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: Evaluation of Flow Number Fn as a Discriminating HMA Mixture Property		
Administrative Contact/Phone #: Peg Lafky/(608)266-3663	**WisDOT Project ID(s):**	0092-09-01
WisDOT Technical Contact/Phone #: Judy Ryan / 608 246-5456	**Other Project ID:**	
Project Investigator/Phone # (agency & contact): Ramon Bonaquist Advanced Asphalt Technologies, LLC / 703-444-4200	**Approved Starting Date:**	12/18/2008
WisDOT Comments:	**Original End Date:**	3/18/2011
	Current End Date:	3/18/2011
Sponsor: Wisconsin Department of Transportation	**Number of Extensions:**	0

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
$124,937.00	$0.00	$0.00	0%	3%

Project Description:

The objectives of the proposed research are to investigate the effect of changes in mixture composition on the flow number and rutting resistance of HMA mixtures from Wisconsin, and to recommend improved criteria for to the design and acceptance of HMA mixtures. The project will serve several purposes including:

- Provide a database of flow number properties for HMA mixtures used by the Wisconsin Department of Transportation (DOT). The database will include a series of design mixtures classified by design traffic level, position in the pavement structure, and aggregate geology. The database will also include variations on these design mixtures based on the acceptance criteria used by the Wisconsin DOT and other agencies.

- Relationships between mixture composition and the flow number that can be used by engineers and technicians involved in the design and acceptance of HMA.

- Recommended flow number test methods and criteria for use in the design of HMA mixtures in Wisconsin. Criteria for various traffic levels and positions in the pavement structure will be recommended.

- Evaluation of current Wisconsin DOT acceptance criteria for HMA mixtures during construction. These will be based on the relationships between mixture composition and the flow number generated from the data collected in this project.

- A tutorial covering, in detail, the effect of mixture composition on the flow number and rutting resistance for use in training engineers and technicians involved in the design and acceptance of HMA.

Progress This Quarter: (Includes project committee meetings, work plan status, contract status, significant progress, etc.)

Work on Task 1, Literature Review, was initiated this Quarter. Various sources of flow number data were identified and reviewed. This work was completed by the Principal Investigator for the FHWA Mixture and Construction Expert Task Group and, therefore, the time was not billed to this project. The start of Task 2, Experimental Design, was delayed pending completion of the analysis of the flow number data from WHRP Project 0092-08-06.

Anticipated Work Next Quarter:

The research team will complete Tasks 1, 2, and 3 next Quarter. The Interim Report will be submitted at the end of April. A meeting with the Technical Oversight Committee will be scheduled to review the Interim Report and to receive approval to initiate laboratory testing in Task 4.

Circumstances Affecting Progress and/or Budget:

Work is slightly behind schedule to allow results from flow number testing in WHRP Project 0092-08-06 to be included in the experimental design. This will not affect the overall completion date of the project.

Gantt Chart:

Task/Activity	**2009**												**2010**												**2011**		
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
Task 1: Literature Review	**C**	**C**																									
Task 2: Experimental Design		P	P																								
Task 3: Interim Report				P																							
Task 4: Laboratory Testing						P	P	P	P	P	P	P	P	P	P	P	P										
Task 5: Data Analysis																		P	P	P	P						
Task 6: Prepare Tutorial																						P	P				
Task 7: Compile Final Report																								P	P	P	P
Presentations					P																					P	
Quarterly Reports				**C**				P				P				P				P				P			
Interim Report				P																							
Draft Final Report																								P			
Revised Final Report																											P