



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
OCTOBER 19, 2023, 1 P.M. TO 3 P.M.
LOBBY CONFERENCE ROOM
WITH TEAMS OPTION**

Present: Mark Bott Greg Losch Brad Wagner
 Gregg Brunner Ryan Mitchell Kim Zimmer
 Rebecca Curtis Dee Parker Hal Zweng
 Mark Dionise Kristin Schuster
 Jason Gutting Michael Townley

Guests: Erik Carlson Clint Mayoral Jack Rick
 Warren D’Souza Jacob Moyer Dina Tarazi
 Kevin Kennedy David Neubauer

OLD BUSINESS

1. Approval of the August 24, 2023, meeting minutes – Gregg Brunner

ACTION: Approved

2. Michigan Department of Transportation (MDOT) new materials and products – Jason Gutting

New Material Monthly Report of Data:

- Number of Submittals Received
- Number of Submittals Accepted
- Number of Submittals Not Accepted
- Qualified Product List (QPL) Revisions
- New Materials Status Report

ACTION: For information only

3. Update the 14’-10” wide shoulder policy to remove the requirement to provide the specific shoulder width on deck replacement projects. Revised submittal. This policy change was initially presented at the June 2023 Engineering Operations Committee (EOC) meeting and again at the August 2023 meeting. The proposed language has been revised to address comments from the Federal Highway Administration (FHWA) shared at the August meeting – Kyle Kopper (**September email approval**)

4. Approve the hot mix asphalt (HMA) alternate with the lowest equivalent uniform annual cost: M-46 from Maple Valley Street to east of Ruth Road, and M-19 from south of Miller Road to M-46, Sanilac County – Ben Krom (**September email approval**)
5. Approve the hot mix asphalt pavement alternate with the lowest equivalent uniform annual cost: M-53 from Bowers Road to Deanville Road, Lapeer County – Ben Krom (**September email approval**)

NEW BUSINESS

1. Safety Topic: [Teen Driving - National Safety Council \(nsc.org\)](https://www.nsc.org) – Greg Losch

ACTION: For information only

2. Approve revisions to Michigan Test Method 205, 306, 308, 311, 322, and 324 – Kevin Kennedy

Issue Statement: Request approval of revisions to the following:

- MTM 205 (CONSOLIDATION METHOD OF CONCRETE CYLINDER TEST SPECIMENS)
- MTM 306 (AIR AND WATER METHOD OF DETERMINING THE ACTUAL SPECIFIC GRAVITY BY SINGLE OPERATOR FOR A HMA MIXTURE)
- MTM 308 (THE ASPHALT IMMERSION METHOD (BEAKER METHOD) FOR DETERMINING THE THEORETICAL MAXIMUM SPECIFIC GRAVITY OF HMA PAVING MIXTURES)
- MTM 311 (DETERMINING AGGREGATE GRADATION FOR BITUMINOUS MIXTURE)
- MTM 322 (HMA MIX DESIGN PROCEDURE)
- MTM 324 (SAMPLING HMA PAVING MIXTURES BEHIND THE PAVER)

Major Issue(s):

- MTM 205 - Updated American Society for Testing and Materials reference and clarified consolidation by rodding or vibration may be used regardless of slump.
- MTM 306-01 is obsolete and not used any longer.
- MTM 308-01 is obsolete and not used any longer.
- MTM 311-01 is obsolete and not used any longer.
- MTM 322 is obsolete and not used any longer.

- MTM 324 – Added the following language to 5.5: “If pavement thickness allows for it, two separate shovels full of mixture can be removed from each plate if an untouched sliver of HMA is between shovels.”

Background/History: All Michigan Test Methods (MTMs) were reviewed by Construction Field Services (CFS), the regions, industry (Michigan Concrete Association (MCA) or Asphalt Pavement Association of Michigan (APAM), as applicable), and the FHWA.

Recommendation(s): Approve revisions to MTMs.

Status: New Submittal.

ACTION: Approved

3. Adopt Atlas 14 rainfall for the rational method applications with designs starting October 1, 2023 – Erik Carlson, Jacob Moyer

Issue Statement: The Drainage Manual is not using the most current rainfall (Atlas 14). Seeking approval from the EOC to adopt updates for the applications using the rational method (drainage areas 20 acres or less). We will seek additional approvals once our joint research project with the Department of Environment, Great Lakes, and Energy (ELGE)/Michigan Technological University (MTU) for larger drainage areas is complete.

Major Issue(s): Current designs are not incorporating the most recent rainfall data and assets using information in the current version of the Drainage Manual may be subject to more frequent repairs or potential failure over their life cycle.

Background/History: The FHWA performed a Hydraulic Program review in 2021 with several findings and recommendations. One of the more critical findings was that the Drainage Manual is not using the most current rainfall (Atlas 14). We are currently in a joint research project with EGLE/MTU to update “Computing Flood Discharges for Small Ungaged Watersheds.” We’ve brought on a Program Manager Consultant to assist with addressing findings and updating the Drainage Manual, and they have updated Appendix 3B to include Atlas 14 rainfall for smaller drainage areas using the rational method.

Recommendation(s): Adopt Atlas 14 rainfall for the rational method applications with designs starting October 1, 2023.

ACTION: Approved for designs starting in November 2023

4. Approve the use of Construction Manager/General Contractor for the reconstruction and/or rehabilitation of sections of M-60, M-86 and US-131BR pavement and structures B01-78042, B02-78042, B03-78042, and B01-78061 within the City of Three Rivers; and B05-78042 in Leonidas Township, St. Joseph County – David Neubauer, Clint Mayoral

Issue Statement: Request approval for the use of Construction Manager/General Contractor (CMGC) for the reconstruction and/or rehabilitation of sections of M-60, M-86 and US-131BR pavement and structures B01-78042, B02-78042, B03-78042, and B01-78061, within the City of Three Rivers, and B05-78042 in Leonidas Township, St. Joseph County.

Major Issue(s): Procurement and Payment Technique(s): CMGC

Recommendation Summary: The Marshall Transportation Service Center (TSC)/Southwest Region would like to pursue the use of the CMGC Innovative Contracting method to facilitate the delivery of the subject project. Due to the constraints detailed below that the MDOT construction staff and contractor will have placed on them to deliver the project, the Region believes the project will greatly benefit from developing and coordinating with the contractor as a member of the design team through the CMGC process. The Region is hoping to capture a strong understanding of how the contractor will operate, stage, and schedule the project so we can accurately communicate the details of the project to the city and the local stakeholders, gain cost and schedule certainty, and validate the proposed design.

Identification of Risk

Permits: The Bridge work will require EGLE permits due the replacement of structure B03-78042 and to complete scour protection on the remaining structures.

These are the possible permits needed per the proposed work:

- Part 301 (waterbody)
- Part 31 (floodplain)
- Part 41 (sanitary sewer)
- Part 399 (watermain work)
- National Pollutant Discharge Elimination System (NPDES)

Environmental: This project will impact each of the three waterways within the City of Three Rivers, including the bridge replacement of structure B03-78042 and sub structure/scour mitigations to the other four (4) structures.

Additionally, this project will have a major impact on the citizens and businesses of Three Rivers. Heavy coordination will be required to limit the impacts to the businesses and pedestrians in the central business district, local schools and the children attending them, and other businesses and residential properties along the affected state routes.

Utilities: Substantial coordination will be needed with the City of Three Rivers on the replacement of the existing watermain and lead service lines within the limits of the project. Additional impacts to the existing underground utilities including but not limited to communications, natural gas, etc. are expected within the reconstruction limits of the project.

Maintaining Traffic: This project will impact each of the four state routes into and within the City of Three Rivers. Detailed Maintenance of Traffic (MOT) plans will be required for each route affected. Coordination with the City will be required for detour routes required during the reconstruction of several segments of the roadway and structures within the project. Having the contractor and City involved during design will ensure an efficient plan is developed to minimize the impacts on City of Three Rivers' roadways.

Third Party Involvement: Heavy coordination will be required with the City of Three Rivers. The City of Three Rivers needs to update its existing watermain within MDOT's Right-of-Way to remove lead service lines. This work will either be incorporated into this project or

be completed prior to start of roadway construction, further coordination needs to take place with the city on their funding and time for construction. Having the contractor and the city involved together during design will insure we minimize the impact to businesses and pedestrians during construction.

Right of Way (ROW): Structure B03-78042 is programmed to be replaced as part of this project, the northeast corner of the structure is immediately adjacent to a historical building (the bridge is contacting the building).

Driveway and sidewalk work will be required, with multiple impacts along each route. For example, along M-60 the existing road and sidewalk currently span across the entire ROW. Most modifications will require temporary construction easements from the adjacent property owners.

Access management will be investigated to try and close any driveways that have access from alleys. Driveways that are larger than standard size will be investigated for right sizing.

Railroad: The Grand Elk Railroad has four grade crossings within the limits of the project. Three of the grade crossing are within the expected pavement reconstruction limits. It is anticipated those crossing will need to be reconstructed as part of this project. Coordination will be required with the Grand Elk RR and the Office of Rail for each crossing within the project limits.

Budget: This project has a set construction budget of \$35,000,000 for all pavement reconstruction and rehabilitation. This funding is not adequate to reconstruct all segments within the limits of the project. Having the contractor input and recommendations during design will ensure that MDOT can maximize the amount roadway that can be reconstructed while controlling costs and remaining within the programmed construction budget for this project.

Structures: Structure B03-78042 is an earthen filled arch structure that is proposed to be replaced. The abutment of the structure is immediately adjacent to a historic building. If MDOT is unable to purchase the property, having the contractor input on the design and construction methods during development will be critical during construction.

Other: Due to the limitations detailed above that will be placed on the contractor, one of the primary concerns of the project is how the Contractor will operate the construction site, store materials, stage the construction and the duration of construction.

Background/History

Region/TSC: Southwest/Marshall TSC

Control Section: 78042, 78013, & 78061

Job Number(s): 211043, 200913, & 211326

Route: M-60, M-66, M-86, and US-131BR

Project Location: M-60 from US-131 easterly 2.8 miles to Haines Road. M-86 from M-60 southerly 1.4 miles to Grand Elk Railroad crossing. US-131BR from M-60 northerly 2.0 miles to US-131. These three locations are in the city of Three Rivers, St. Joseph County, and

M-60 and M-66 over Nottawa Creek, 1.2 miles east of junction M-66, Leonidas Township, St. Joseph County.

Work Description: Pavement reconstruction and rehabilitation, sidewalk replacement, curb and gutter replacement, sidewalk ramp upgrades, storm sewer replacement, potential water main replacement, potential sanitary sewer replacement, streetscaping, permanent signing, pavement markings, structures rehabilitation, joint replacement scour countermeasures, and structure reconstruction.

Estimated Construction Cost: \$44,769,000

CON – Road: \$31,250,000

CON – Structure: \$8,495,000

CON – CE: \$5,024,000

Funding Type and Fiscal Year (FY) (fed/state/local):

Road - Rehabilitation and Reconstruction in FY 2028

(Fed 81.85%/State 18.15%/Local 0.0%)

Key Dates:

EPE Phase Start: September/October 2021

RFQ: July 2024

PE Phase Start: November 2024

Base Plan Review: April 2026

Plan Review: January 2027

FPC Review: July 2027

Plan Completion: October 2027

Scheduled Letting: January 2028

CON Phase: March 2028 thru November 2029

Recommendation(s): Innovative Contracting Committee recommends the use of CMGC.

ACTION: Approved

5. Approve the hot mix asphalt pavement alternate with the lowest equivalent uniform annual cost: I-96 from Bliss Road to Sunfield Road, Ionia County– Ben Krom

Issue Statement: Pavement Type Selection

Route/Location: I-96 from Bliss Road to Sunfield Road, Ionia County

Job Number: 125986

Control Section(s): 34043, 34044

Letting Date: 1/10/2024

Total Est. Const. Cost: \$110.6M

State law and department policy requires that a Life Cycle Cost Analysis (LCCA) be used to determine the most cost-effective pavement design.

Major Issue(s): APAM asked some questions regarding the cost calculations, which were answered to their satisfaction.

The MCA requested that the project be considered for Alternative Pavement Bidding (APB), even though the Equivalent Uniform Annual Cost (EUAC) difference is outside of the 10% threshold. MDOT denied their request, stating that we will continue to follow our documented and published procedures for LCCA and APB.

Background/History: Pavement selection was determined using the procedures outlined in the MDOT Pavement 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.

Recommendation(s): Approve the HMA pavement alternate, which has the lowest EUAC.

ACTION: Approved

6. Approve the hot mix asphalt pavement alternate with the lowest equivalent uniform annual cost: I-96 East and West of Grand River Avenue, Livingston County – Ben Krom

Issue Statement: Pavement Type Selection

Route/Location: I-96 East and West of Grand River Avenue, Livingston County
Job Number: 210679
Control Section(s): 47065
Letting Date: 8/2/2024
Total Est. Const. Cost: \$42.5M

State law and department policy requires that a LCCA be used to determine the most cost-effective pavement design.

Major Issue(s): A brief explanation of the project - The I-96 bridges over Grand River Avenue are being removed, then reconstructed approximately three feet higher to increase under clearance for Grand River Avenue traffic. To accommodate this grade raise, approximately 1400 feet of I-96 will need to be reconstructed to match up to the new raised bridges. This project will also upgrade the interchange to a Diverging Diamond interchange configuration, which involves work on all the ramps and Grand River Avenue itself.

The APAM stated that they didn't have any comments on the analysis.

The MCA at first asked some general project level questions, which were answered. Upon further review, the MCA objected to some aspects of user delay cost inclusion, the simplified life-cycle schedule, and requested that the project be considered for APB, even though the EUAC difference is well outside of the 10% threshold. At the time of writing this, MDOT is still working through the response to MCA and will provide an update at the EOC meeting.

Background/History: Pavement selection was determined using the procedures outlined in the MDOT Pavement 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.

Recommendation(s): Approve the HMA pavement alternate, which has the lowest EUAC.

ACTION: Approved

7. Alternate Pavement Bidding Process Documents Updates – Dina Tarazi

Issue Statement: APB Process Document updates

Major Issue(s): Procurement and Payment Technique(s): APB

Recommendation Summary: Added clarification to the APB process document on how to handle earthwork quantities and duplicate items:

- Earthwork quantities are required to be in the same section with the same unit prices. See APB SP for instructions on how to remove duplicate items without affecting the Remaining Life Value and EUAC calculations.
- The PM must check the pay items listed in the APB SP and ensure any changes to the plan pay item quantities are reflected in the APB SP tables. Modifications will require re-approval and an addendum (if already advertised).

Revised APB lettings per MDOT's CCS to allow time to process and post as-checked results.

- All APB projects must be let in a special letting on the 3rd Friday of the month following the normal monthly MDOT Friday letting. The PM must coordinate with the ICU APB Coordinator to establish the letting date from the MDOT CCS. This should be done during project development prior to the final project turn-in so appropriate forms and information can accurately reflect the letting date. Bids are received and the project is awarded after the EUAC evaluation with the As-Checked results.

ACTION: For information only



Michael Townley, Secretary
Engineering Operations Committee

RA:lrp

cc: EOC Members	L. Mester (MDOT)	D. DeGraaf (MCA)
Meeting Guests	C. Newell (MDOT)	C. Mills (APAM)
Region Engineers (MDOT)	V. Zokvic (MDOT)	D. Needham (MAA)
Assoc. Region Engineers (MDOT)	M. Ackerson-Ware (MRPA)	R. Vandeventer (MITA)
TSC Managers (MDOT)	T. Burch (FHWA)	
L. Doyle (MDOT)	R. Brenke (ACEC)	