeks ago. The new data logger appears to be recharging as it should.

NETC 09-2 and 09-3 contracts were executed 6 weeks after the start date listed in the contract. This should not cause a significant delay in the project.

NETC 10-3, No Cost Extension requested for the following reason: In Fall 2013, a contractor located in Connecticut and a contractor located in Massachusetts committed to produce and provide the plant-produced mixtures needed for the study. The PI provided the contractors with the matrix of the needed mixtures immediately after the kick-off meeting. These mixtures have yet to be delivered to the Highway Sustainability Research Center. Recently, the contractors informed the PI that the mixtures should be produced very soon in the Fall of 2014. Therefore, an extension is needed as the testing will require sixteen months for completion (as listed in the proposal). Per the original scope of work and corresponding cost outlined in the proposal, the work shall be done at cost not to exceed the existing project budget listed above and on a time schedule not to exceed the end date requested.

NETC 13-1 and 13-2, none at this time.

Potential Implementation:

The 7 research projects listed above are still in progress. Implementations of the results of those projects are not anticipated in the near future.