



**ENGINEERING OPERATIONS COMMITTEE  
MEETING MINUTES  
APRIL 2, 2015 – 9:00 A.M.  
MULTI-MODAL CONFERENCE ROOM**

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Present: G. Johnson M. Van Port Fleet M. Bott  
M. Geib B. Wieferich K. Schuster  
T. Marshall (FHWA) P. Ajegba B. O'Brien  
J. Forester (FHWA) (teleconference)

Absent: R. VanPortfliet S. Bower M. Chynoweth

Guests: B. Krom C. Youngs

OLD BUSINESS

1. Approval of the March 5th, Meeting Minutes – G. Johnson

*ACTION: Approved*

NEW BUSINESS

1. US-23: from Tawas Beach Road to Kirkland Drive, Iosco County – B. Krom

Route/Location: US-23: from Tawas Beach Road to Kirkland Drive, Iosco County  
Job Number: 112946  
Control Section: 35032  
Letting Date: 1/13/2017

Department Policy requires that a Life Cycle Cost Analysis (LCCA) be used to determine the most cost effective pavement design.

Pavement selection was determined using the procedures outlined in the MDOT Pavement Design and Selection Manual. Department Policy requires that the pavement alternate with the lowest EUAC be selected. Final pavement selection requires approval by the Engineering Operations Committee.

The reconstruction alternatives being considered are a Hot Mix Asphalt Pavement (HMA Alt #1) and a Jointed Plain Concrete Pavement (JPCP Alt #2). The pavement designs being considered are as follows:

Alternative #1: Reconstruct with Hot Mix Asphalt Pavement  
1.5” HMA, 5E1, Top Course (mainline)  
2” HMA, 4E1, Leveling Course (mainline)

3"	HMA, 3E1, Base Course (mainline)
6"	Dense-Graded Aggregate Base (mainline)
1.5"	HMA, LVSP, Top Course (inside shoulder)
1.5"	HMA, LVSP, Leveling Course (inside shoulder)
1.5"	HMA, LVSP, Base Course (inside shoulder)
8"	Dense-Graded Aggregate Base (inside shoulder)
1.5"	HMA, LVSP, Top Course (outside shoulder)
2"	HMA, LVSP, Leveling Course (outside shoulder)
9"	Dense-Graded Aggregate Base (outside shoulder)
18"	Sand Subbase
6" dia.	Underdrain System
30.5"	Total Section Thickness

Present Value Initial Construction Cost	\$676,329/mile
Present Value Initial User Cost	\$63,700/mile
Present Value Maintenance Cost	\$263,676/mile

Equivalent Uniform Annual Cost (EUAC)	\$38,189/mile
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#### Alternative #2: Reconstruct with Jointed Plain Concrete Pavement

8"	Non-Reinforced Conc Pavt, P1 Modified, w/ 12' jt spacing (mainline)
6"	Open Graded Drainage Course (mainline)
6"-8"	Tapered Non-Reinforced Con Pavt, P1 Modified, w/ 12' jt spacing (inside shoulder)
6"-8"	Open Graded Drainage Course (inside shoulder)
5"-8"	Tapered Non-Reinforced Con Pavt, P1 Modified, w/ 12' jt spacing (outside shoulder)
6"-9"	Open Graded Drainage Course (outside shoulder) Geotextile Separator
10"	Sand Subbase
6" dia.	Open-Graded Underdrain System
24.0"	Total Thickness

Present Value Initial Construction Cost	\$975,649/mile
Present Value Initial User Cost	\$66,529/mile
Present Value Maintenance Cost	\$268,473/mile

Equivalent Uniform Annual Cost (EUAC)	\$48,712/mile
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The pavement designs for both alternatives are based on the 1993 AASHTO "Guide for design of Pavement Structures" and use the AASHTO pavement software DARWin Version 3.1, 2004. The Equivalent Uniform Annual Cost calculation is based on the revised pavement selection process as approved by the EOC on June 3, 1999. The estimated construction costs are based on historical averages from similar projects. User costs are calculated using DOT's Construction Congestion Cost model, which was developed by the University of Michigan.

Conclusion

Pavement selection was determined using the procedures outlined in the MDOT Pavement Design and Selection Manual. Department policy requires that the pavement alternative with the lowest EUAC, Alternative #1: Reconstruct with Hot Mix Asphalt Pavement, be selected. Final pavement selection requires approval by the Engineering Operations Committee.

*ACTION: Approved*

2. Installation of ITS devices in the Southwest Region using Fixed Price – Variable Scope (FPVS) contracting – C. Youngs

Route/Location: Up to 15 locations within 9 counties in the Southwest Region

Job Number: 107966

Control Section: 84915 (Region-wide)

Anticipated Letting Date: October or November, 2015

Based on the available funding of \$1,800,000, MDOT anticipates that 13 Environmental Sensor Stations (ESS) can be constructed and 2 additional locations are desired to be constructed with the project. See the attached ICC Submission Form for additional information on the project. Using FPVS will allow MDOT the opportunity to construct these stations if the bids are favorable.

Two sites have potential issues with endangered plants. These sites will be evaluated during the design. If there are issues that cause these sites to be removed, the use of FPVS may be removed and the project would be let using traditional means.

MDOT let a similar ITS FPVS project in November, 2014 in the University Region. This type of FPVS contracting will require additional approval from the FHWA through their SEP-14 process.

*ACTION: Approved*

3. I-75, FROM THE Ogemaw/Arenac County Line to Cook Road, in Ogemaw County – C. Youngs

Route/Location: I-75, from the Ogemaw/Arenac County Line to Cook Road, in Ogemaw County

Job Number: 125856

Control Section: 65041

Letting Date: 12/21/2021 (Subject to Change based on Funding)

The project is a 6.589 mile rehabilitation project on I-75 in the North Region with an estimated cost of \$26,150,000. The preliminary LCCA indicated an HMA pavement that is 7.28% less than the concrete option. Both pavement alternates are expected to have similar environmental, right of way, drainage, and utility impacts along with similar maintaining traffic concepts. The HMA option would be an HMA overlay over rubblized concrete. The Concrete option would be a concrete overlay over an HMA separator layer. **The use of Alternate Pavement Bidding is requested to be approved on this project.**

The project is currently being developed as a “shelf” design build project.

*ACTION: Approved as an Alternative Pavement Bidding project.*

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Steven Bower, Secretary  
Engineering Operations Committee

RA:SB:lsf

cc:     K. Steudle                     D. Jackson                     R. Jorgenson (FHWA)  
       L. Mester                     W. Tansil                     R. Brenke (ACEC)  
       EOC Members                 D. Wresinski                 G. Bukoski (MITA)  
       Region Engineers             C. Libiran                     D. DeGraaf (MCA)  
       TSC Managers                 R. Lippert                     D. Hollingsworth (MCA)  
       Assoc. Region Engineers     B. Shreck                     J. Becsey (APAM)  
       D. Parker                     T. Phillips                     M. Newman (MAA)  
       M. DeLong                     J. Murner (MRPA)