



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
MAY 4, 2017 – 9:00 A.M.
MULTI-MODAL CONFERENCE ROOM**

Present: M. Van Port Fleet R. Ranck K. Avery K. Schuster M. Sweeney
M. Bott M. Geib J. Gutting H. Zweng B. Wieferrich
J. Forster (FHWA)

Absent: S. Bower C. Rogers

Guests: M. Eacker C. Bleech M. Dubay J. Rick
S. Datta K. Wallace A. Iftikhar R. Doyle

OLD BUSINESS

1. Approval of the April 6, 2017 Meeting Minutes – M. Van Port Fleet

ACTION: Approved

2. I-75 Drainage Tunnel Project Delivery Options – S. Datta, K. Wallace

Description: I-75 Drainage Tunnel Replacement, M-102 to 12 Mile Road, Metro Region
Job Number: 133186
Control Section: 63174
Project Cost: \$156,500,000. (Total Project Cost)
Letting Date: 2020 (Tentative)

Construction of the drainage tunnel is part of the I-75 Mega Project. The tunnel is estimated to be approximately 12' wide and up to 60' deep. This will require specific coordination with the Contractor to determine available resources and equipment. Work will require very deep excavations of pits and tunnel boring operations are expected

Metro Region reported on the results of a study to determine what contracting approach is most appropriate for the project. This was directed by EOC at the April 2017 meeting.

The study recommends utilizing a Design-Build-Finance-Maintain (DBFM) contracting approach. In addition, it is recommended to let all work under a single contract.

ACTION: EOC approves the recommendation pending further review and approval by the Director and executive leadership.

NEW BUSINESS

1. Fixed Price Variable Scope (FPVS) – K. Wallace

Description: Delineator Replacement, Southwest Region
Job Number: TBD
Control Section: 84925
Project Cost: \$175,000.
Letting Date: Fall 2017

The Region proposes to upgrade delineators on 105 miles on I-194, US-131, I-196, and I-94. Based on the available budget it is anticipated that all of the delineator upgrades cannot be funded. The Region will complete any remaining delineation not included in this contract the following year. This will be done with another let contract or direct forces with either state or federal money depending on availability.

The goal of the FPVS project will be to maximize the amount of work that can be completed using a fixed dollar amount. We will be using a Type 1 contracting method, where the contractor bids the units of work that can be completed for the given fixed price.

The Innovative Contracting Committee recommends approval of the use of the FPVS procurement method.

ACTION: Approved

2. Fixed Price Variable Scope (FPVS) – K. Wallace

Description: M-20 Mill & Overlay, Bay Region
Job Number: 132142
Control Section: 37022, 56021
Project Cost: \$1,761,402.
Letting Date: February 2018

The three mile section of M-20 east of this segment (9 Mile Road to M-30) was resurfaced in 2016. The winning bid was 40% under the engineer's estimate. The extra programmed dollars could not be used on that project. If that project had been a FPVS job, approximately 1.2 additional miles of M-20 could have been resurfaced at those bid prices. The six mile section of M-20 immediately east of this segment (Geneva Road to 9 Mile Road) was let in Feb 2017 as a FPVS – Type 3 project. Four miles of the project were the budgeted amount in Priority 1. Bid prices came in good enough to complete the entire two mile portion that was part of Priority 2. FPVS is intended to maximize the amount of work within the established budget if bid prices are less than the engineer's estimate.

The Bay Region and Mt. Pleasant TSC currently plan to resurface all of M-20 from west of US-127 in Isabella County to Geneva Road in Midland County (approx.. 8.5 miles). This will be done with CPM funds between the years of 2017 and 2020.

The Innovative Contracting Committee recommends approval of the use of the FPVS procurement method.

ACTION: Approved

3. Pump Station Monitoring, Metro Region – K. Wallace

Description: Pump Station Monitoring System (PSMS), Metro Region

Job Number: 125859

Control Section: 84917

Project Cost: \$5,000,000.

Letting Date: December 2017

The scope includes monitoring all pump stations throughout the Metro area, approximately 140 stations. The project is expected to install Supervisory Control and Data Acquisition (SCADA) equipment which will be integrated into the existing MDOT ITS network. Some locations will require the installation of conduit and fiber to connect into the network. Stations that are not near existing fiber cable will be expected to use a cellular modem for connection purposes.

Implementation of PSMS throughout the Metro Region will require integration with the ITS communication network, specifically the fiber-optic network. This implementation will cause the existing ITS network to expand, requiring MDOT to consider the development of ITS communication strategies for managing integration with fellow MDOT and/or other partner agencies. The integration of the PSMS will likely encounter various technical, operational and institutional challenges along the way.

A Fixed Price-Best Value procurement approach is being requested to maximize the available funding to address as many locations as possible. In addition, a Design-Build delivery approach is being requested due to the expedited nature of the schedule.

ACTION: EOC approves the recommendation. In addition, Metro Region is directed to modify the scope of work to include monitoring of three additional pump stations located in the Bay Region if needed.

4. M-53 Road Diet, Bay Region – M. Bott, R. Doyle

Route/Location: M-53, Engle Street to South/Capac Road, Imlay City

Job Number: N/A

Control Section: 44031

Letting Date: N/A

Imlay City has requested a road diet trial based on safety recommendations resulting from an M-53 corridor study. Converting to a three lane cross section (two thru lanes and a left turn lane) would mitigate for the primary crash type, left turn crashes. Average Daily Traffic is approximately 20,000 which may result in some delays due the reduction of thru laneage from four to two. Therefore, the city is requesting that the conversion be done for a trial period in order to monitor actual conditions resulting from the road diet. The Bay Region requests approval for this trial.

ACTION: For Information Only. No Action Required.

5. I-94 Pavement Demonstration Project – A. Iftikhar

Route/Location: I-94, M-60 to Sargent Road

Job Number: 120273

Control Section: 115861

Letting Date: June 2018

The I-94 Modernization Project (JN 120273) scope includes improvements to I-94 from the M-60 Interchange east to Sargent Road. As part of the Modernization Project, I-94 will be reconstructed from Lansing Avenue to Elm Road (1.4 miles). Pavement resurfacing with pavement base repair will occur from M-60 to Lansing Avenue (3.5 miles) and from Elm Road to Sargent Road (4.3 miles). In addition, the Cooper Street interchange will be upgraded and redesigned with roundabouts located north and south of the new Cooper Street Bridge. The I-94 Bridge over the Grand River also will be replaced. The new bridge will shift I-94 south of its current location.

Abandoned mine shafts have been identified within the freeway right-of-way. These mine shafts are located under the roadway section in certain locations. These mine shafts present a unique situation from a pavement support standpoint.

The Region is proposing a monitoring and mitigation strategy to ensure that adequate support is provided for the pavement structure. This includes constructing Continuously Reinforced Concrete Pavement (CRCP) in areas where these mine shafts exist under the proposed roadway. CRCP is a structural pavement that will provide additional uniform support in areas where the underlying subgrade could be affected by the mine shafts.

MDOT has not constructed CRC pavements since the late seventies primarily due to early onset of distresses with the original Michigan CRC pavements. The experience nationally with the design and construction of CRCP has grown over time; a variety of lessons learned through practical experience and research have contributed to the development of best practices for CRCP throughout its life cycle. Today, CRCP is designed and constructed as a pavement of choice for long-life performance, recognizing that initial smoothness will be maintained for decades and that maintenance during that time will be minimal.

Approval for the following recommendations is requested,

- a) Approval to continue to pursue designing and constructing a CRC pavement as part of the Department's Pavement Demonstration Program. The proposed CRC pavement is expected to be approximately 0.71 mile long (located mainly between Cooper Street and Elm Avenue) and will be constructed within the limits of the 1.4 mile reconstruct segment of the I-94 Modernization Project (JN 120273). Furthermore, the recommended project is suitably located on a major highway (I-94) with appropriate traffic levels to warrant construction of a CRC pavement section.
- b) Monitor the performance of the CRC pavement by implementing a pavement monitoring and evaluation plan that will be developed specifically to meet the needs of this demonstration project.

ACTION: Approved

Steven Bower, Secretary
Engineering Operations Committee

RA:SB

cc: EOC Members	M. DeLong	D. DeGraaf (MCA)
Meeting Guests	D. Jones	J. Becsey (APAM)
K. Steudle	W. Tansil	D. Needham (MAA)
L. Mester	C. Libiran	Monica Ackerson Ware (MRPA)
D. Wresinski	R. Jorgenson (FHWA)	
Region Engineers	R. Brenke (ACEC Michigan)	
Assoc. Region Engineers	G. Bukoski (MITA)	
TSC Managers		