

## TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): WisDOT

**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.*

<b>Transportation Pooled Fund Program Project #</b> <i>(i.e., SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</i>  TPF-5(270)	<b>Transportation Pooled Fund Program - Report Period:</b> <input type="checkbox"/> Quarter 1 (January 1 – March 31) <input type="checkbox"/> Quarter 2 (April 1 – June 30) <input type="checkbox"/> Quarter 3 (July 1 – September 30) <input checked="" type="checkbox"/> Quarter 4 (October 1 – December 31)	
<b>Project Title:</b> Recycled Materials Resources Center- Fourth Generation (RMRC-4G)		
<b>Name of Project Manager(s):</b> Angela Pakes Ahlman and Tuncer B. Edil	<b>Phone Number:</b> 608-890-4966	<b>E-Mail</b> angela.pakes@wisc.edu
<b>Lead Agency Project ID:</b> TPF-5(352)	<b>Other Project ID (i.e., contract #):</b> AAC2312 Admin Contract	<b>Project Start Date:</b> January 1, 2017
<b>Original Project End Date:</b> February 28, 2022	<b>Current Project End Date:</b> February 28, 2022	<b>Number of Extensions:</b> 0

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
\$382,932	\$18,879.24	4.9%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$5,068.15; 1.3%	\$5,828.38	4.9%

**Project Description:**

The goal of RMRC-4G is to provide the resources and activities needed to break down barriers and increase utilization of recycled materials and industrial byproducts. This is being done through carefully integrated and orchestrated activities that include applied research in key areas relevant to transportation applications combined with outreach programs that provide the educational and technical resources needed to maximize the rate at which recycled materials and industrial byproducts are used in transportation applications.

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

Completed final revisions and submitted TRB Paper entitled *Environmental Benefits of Cold-in-Place Recycling* on November 2017 to be published in the Journal of the Transportation Research Board in January 2018.

Prepared slides for presentation of *Environmental Benefits of Cold-in-Place Recycling* to the Annual Meeting of the Transportation Research Board January 7-10 2018.

Prepared slides for *Environmental Benefits of Cold-in-Place Recycling* at Transportation Research Board, January 2018.

Prepare poster for the RMRC-3G to be presented at for the AASHTO "Sweet 16 in Research" Projects Poster Session at TRB, January 2018.

Continued work on LCA and LCCA for Sophomore Undergraduate Research Fellowship relating to Polyurethane Injection as a method of ground stabilization. Continuing to request additional funding from Urettek CRI. Complementary work on LCA and LCCA Cement Slurry Injection as a method of ground stabilization for comparison.

Continued updates to the website to add user-friendly features.

Held weekly internal RMRC research administration meetings.

Made new connections with the Portland Cement Association. Planned meeting at TRB in January.

Developed proposal for the Hilldale Undergraduate Research Fellowship and Holstrom Environmental Scholarship on the environmental benefits of alkali activated ash paste versus clinker-based cement. Contacted WCPA regarding feasibility of alkali activated ash paste in industry.

Completed project initiation for:

- Field and Lab Analysis of Recycled Concrete Aggregate (RCA) to Determine Physical and Chemical Factors Controlling Leachate Chemistry and Tufa Formation
- Performance of Full-Scale MSE Walls Constructed with Recycled Backfill Material-Phase II
- Use of Concrete Grinding Residue as Concrete and Soil Amendment
- Recycled Material Network: Connecting Consumers and Producers- Phase II: Upgrades and Maintenance
- System-wide Life Cycle Benefits of Recycled Materials-Phase II

**Anticipated work next quarter:**

Present *Environmental Benefits of Cold-in-Place Recycling* to Transportation Research Board in January 2018.

Present the RMRC-3G to be presented at for the AASHTO "Sweet 16 in Research" Projects Poster Session at TRB, January 2018.

Portland Cement Association meeting at TRB in January.

Host RMRC Executive Committee meeting at TRB. Present research ideas and vote on projects moving forward.

Continue work on LCA and LCCA for Sophomore Undergraduate Research Fellowship relating to Polyurethane Injection as a method of ground stabilization. Continuing to request additional funding from Uretek CRI. Complementary work on LCA and LCCA Cement Slurry Injection as a method of ground stabilization for comparison.

Submit proposal for the Hilldale Undergraduate Research Fellowship and Holstrom Environmental Scholarship on the environmental benefits of alkali activated ash paste versus clinker-based cement by February 12, 2018.

**Significant Results:**

*Environmental Benefits of Cold-in-Place Recycling* accepted for publication in November 2018 for the January 2018 volume of the Journal of the Transportation Research Board.

*Environmental Benefits of Cold-in-Place Recycling* accepted for presentation to the Annual Meeting of the Transportation Research Board January 7-10 2018.

RMRC-3G recognized for the AASHTO "Sweet 16 in Research" Projects Poster Session at TRB, January 2018.

**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).**

NA

**Potential Implementation:**