RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: 1st

Wisconsin Department of Transportation
DT1241 2009

Research, Development and Technology Transfer	
Program: (Choose One) ☐ **Policy Research** ☐ **Pooled Fund** **TPF #** ☒ **Wisconsin Highway Research Program** ☐ **Other**	
Project Title:	
Administrative Contact/Phone #: Peg Lafky/(608)266-3663	**WisDOT Project ID(s):** 0092-10-10
WisDOT Technical Contact/Phone #: Robert Arndorfer / (608)246-7940	**Other Project ID:**
Project Investigator/Phone # (agency & contact): James Schneider (jamess@cae.wisc.edu) 608-890-266	**Approved Starting Date:** 11/20/2009
WisDOT Comments:	**Original End Date:** 5/19/2011
	Current End Date: 5/19/2011
Sponsor: Wisconsin Department of Transportation	**Number of Extensions:**

Schedule Status:

☒ On schedule ☐ Ahead of schedule
☐ On revised schedule ☐ Behind schedule (Please explain below)

Total Project Budget	Expenditures Current Quarter	Total Expenditures	% Funds Expended	% Work Completed
$64,432.00	$0.00	$0.00	0	5

Project Description:
The work plan and experimental design are developed around aiding engineers and geologists in within the Wisconsin Department of Transportation to understand the mechanisms controlling cone penetration testing so that they can decide when the testing method is appropriate for use, know how to design an appropriate exploration program, and rapidly interpret the results of the tests for more efficient and reliable engineering. The project involves four phases:
1) Literature Search
2) Obtain and Analyze Wisconsin CPT data
3) CPT Investigations adjacent to past and current WisDOT borings
4) Analysis of data and summary report

Progress This Quarter: (Includes project committee meetings, work plan status, contract status, significant progress, etc.)
This quarter focused on activities 1 and 2, and preparation for activity 3.

Phase 1
As part of the Literature search, and review of Minnesota DOT CPT testing procedures and data was performed, resulting in the following publication:

Dasenbrock, D., Schneider, J.A., and Mergen, E. 2010. Cone penetration testing experience in glacial geological conditions of Minnesota, USA, Proceedings of the International Conference on Cone Penetration Testing, CPT'10, accepted.

Unfortunately, Pat Fox has left the Ohio State University, so access to their CPT data may now be limited.

Phase 2
CPT data from the Marquette interchange and Mitchell Interchange projects were analyzed. This analysis included comparison of CPT and pressuremeter data. No other WisDOT projects that include CPT data are know, and therefore this task would be nearly complete.

Phase 3

To find appropriate testing sites, meetings were held with Jeff Horsfall at WisDOT on Tuesday 9 March, as well as with at the Wisconsin Geological Survey on 21 January. Geological maps are being complied within ArcGIS to aid in site selection. The state will be divided into geological units, such as:

- Till
- Outwash
- Alluvium
- Lacustrine deposits
- Peat

Identification of units with different formation environments will allow for testing soils under a range of conditions.

A list of sites will need to be developed by 15 May so that testing can be completed this summer.

Anticipated Work Next Quarter:
To successfully perform this project testing must be completed by the end of this summer. A meeting to decide on appropriate sites will be arranged for the beginning of May. Testing will be performed at sites during the next two quarters.

Circumstances Affecting Progress and/or Budget:
None so far

Gantt Chart:

	Oct 2009 - Sept 2010				Oct 2010 - Mar 2011	
Activity	Q1	Q2	Q3	Q4	Q1	Q2
Phase 1 - Comprehensive Literature Search						
Develop Google Earth database of existing CPT data						
Analysis of existing CPT data						
Preparation of report appendices						
Phase 2 - Obtain and Analyze existing WisDOT CPT data						
Develop Google Earth database of existing CPT data						
Analysis of existing CPT data						
Preparation of report appendices						
Phase 3 - CPT investigations adjacent to past and current WisDOT borings						
Collect data at field sites						
Analyze data						
Preparation of report appendices						
Phase 4 - Analysis of data and summarization in final report						
Data compilation and analysis						
Report Preparation						
Reporting	Q1	Q2	Q3	Q4	Q1	Q2
Quarterly		X	X	X	X	X
Final Report					D	F

Gray bars indicate anticipated start date and duration

Black lines indicate available float in schedule

D = Draft Report; F = Final Report