

**State of Wisconsin/Department of Transportation**  
**RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: Mar 31, 2001**

<b>Program: SPR-0010(36) FFY99</b>	<b>Part: II Research and Development</b>
<b>Project Title: Field Measurement of Water Cement Ratio for PCC - Phase II</b>	<b>Project ID: 0092-45-16</b>
<b>Administrative Contact: Nina McLawhorn</b>	<b>Sponsor:</b>
<b>WisDOT Technical Contact: Error! Bookmark not defined.</b>	<b>Approved Starting Date: Dec 6, 1999</b>
<b>Approved by COR/Steering Committee: \$55,510.00</b>	<b>Approved Ending Date: Jun 30, 2001</b>
<b>Project Investigator (agency &amp; contact): Steve Cramer: UW-Madison</b>	

**Description: Error! Bookmark not defined.**

Total study budget	Current FFY budget	Expenditures for current quarter	Total Expenditures to date
<b>\$55,510.00</b>	<b>\$27,755.00</b>	<b>\$7,576.44</b>	<b>\$35,180.27</b>

**Progress This Quarter:**

(Includes project committee mtgs, work plan status, contract status, significant progress, etc.)

All laboratory calibrations with the microwave oven and nuclear w-cm gauge were completed. All laboratory work has been completed. The initial data analysis was completed and is currently being reviewed and checked. Graduate student A. Dowell has completed her thesis and this document will provide the basis for the final report.

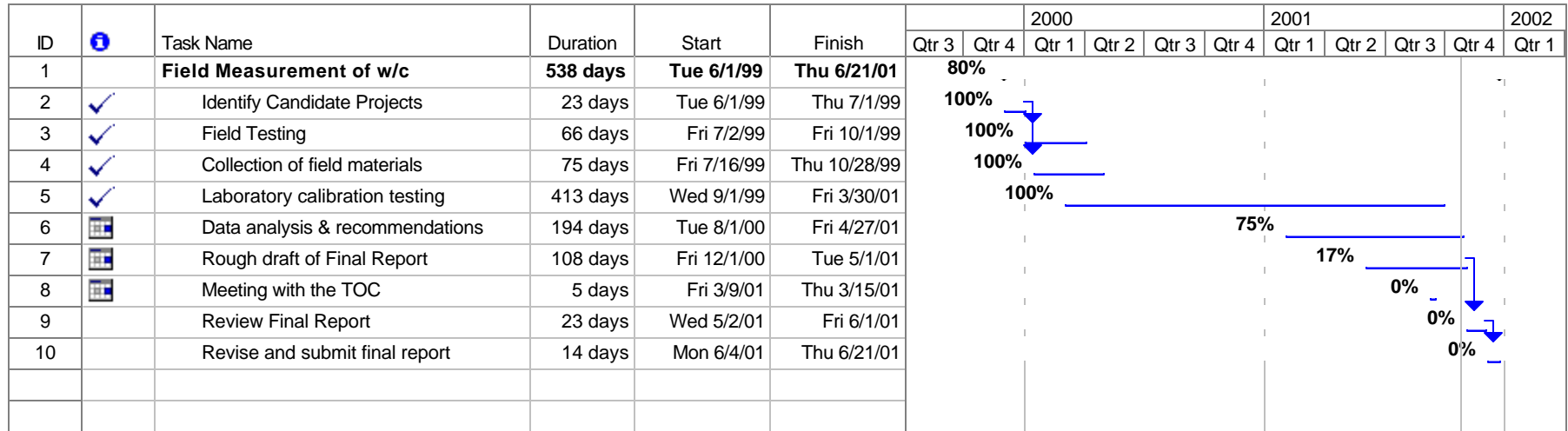
**Work Next Quarter:**

The nuclear gauge on loan from Troxler has been returned. The data analysis will be checked and the final report will be prepared.

**Circumstances affecting progress/budget:**

None.

**Gantt Chart:**



**Note: Gantt chart shown in State Fiscal Year Quarters**

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**RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: Mar 31, 2001**

<b>Program: SPR-0010(36) FFY99</b>	<b>Part: II Research and Development</b>
<b>Project Title: Effects of Aggregate Coatings and Films on Concrete Performance</b>	<b>Project ID: 0092-00-07</b>
<b>Administrative Contact: Nina McLawhorn</b>	<b>Sponsor:</b>
<b>WisDOT Technical Contact: Error! Bookmark not defined.</b>	<b>Approved Starting Date: Oct 1, 1999</b>
<b>Approved by COR/Steering Committee: \$97,740.00</b>	<b>Approved Ending Date: Sep 30, 2001</b>
<b>Project Investigator (agency &amp; contact): Steve Cramer: UW-Madison</b>	

**Description: Error! Bookmark not defined.**

Total study budget	Current FFY budget	Expenditures for current quarter	Total Expenditures to date
<b>\$97,740.00</b>	<b>\$48,870.00</b>	<b>\$6,014.40</b>	<b>\$26,795.83</b>

**Progress This Quarter:**

(Includes project committee mtgs, work plan status, contract status, significant progress, etc.)

X-ray diffraction tests of coarse aggregate coatings were completed this quarter. This completed the initial characterization of aggregate coatings which also included the California Cleaness Test and the Methylene Blue Test. From this characterization we have identified as many as 6 coarse aggregates that will be investigated for their influence on concrete performance. Research has begun on duplicating these tests for the new shipments of aggregates that will be used for concrete mixing. The coating characterization tests are yielding slightly different results than the initial samples provided. The impact of these differences on the research plan are being assessed but will not dramatically alter our research plan. Concrete mixing with select coarse aggregates began this quarter.

**Work Next Quarter:**

We plan to complete all mixing and washing of aggregate during the next quarter. We will research a method to create a severely coated aggregate and then will prepare concrete samples using it. We will begin to evaluate the concrete samples prepared. We continue to seek one more aggregate that contains suspect coatings.

**Circumstances affecting progress/budget:**

None at this time but the project is several months behind schedule. Obtaining aggregates with coatings and characterizing the aggregates took longer than expected.

In July, the university will implement a new policy concerning tuition remission of graduate students. This policy is planned to be applied to all existing and new contracts. The net effect is that graduate student costs will increase 25%. This unexpected policy change was not in the budget.



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**RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: Mar 31, 2001**

<b>Program: SPR-0010(36) FFY99</b>	<b>Part: II Research and Development</b>
<b>Project Title: Wet Pavements Accident Study of Longitudinal and Transverse Tined PCC Pavements</b>	<b>Project ID: 0092-00-08</b>
<b>Administrative Contact: Nina McLawhorn</b>	<b>Sponsor:</b>
<b>WisDOT Technical Contact: Error! Bookmark not defined.</b>	<b>Approved Starting Date: Dec 15, 1999</b>
<b>Approved by COR/Steering Committee: \$75,000.00</b>	<b>Approved Ending Date: Jun 14, 2001</b>
<b>Project Investigator (agency &amp; contact): Alex Drakopoulos: Marquette University</b>	

**Description: Error! Bookmark not defined.**

Total study budget	Current FFY budget	Expenditures for current quarter	Total Expenditures to date
<b>\$75,000.00</b>	<b>\$37,500.00</b>	<b>\$0.00</b>	<b>\$21,585.21</b>

**Progress This Quarter:**

(Includes project committee mtgs, work plan status, contract status, significant progress, etc.)

**Description:** The research will develop guidelines for the use of longitudinal and transversely tined PCC pavements.

Total Study Budget	Current FFY Budget	Expenditures for Current Quarter	Total Expenditures to Date
\$ 75,000	\$35,526	\$3,187	\$28,044

Analysis on data received from the Highway Safety Information System Lab continued. Evaluation of pavement surface information data availability and compatibility with crash databases continued.

**Work Next Quarter:**

Evaluation of feasibility of pavement information integration with the crash and geometry information received from the Highway Safety Information System Lab will be continued.

**Circumstances affecting progress/budget:**

Tasks 2 and 3 are 17% and 51% respectively of the total project budget--completed parts of tasks during the current quarter, indicated on the next page, total to 4.25% of the total project budget.

**Gantt Chart:**

**WET PAVEMENT CRASH STUDY OF LONGITUDINALLY AND TRANSVERSELY TINED PCC PAVEMENTS STATEWIDE**

TASK	2000												2001					
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	M
1. PCC Data and State Participation	50% complete																	
2. Assembling Database and Interim Report	55% completed																	
3. Analysis				35% completed														
4. Draft and Final Report																		

Note: Timeline is revised to reflect a January 2000 start date, replacing the originally anticipated December 1999 start date.

**Note: Gantt chart shown in State Fiscal Year Quarters**

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**RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: Mar 31, 2001**

<b>Program: SPR-0010(36) FFY99</b>	<b>Part: II Research and Development</b>
<b>Project Title: Portland Cement Concrete Pavement over Rubblized PCC</b> <b>Administrative Contact: Nina McLawhorn</b> <b>WisDOT Technical Contact: Error! Bookmark not defined.</b> <b>Approved by COR/Steering Committee: \$39,880.00</b> <b>Project Investigator (agency &amp; contact): James Crovetti: Marquette University-CEEN Hagg</b>	<b>Project ID: 0092-00-11</b> <b>Sponsor:</b> <b>Approved Starting Date: Mar 28, 2000</b> <b>Approved Ending Date: Nov 28, 2005</b>

**Description: Error! Bookmark not defined.**

Total study budget	Current FFY budget	Expenditures for current quarter	Total Expenditures to date
<b>\$39,880.00</b>	<b>\$5,697.14</b>	<b>\$0.00</b>	<b>\$0.00</b>

**Progress This Quarter:**

(Includes project committee mtgs, work plan status, contract status, significant progress, etc.)

Computer stress analysis of concrete pavements over aggregate bases were completed for a range of PCC slab thicknesses between 8 – 11 in., a range of aggregate base thicknesses from 8 – 11 in., a range of base stiffnesses from 50,000 to 1,500,000 psi, and a range of subgrade k values from 50 to 500 pci. Deflection data obtained from rubblized pavement test sections in Pennsylvania was also obtained and analyzed.

**Work Next Quarter:**

Deflection testing on existing PCC over rubblized pavement sections in Wisconsin will be completed. Additional pavements were PCC over rubblized PCC may be viable will be investigated.

**Circumstances affecting progress/budget:**

None

**Gantt Chart:**

ID	i	Task Name	Duration	Start	1999				2000				2001			
					Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
1		<b>Portland Cement Concrete Pavement Over Rubblized PCC</b>	<b>1500 days</b>	<b>Mon 4/3/00</b>												
2		Literature Review	60 days	Mon 4/3/00												
3		Refinement of Data Requirements for PCC Design	63 days	Wed 5/3/00												
4		Construction of Test Sections	64 days	Tue 8/1/00												
5		Performance Monitoring	1325 days	Mon 9/4/00												
6		Interim Report 1	42 days	Thu 6/1/00												
7		Interim Report 2	42 days	Mon 9/3/01												
8		Interim Report 3	42 days	Wed 9/3/00												
9		Final Report	87 days	Thu 9/1/00												

**Note: Gantt chart shown in State Fiscal Year Quarters**