

MTO-OAPC HOT MIX ASPHALT SUBCOMMITTEE MEETING NOTES

Date: September 21, 2023
Time: 10:00am to 12:30pm
Location: Hybrid: ORBA Office (365 Brunel Road, Mississauga) and Microsoft Teams

ATTENDEE	ORG.	ATTENDEE	ORG.
Doubra Ambaiowei (DA)	OAPC/ORBA	Joel Magnan (JM)	MTO
Fernando Magisano (FM)	Canadian Asphalt	Kevin English (KE)	MTO
Dana McLachlin (DM)	R.W Tomlinson Ltd.	Gelu Vasiliu (GV)	MTO
Selena Lavorato (SL)	GIP	Giselle Cotton (GC)	MTO
Kevin Martin (KM)	Fermar Paving	Sonja Dambremont (SD)	MTO
Seyed Tabib (ST)	MTO	Stephen Lee (SL)	MTO
Trevor Moore (TM)	COLAS Construction	Dariusz Wodala (DW)	MTO
Amma Wakefield (AW)	Asphalt Institute	Loan Le (LL)	MTO
		Imran Bashir (IB)	MTO
REGRET	ORG.	REGRET	ORG.
John MacKay (JM)	Aecon Materials Engineering		
Sina Varamini (SV)	Engtec Consulting		
Vincent Gangaram (VG)	Dufferin Construction		

INTRODUCTION / ANNOUNCEMENTS

- Introductions – Welcoming MTO Staff
- Joel Magnan will replace Kevin English as co-chair.
- Seyed Tabib replaced Rebecca Li as representative from Contract Management Office at MTO
- Joel Magnan delivered a safety talk on traffic control and following OTM Book 7
- Review of previous minutes: MTO indicated that this subcommittee will be “MTO-OAPC Hot Mix Asphalt Subcommittee” to align with all other subcommittees titled “MTO-Stakeholder”. This does not change the purpose or function of the group.

OPEN ITEMS	ACTION BY
<p>Apr-20-11 TACK COAT SPECIFICATION</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> • In early 2020, MTO implemented an updated version of the tack coat specification. OAPC-MTO working group was established. • MTO continues to share ISS (Interlayer Shear Strength) information with OAPC when available. MTO will add examples of tack coat application to the 2023 update of Field Guide for HMA. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • The updated tack coat specification is published. • The Field Guide was published at the beginning of August. OAPC indicated that the photos met their expectations. • OAPC suggested MTO to issue a notification when a new item is published in the technical publications. <p>Action – Close Item.</p>	

<p>Dec-19-8</p>	<p>MIX PERFORMANCE TESTING (MPT)</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> • MTO to develop specification for MPT that can be included on any project. • OAPC wondering if MTO has preferred method for balanced mix designs. • OAPC enquiring about IDEAL CT. Is it a consideration for Ontario? • MTO is conducting ongoing MPT Lab Correlations <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • MTO shared NCAT Round Robin results and MTP/ISS correlation results titled: <ul style="list-style-type: none"> ◦ <i>1_Item Dec-19-8_Spring 2023-NCAT Completes Second Mixture Performance Testing Round Robin</i> ◦ <i>2_Item Dec-19-8_MPT Correlations Data for Sharing with ORBA Cumulative 2023</i> • MTO commits to conduct 2 rounds of correlations per year and collect samples from contracts for information purposes. • For I-FIT (SCB) most results are above the preliminary threshold FI of 10, COV is approximately 45% (15 labs). • For DCT the results for mixes are above the 600 Joules/m² preliminary threshold. COV is 15% (5 labs). • Hamburg still has some variation. MTO will provide additional guidance to laboratories to reduce variability. • For ISS there are no updates, but MTO is using cores from construction contracts to conduct correlations. MTO is aiming to conduct 2 correlations per year moving forward. • MTO indicated that BITU0033 (standalone NSSP for MPT) was posted for consultation on TCP and comments were due by September 18, 2023. • MTO shared Hamburg vs Internal Angle of Gyration graphs titled: <ul style="list-style-type: none"> ◦ <i>3_ItemDec-19-8_HWT Test Correlation 2023 R1 Internal Angle of Gyration</i> • In the previous meeting, OAPC suggested that laboratories with internal angle of gyration near the acceptable limits have a higher variability in Hamburg and requested to look at the individual labs that produced a result of angle of gyration at 1.18 and 1.15. • Based on the document provided, MTO indicated the angle of gyration within 1.15 and 1.18 are not the source of variation. The variation could come from sample preparation, splitting, and temperature control. • OAPC requested that one laboratory prepare all the samples to conduct the correlation. MTO indicated this is very resource intensive (preparing 48 samples) and do not have the ability to conduct the correlation in this way. • MTO will determine what the acceptable standard deviation will be for tests to be acceptable.
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OPEN ITEMS		ACTION BY
	<ul style="list-style-type: none"> • OAPC indicated that based on the NCAT results the tests that are simple and quick to prepare, such as IDEAL RT, have much lower variability. MTO indicated well established tests should be used, such as DCT, I-FIT (SCB), and Hamburg. • OAPC indicated that their round robin’s COV for Hamburg was much higher than NCAT’s round robin COV. MTO indicated that this could be due to a laboratory’s proficiency and experience. Further, the number of participants impacts COV. <p>Action - No action.</p>	
Apr-21-7	<p>END RESULT SPECIFICATION (ERS) REVIEW of FINANCIAL ADJUSTMENT AND CPR IMPACTS</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> • This item is included as a placeholder at OAPC’s request. • OAPC inquired about the ERS pay factor adjustments. OAPC inquired if MTO would consider bringing back bonuses. MTO indicated that there is no intention to do so. MTO was under the impression that OAPC wanted the ERS curves adjusted. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • MTO shared ERS document titled: <ul style="list-style-type: none"> • 4_Item Apr-21-7_ERS update 2023 • OAPC suggested this item to be closed. Pay factor adjustments and CPR ratios will be included in the new item Sept-23-3. <p>ACTION – Close item.</p>	MTO

OPEN ITEMS	ACTION BY
<p>Mar-22-10 ENVIRONMENTAL PRODUCT DECLARATIONS (EPD’S) FOR ASPHALT IN ONTARIO – MTO’S POSITION?</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> As part of the net zero emissions goal, OAPC is seeking to understand MTO perspectives on EPD’s for Ontario Asphalt Mixes and forging a collaborative approach to make it work. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> MTO is not incorporating EPDs into its process. MTO will notify ORBA/OAPC if this will change. MTO is reviewing material on EPDs from the federal Canadian and US governments. MTO is aware that some manufacturers/industries are preparing EPDs irrelevant if they are going to be used. OAPC indicated they have NAPA's presentation from PIQ on EPDs on their website, as well as resources from NRC's webinar on decarbonizing the construction industry at scale. Discussions between NRC and ORBA/OAPC has progressed into the possibility of adapting NAPA's EPD software for Canada/Ontario users, with potentials to fund the Carleton University and OAPC study on quantifying GHG emissions in Ontario's asphalt plants. NAPA provides guidance on preparing EPDs for asphalt mixes. Their target to produce EPDs for industry is 2027. OAPC also indicated that additional RAP can be incorporated into WMA. Using EPDs would be a better measurement of carbon footprint than measuring emissions in the current MTO specifications. <p>ACTION – No Action.</p>	
<p>Mar-22-11 CONSULTATION REVIEWS IN PROGRESS</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> Standing item to provide updates on upcoming publications to TCP. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> No items on TCP currently. <p>ACTION – Close item.</p>	

OPEN ITEMS	ACTION BY
<p>Mar-22-12 MTO’S GREENPAVE RATING SYSTEM <i>Description:</i></p> <ul style="list-style-type: none"> • MTO provided a presentation on GreenPave and OAPC would like to see some updates to the rating system for asphalt to make the rating more applicable and fairer. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • MTO recommended that a separate subcommittee is formed with bituminous and concrete staff from MTO; and OAPC and the cement/concrete industry. • OAPC asked about influencing GreenPave. MTO indicated that the concrete industry pushes the EPD topic further and has Ontario specific EPDs. The asphalt industry has not provided Ontario specific EPDs to accurately compare with the cement/concrete industry. <p>ACTION – Close item.</p>	
<p>May-22-13 SMA Applications – Grit Sand Specification Revisions <i>Description:</i></p> <ul style="list-style-type: none"> • OAPC suggests MTO can look at revising specification due to lack of grit sand sources available. • OAPC indicated that there is variability in how CA firms accept gritting material on MTO contracts. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • MTO shared a document titled: <ul style="list-style-type: none"> • 5_Item May-22-13_SMA Grit Update - MTO-OAPC Meeting September 21 • MTO indicated that a jurisdictional scan was conducted, and all other jurisdictions use coarser grit. Based on this, acceptance criteria will be maintained. • MTO further indicated that payment reductions will be applied proportionately, for material marginally exceeding the criteria. Finer material will be penalized heavier than the coarser material. There will be firm rejection criteria. MTO will provide clarification for acceptance criteria of asphalt cement content and aggregate physical properties. • OAPC indicated that it might be worth conducting friction trials with the European gradations, particularly the German 1/3 gradation. This item will be shared with the OSSGA subcommittee. • Previous discussions indicated that definitions are not clear in the MTO specification. MTO indicated that initial compaction is defined in the BITU0007. Further, it is clear that gritting is to occur immediately after initial compaction. <p>ACTION – MTO to review SMA gritting requirements in the USA. MTO to provide a current copy of NSSP BITU0007. MTO will continue work on updating NSSP BITU0007.</p>	<p>MTO</p>

OPEN ITEMS	ACTION BY
<p>Sept-22-12 Smoothness specification – future changes <i>Description:</i></p> <ul style="list-style-type: none"> • MTO reviewing the current smoothness specification and the list of exemptions for existing pavements. Specifically, MTO would like to modify section 8.01.02 paragraph f: <ul style="list-style-type: none"> ○ <i>“The first adjacent lane consisting of one or more lifts of hot mix asphalt that shall match to an existing surface that is not being resurfaced as part of this Work.”</i> • MTO noted that currently projects have excluded entire lanes from smoothness measurements due to the tie-in exemption. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • MTO indicated that additional internal review of the specification is taking place. MTO will continue to follow its review process. <p>Action – MTO will continue to follow its internal review process.</p>	<p>MTO</p>
<p>Dec-22-13 ADDITIONAL OAPC 2023 RESEARCH PROGRAM OUTLINE <i>Description:</i></p> <ul style="list-style-type: none"> • OAPC initiated a new Study in collaboration with Carleton University. The expected timeline to complete Study is 3 years. • The study objective is to quantify the GHG emissions at asphalt plants. This study supports the move to net zero emissions. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • OAPC is going to focus on Balanced Mix Design. • OAPC is also going to look at characterizing RAP stockpiles in associated PGAC zones. • OAPC will investigate design considerations with higher use of RAP. • OAPC will also look at EPDs and Greenhouse gas emissions. <p>ACTION – No Action.</p>	
<p>Mar-23-15 EXTENDING AC PRICE INDEX <i>Description:</i></p> <ul style="list-style-type: none"> • Stakeholder engagement request from OAPC to extend the AC Price Index to other items. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • MTO will publish the AC Price Index year-round. • AC Index Adjustments will be applied to granular sealer, tack coat, CIR, and CIREAM. <p>ACTION – Close item.</p>	

OPEN ITEMS		ACTION BY
Mar-23-16	<p>INTRODUCTION OF LIFE CYCLE COST ADJUSTMENT FACTORS IN MTO CONTRACTS</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> • OAPC inquired about how the factors are derived and what is the calculation. • MTO clarified the Life Cycle Cost Analysis (LCCA) cost factors are derived from review of the total life span of the pavement, and cost from each stage of the rehabilitation. Each subsequent cycle of “rehab” would create different behavior on the pavement, so understanding LCCA requires long term data collection. MTO LCCA model is based on several extensive consultant studies done by ARRA/Stantec over 8 years using PMS database that span over 30 years. • By inclusion of LCCA in design and construction per MTO’s Pavement Design and Rehabilitation Manual, it introduces adjustments into the tender process – at this time based on what is implemented, what are the focus points for MTO? Initial LCCA adjustments are dependent on individual project conditions and the rehab types selected by MTO’s regional geotechnical offices. Some typical values used by MTO in our LCCA project level assessment are available based on study done by ARRA on MTO database. • MTO continues to track new combinations of rehab cycles and pavement conditions on how it will impact the assessment. • OAPC should select a specific project and request details of the LCCA from MTO. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • MTO again indicated that this is very project specific. There are very many factors. If OAPC wants MTO to look at a specific project, all the information needs to be provided. Before a project is conducted with LCCA, resource intensive pre-engineering investigation is conducted. • MTO indicated that in a DB contract, contractors should be made aware of life cycle impacts by their design consultant partner. Contractors can use DB contracts as a learning opportunity. <p>ACTION – Close item.</p>	<p>OAPC</p>

OPEN ITEMS	ACTION BY
<p>Mar-23-17 REFEREE SAMPLING AND TESTING REQUIREMENTS</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> • OAPC indicated that referee testing has moved to only “virtual” attendance (based on Owner’s preference). • MTO noted the decision to virtual platform was a result of some benefits realized during Covid, including reduced travel time for remote areas and removing sample shipping issues. MTO has addressed the initial technical errors during this move to the virtual platform and at this time would like to continue status quo. • OAPC raised several concerns about the process, including the implementation where the consultation process was not followed. In addition, there have been poor experiences from the virtual referee. • MTO acknowledged that there has been some negative feedback received and those issues have been addressed. As per the requirements of SP199S64, “Unresolved concerns shall be specific in nature and submitted in writing to the referee”. • For further guidance, there is an additional document titled Requirements for Virtual referee. OAPC acknowledged the document however noted not all processes are being followed. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • OAPC reiterated that there are still complaints with virtual referee regarding camera angle, difficulty to see, etc. • MTO has not received a significant number of complaints in writing. • MTO is not changing the specification at this time. If there are specific complaints, please share them with the CA and they will be delivered to MTO staff responsible for administering the referee process. • OAPC asked what the challenge with in-person testing is. MTO indicated that frequency of attendance has doubled in the last few years. It is very hard to administer this, and it is much easier for QA staff who are administering multiple inspections and referee tests in a single day. • MTO shared the Virtual Referee Testing Guideline that is meant for laboratories with OAPC via email. It is also available on MTO Technical Publications. <p>ACTION – Close item.</p>	<p>MTO</p>

OPEN ITEMS		ACTION BY
June-23-1	<p>HMA OPTIMIZATION</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> Crumb rubber and WMA coupled with higher RAP combinations to reduce environmental impacts. OAPC wants to promote using recycled material. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> MTO is looking at field performance of crumb rubber modified asphalt. Initial analysis indicates crumb rubber does not increase field performance. MTO indicated that any claimed benefits of WMA related to higher RAP contents should be verified. <p>ACTION – No Action.</p>	

NEW ITEMS		ACTION BY
Sept-23-1	<p>BALANCED MIX DESIGN</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> OAPC wants to understand ministry's understanding regarding costs and focus on BMD. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> MTO could consider BMD in an NSSP. MTO is open to the surrogate tests as screening tools at the mix design stage. QA tests will likely consist of I-FIT (SCB), DCT, Hamburg testing. MTO may consider trials for a contractor(s) to conduct balanced mix design using a modified version of an NSSP that includes preliminary acceptance criteria. <p>ACTION – No Action.</p>	
Sept-23-2	<p>PH-CC-866: BINDER REPLACEMENT ADJUSTMENTS</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> OAPC stated that the PH-CC-866 indicates +-0.2% in AC Content and a Binder Replacement of -5.0%. The negative may be a mistake. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> MTO will investigate. <p>ACTION – MTO will review the form.</p>	

NEW ITEMS	ACTION BY
<p>Sept-23-3 OPSS 313 – REVISITING QUALITY EVALUATION <i>Description:</i></p> <ul style="list-style-type: none"> • How can OAPC increase or strive for better quality in asphalt pavement? <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • OAPC still wants an understanding to how members can deal better with meeting a pay factor of 0.97. It seems asphalt above 0.97 is good quality asphalt but still does not result in a full payment and virtually all asphalt placed for the Ministry results in a payment reduction. • MTO will not allow asphalt that does not meet all criteria (gradation, compaction, asphalt content, etc.) will be accepted at full payment. • OAPC is not requesting bonuses, simply to reduce the payment reduction/payment impact and to adjust the payment curves. • MTO stated that not all deficiencies in one parameter can be compensated by an exceedance in another parameter. • Previously, the auditor general report indicated that it is wrong to pay bonuses when a different property is exceeded. “Why is a bonus being paid for asphalt that did not meet key requirements”. The auditor made it clear that this is not reasonable. This situation is analogous. • After the auditor report, industry was warned of the specification changes and bid impacts. MTO suggested that MTO’s 2017 PIQ presentation (currently on OAPC website) be shared with OAPC members. • OAPC asked to revisit the limits in the 2016 table. Further, how is hot mix paver of the year awarded when asphalt is penalized? <p>ACTION – No Action</p>	
<p>Sept-23-4 TCP REVIEW PROCESS <i>Description:</i></p> <ul style="list-style-type: none"> • TCP Review timelines <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • OAPC indicates 21 days is not enough time for members to provide feedback. The environmental bill of rights has an extended period for comments. OAPC is requesting an additional 1 to 2 weeks. <p>ACTION – MTO will review the comment period.</p>	<p>MTO</p>
<p>ROUND TABLE A cross-slope webinar was hosted by OAPC and featured MTO’s Mike Pearsall as the presenter. The material was very well delivered. OAPC appreciates MTO’s efforts.</p> <p>OAPC Asphalt Seminar will be held November 30. OAPC is reducing the price for MTO staff to encourage MTO staff to attend. OAPC indicates it is important for MTO to attend. OAPC thanks Gelu for agreeing to present at the OAPC Asphalt Seminar.</p>	

INFORMATION SHARED FOR THIS MEETING		
Document Title	Shared By	Format
1_Item Dec-19-8_Spring 2023-NCAT Completes Second Mixture Performance Testing Round Robin	MTO	text (pdf)
2_Item Dec-19-8_MPT Correlations Data for Sharing with ORBA Cumulative 2023	MTO	Table (pdf)
3_ItemDec-19-8_HWT Test Correlation 2023 R1 Internal Angle of Gyration	MTO	Graphs (pdf)
4_Item Apr-21-7_ERS update 2023	MTO	Graphs (pdf)
5_Item May-22-13_SMA Grit Update - MTO-OAPC Meeting September 21	MTO	Tables (pdf)

NEXT MEETING
<ul style="list-style-type: none"> • Meeting #4 (MTO Host): Thursday, December 7th • MTO to host, meeting will be virtual. <p>All meeting scheduled from 10 am - 1 pm</p>
Meeting adjourned: 1:06 pm