



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
16 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0016

Janet T. Mills  
GOVERNOR

Bruce A. Van Note  
COMMISSIONER

November 8, 2024  
Subject: Highway Reconstruction, Bridge  
Rehabilitation & Lighting Replacement  
State WINs: 021800.30, 022258.00  
& 024363.00  
Location: **South Portland**  
**Amendment No. 1**

Dear Sir/Ms.:

Please make the following changes to the Bid Documents:

In the Bid Book:

**CHANGE** on page 14, "NOTICE TO CONTRACTORS", the bid opening date in the first paragraph from "November 27, 2024" to read "**December 4, 2024**". Make this change in pen and ink.

**REMOVE** pages 17 – 29, "Proposal Schedule of Items, 13 pages, dated 10/22/2024, and **REPLACE** with the attached, revised "Proposal Schedule of Items, 13 pages, dated 11/8/2024.

**REMOVE** pages 84 – 85, SPECIAL PROVISION - SECTION 108 – PAYMENT - (Steel Cost Adjustment), 2 pages, dated August 22, 2022, in its entirety.

**INSERT** the attached SPECIAL PROVISION - SECTION 401 - HOT MIX ASPHALT PAVEMENTS - (HMA – Highly Modified Asphalt Pavement), 4 pages, dated February 1, 2022.

**REMOVE** pages 125 – 127, SPECIAL PROVISION – SECTION 403 – HOT MIX ASPHALT, 3 pages, dated September 4, 2024, and **REPLACE** with the attached, revised SPECIAL PROVISION – SECTION 403 – HOT MIX ASPHALT, 3 pages, dated October 31, 2024.

In the Plan Set:

**REMOVE ALL REFERENCES** to "Item 403.2081 - Hot Mix Asphalt - 12.5 mm Nominal Maximum Size (Polymer Modified)", and **REPLACE** with "**Item 403.2084 - 12.5mm Highly Modified Asphalt Pavement (HiMAP)**" throughout the entire Contract Plan Set. Make these changes in pen and ink.

The following question has been received:

**Question:** Due to the Thanksgiving Holiday, would the Department please extend the bid date to 12/11/2024?

**Response:** The bid opening date will be moved to December 4, 2024.

Consider these changes and information prior to submitting your bid on **December 4, 2024**.

Sincerely,



George M. A. Macdougall P.E.  
Contracts & Specifications Engineer

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## Maine Department of Transportation

## Proposal Schedule of Items

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Proposal ID: 012800.30

Project(s): 012800.30, 022258.00, 024363.00

SECTION: 1 HIGHWAY ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0010	202.10 REMOVING EXISTING SUPERSTRUCTURE (PROPERTY OF CONTRACTOR)	LUMP SUM		LUMP SUM		
0020	202.13 REMOVING EXISTING RAILINGS (RETAINED BY DEPARTMENT)	1,046.000 LF				
0030	202.15 REMOVING EXISTING MANHOLE OR CATCH BASIN	5.000 EA				
0040	202.17 REMOVING EXISTING STRUCTURAL CONCRETE	LUMP SUM		LUMP SUM		
0050	202.202 REMOVING PAVEMENT SURFACE	2,400.000 SY				
0060	203.20 COMMON EXCAVATION	4,589.000 CY				
0070	203.25 GRANULAR BORROW	80.000 CY				
0080	206.07 STRUCTURAL ROCK EXCAVATION - DRAINAGE AND MINOR STRUCTURES	10.000 CY				
0090	206.082 STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	80.000 CY				
0100	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	3,680.000 CY				
0110	403.2071 19 MM POLYMER MODIFIED HOT MIX ASPHALT	1,114.000 T				

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Proposal ID: 012800.30

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SECTION: 1 HIGHWAY ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0120	403.2084 12.5 MM HIGHLY MODIFIED ASPHALT PAVEMENT (HiMAP)	947.000 T	_____	 _____	_____	 _____
0130	403.209 HOT MIX ASPHALT 9.5 MM (SIDEWALKS, DRIVES, INCIDENTALS)	93.000 T	_____	 _____	_____	 _____
0140	403.2111 9.5 MM POLYMER MODIFIED HMA (SHIM)	140.000 T	_____	 _____	_____	 _____
0150	403.2131 12.5 MM POLYMER MODIFIED HMA BASE	1,209.000 T	_____	 _____	_____	 _____
0160	409.15 BITUMINOUS TACK COAT - APPLIED	694.000 G	_____	 _____	_____	 _____
0170	461.131 TEMPORARY PAVEMENT	33.000 T	_____	 _____	_____	 _____
0180	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS	LUMP SUM	LUMP SUM		_____	 _____
0190	502.23 STRUCTURAL CONCRETE PIERS	50.000 CY	_____	 _____	_____	 _____
0200	502.26 STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLABS ON STEEL BRIDGES	LUMP SUM	LUMP SUM		_____	 _____
0210	502.49 STRUCTURAL CONCRETE CURBS AND SIDEWALKS	LUMP SUM	LUMP SUM		_____	 _____
0220	502.77 FIBER REINFORCED POLYMER BRIDGE DRAIN - TYPE: E	8.000 EA	_____	 _____	_____	 _____

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Alt Set ID:

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Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0230	503.12 REINFORCING STEEL, FABRICATED AND DELIVERED	221,500.000 LB	_____	 _____	_____	 _____
0240	503.13 REINFORCING STEEL, PLACING	221,700.000 LB	_____	 _____	_____	 _____
0250	503.17 MECHANICAL WELDED SPLICE	2,062.000 EA	_____	 _____	_____	 _____
0260	503.19 LOW-CARBON, CHROMIUM REINFORCEMENT - FABRICATED & DELIVERED	31,400.000 LB	_____	 _____	_____	 _____
0270	503.20 LOW-CARBON, CHROMIUM REINFORCEMENT - PLACING	31,400.000 LB	_____	 _____	_____	 _____
0280	505.08 SHEAR CONNECTORS	LUMP SUM	LUMP SUM		_____	 _____
0290	507.0821 STEEL BRIDGE RAILING, 3 BAR	LUMP SUM	LUMP SUM		_____	 _____
0300	507.0822 STEEL APPROACH RAILING, 3-BAR	4.000 EA	_____	 _____	_____	 _____
0310	508.14 HIGH PERFORMANCE WATERPROOFING MEMBRANE	LUMP SUM	LUMP SUM		_____	 _____
0320	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES	LUMP SUM	LUMP SUM		_____	 _____
0330	518.50 REPAIR OF UPWARD FACING SURFACES - TO REINFORCING STEEL < 8 IN.	154.000 SF	_____	 _____	_____	 _____

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Alt Set ID:

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0340	518.60 REPAIR OF VERTICAL SURFACES < 8 IN.	862.000 SF	_____	_____	_____	_____
0350	518.70 REPAIR OF OVERHEAD SURFACES < 8 IN.	180.000 SF	_____	_____	_____	_____
0360	518.80 CRACK REPAIR	51.000 LF	_____	_____	_____	_____
0370	520.21 EXPANSION DEVICE - GLAND SEAL	2.000 EA	_____	_____	_____	_____
0380	523.301 REFURBISH & RESET FIXED BEARING	13.000 EA	_____	_____	_____	_____
0390	523.52 BEARING INSTALLATION	7.000 EA	_____	_____	_____	_____
0400	523.5402 LAMINATED ELASTOMERIC BEARINGS, EXPANSION	7.000 EA	_____	_____	_____	_____
0410	524.301 TEMPORARY STRUCTURAL SUPPORT ABUTMENT NO. 1	LUMP SUM	LUMP SUM		_____	_____
0420	524.301 TEMPORARY STRUCTURAL SUPPORT DECK	LUMP SUM	LUMP SUM		_____	_____
0430	524.301 TEMPORARY STRUCTURAL SUPPORT PIER 3	LUMP SUM	LUMP SUM		_____	_____
0440	524.40 PROTECTIVE SHIELD	LUMP SUM	LUMP SUM		_____	_____

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0450	526.301 PORTABLE CONCRETE BARRIER TYPE I	LUMP SUM	LUMP	SUM	_____	_____
0460	526.304 PORTABLE CONCRETE BARRIER, ANCHORED TYPE 1	LUMP SUM	LUMP	SUM	_____	_____
0470	603.155 12 INCH REINFORCED CONCRETE PIPE CLASS III	50.000 LF	_____	_____	_____	_____
0480	603.159 12 INCH CULVERT PIPE OPTION III	44.000 LF	_____	_____	_____	_____
0490	603.165 15 INCH REINFORCED CONCRETE PIPE CLASS III	45.000 LF	_____	_____	_____	_____
0500	604.092 CATCH BASIN TYPE B1-C	10.000 EA	_____	_____	_____	_____
0510	604.18 ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	8.000 EA	_____	_____	_____	_____
0520	604.262 CATCH BASIN TYPE B5-C	6.375 EA	_____	_____	_____	_____
0530	605.09 6 INCH UNDERDRAIN TYPE B	920.000 LF	_____	_____	_____	_____
0540	605.11 12 INCH UNDERDRAIN TYPE C	1,050.000 LF	_____	_____	_____	_____
0550	606.1301 31" W-BM GR, MID-WAY SPLICE-SGL FACED	1,400.000 LF	_____	_____	_____	_____
0560	606.1305 31" W-BM GR, MID-WAY SPLICE FLARED TERMINAL	1.000 EA	_____	_____	_____	_____

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Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0570	606.1721 BRIDGE TRANSITION - TYPE 1	4.000 EA				
0580	606.259 ANCHORAGE ASSEMBLY	3.000 EA				
0590	606.353 REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	6.000 EA				
0600	606.356 UNDERDRAIN DELINEATOR POST	6.000 EA				
0610	606.65 GUARDRAIL THRIE BEAM - SINGLE RAIL	580.000 LF				
0620	606.70 TRANSITION SECTION THRIE BEAM	2.000 EA				
0630	606.95 LOW MAINTENANCE/ SELF RESTORING CRASH CUSHION	1.000 EA				
0640	607.181 CHAIN LINK FENCE - 8 FOOT HIGH SECURITY	224.000 LF				
0650	607.183 CHAIN LINK SNOW FENCE 33 INCH	LUMP SUM				
0660	607.24 REMOVE AND RESET FENCE	40.000 LF				
0670	609.11 VERTICAL CURB TYPE 1	20.000 LF				
0680	609.21 CONCRETE SLIPFORM CURB	670.000 LF				



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Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0690	609.234 TERMINAL CURB TYPE 1 - 4 FOOT	4.000 EA				
0700	609.38 RESET CURB TYPE 1	2,300.000 LF				
0710	609.40 RESET CURB TYPE 5	800.000 LF				
0720	610.08 PLAIN RIPRAP	24.000 CY				
0730	613.319 EROSION CONTROL BLANKET	200.000 SY				
0740	615.07 LOAM	190.000 CY				
0750	618.14 SEEDING METHOD NUMBER 2	30.000 UN				
0760	619.12 MULCH	30.000 UN				
0770	620.58 EROSION CONTROL GEOTEXTILE	25.000 SY				
0780	626.11 PRECAST CONCRETE JUNCTION BOX	40.000 EA				
0790	626.21 METALLIC CONDUIT	90.000 LF				
0800	626.22 NON-METALLIC CONDUIT	11,450.000 LF				

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Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0810	626.251 NON-METALLIC UNDER PAVEMENT CONDUIT (SCHEDULE 80 OR GREATER RATING)	850.000 LF	_____	_____	_____	_____
0820	626.35 CONTROLLER CABINET FOUNDATION	1.000 EA	_____	_____	_____	_____
0830	626.36 REMOVE OR MODIFY CONCRETE FOUNDATION	46.000 EA	_____	_____	_____	_____
0840	626.38 GROUND MOUNTED CABINET FOUNDATION	1.000 EA	_____	_____	_____	_____
0850	626.411 18 INCH DIAMETER FOUNDATION	20.000 LF	_____	_____	_____	_____
0860	626.44 36 INCH DIAMETER FOUNDATION	134.000 LF	_____	_____	_____	_____
0870	626.46 48 INCH DIAMETER FOUNDATION	107.000 LF	_____	_____	_____	_____
0880	626.501 SPREAD FOOTING FOUNDATION	15.000 CY	_____	_____	_____	_____
0890	627.18 12 " SOLID WHITE PAVEMENT MARKING	1,200.000 LF	_____	_____	_____	_____
0900	627.744 6" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	9,900.000 LF	_____	_____	_____	_____
0910	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	490.000 SF	_____	_____	_____	_____

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SECTION: 1 HIGHWAY ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0920	627.78 TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	14,900.000 LF	_____	_____	_____	_____
0930	629.05 HAND LABOR, STRAIGHT TIME	60.000 HR	_____	_____	_____	_____
0940	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	20.000 HR	_____	_____	_____	_____
0950	631.13 BULLDOZER (INCLUDING OPERATOR)	20.000 HR	_____	_____	_____	_____
0960	631.171 TRUCK - SMALL (INCLUDING OPERATOR)	10.000 HR	_____	_____	_____	_____
0970	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	20.000 HR	_____	_____	_____	_____
0980	631.18 CHAIN SAW RENTAL (INCLUDING OPERATOR)	10.000 HR	_____	_____	_____	_____
0990	631.22 FRONT END LOADER (INCLUDING OPERATOR)	20.000 HR	_____	_____	_____	_____
1000	631.32 CULVERT CLEANER (INCLUDING OPERATOR)	20.000 HR	_____	_____	_____	_____
1010	634.160 HIGHWAY LIGHTING	LUMP SUM	LUMP SUM		_____	_____
1020	634.164 LUMINAIRES FOR HIGH MAST LIGHTING	29.000 EA	_____	_____	_____	_____

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SECTION: 1 HIGHWAY ITEMS

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1030	634.2042 LED LUMINARIES	44.000 EA				
1040	634.207 HIGH MAST LIGHT STANDARD	8.000 EA				
1050	634.210 CONVENTIONAL LIGHT STANDARD	41.000 EA				
1060	634.762 VIDEO CAMERA SYSTEM	LUMP SUM				
1070	639.18 FIELD OFFICE TYPE A	1.000 EA				
1080	643.21 NON-INVASIVE DETECTION - STOP LINE: STOP LINE	LUMP SUM				
1090	643.22 NON-INVASIVE DETECTION - ADVANCE: ADVANCE	LUMP SUM				
1100	643.80 TRAFFIC SIGNALS AT SP-6 AND ROUTE 1/SP-4	LUMP SUM				
1110	643.91 MAST ARM POLE 25' AND 35' MAST ARMS	1.000 EA				
1120	643.91 MAST ARM POLE 30' MAST ARM	1.000 EA				
1130	643.97 WOOD POLES WITH GUYS AND SPAN WIRE	1.000 EA				
1140	645.103 DEMOUNT GUIDE SIGN	5.000 EA				

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Alt Set ID:

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Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1150	645.106 DEMOUNT REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	8.000 EA				
1160	645.108 DEMOUNT POLE	10.000 EA				
1170	645.113 REINSTALL GUIDE SIGN	1.000 EA				
1180	645.116 REINSTALL REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	7.000 EA				
1190	645.118 REINSTALL POLE	9.000 EA				
1200	645.12 OVERHEAD GUIDE SIGN: STA 22+30	LUMP SUM				
1210	645.251 ROADSIDE GUIDE SIGNS, TYPE I	470.000 SF				
1220	645.289 STEEL H-BEAM POLES	170.000 LB				
1230	645.292 REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE II	160.000 SF				
1240	645.305 SIGN MOUNTED BEACON ARRAY	LUMP SUM				
1250	652.30 FLASHING ARROW BOARD	4.000 EA				
1260	652.312 TYPE III BARRICADE	10.000 EA				

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1270	652.33 DRUM	220.000 EA	_____	 _____	_____	 _____
1280	652.34 CONE	145.000 EA	_____	 _____	_____	 _____
1290	652.35 CONSTRUCTION SIGNS	900.000 SF	_____	 _____	_____	 _____
1300	652.361 MAINTENANCE OF TRAFFIC CONTROL DEVICES	LUMP SUM	LUMP SUM		_____	 _____
1310	652.37 WARNING LIGHTS	1.000 GP	_____	 _____	_____	 _____
1320	652.38 FLAGGER	1,800.000 HR	_____	 _____	_____	 _____
1330	652.381 TRAFFIC OFFICER	16.000 HR	_____	 _____	_____	 _____
1340	652.41 PORTABLE CHANGEABLE MESSAGE SIGN	6.000 EA	_____	 _____	_____	 _____
1350	654.351 CONNECTED ROADSIDE UNIT (RSU)	1.000 EA	_____	 _____	_____	 _____
1360	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM	LUMP SUM		_____	 _____
1370	658.20 ACRYLIC LATEX COLOR FINISH, GREEN	900.000 SY	_____	 _____	_____	 _____
1380	659.10 MOBILIZATION	LUMP SUM	LUMP SUM		_____	 _____

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Proposal Line Number	Item ID  Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1390	660.21 ON-THE-JOB TRAINING (BID)	1,000.000 HR				
1400	910.301 SPECIAL WORK AERIAL UTILITY LINES	LUMP SUM	LUMP	SUM		
Section: 1			Total:			
			Total Bid:			

**SPECIAL PROVISION**  
**SECTION 401**  
**HOT MIX ASPHALT PAVEMENTS**  
**(HMA – Highly Modified Asphalt Pavement)**

The Special Provision 400 – Pavements; Section 401 – Hot Mix Asphalt Pavements; the following subsections have been modified with the following:

Description The Contractor shall furnish and place one or more courses of Highly Modified Asphalt Pavement (HiMAP) on an approved base in accordance with the contract documents and in reasonably close conformity with the lines, grades, thicknesses and typical cross sections shown on the plans or established. The Department will accept this work under Quality Assurance provisions, in accordance with these specifications and the requirements of Section 106 – Quality, the provisions of AASHTO M 323 except where otherwise noted in sections 401 and 703 of these specifications, and the MaineDOT Policies and Procedures for HMA Sampling and Testing. The Highly Modified Asphalt Pavement shall meet all of the Materials, Seasonal Limitations, Equipment, and Construction requirements of Special Provision Section 401, with the following additions and changes.

401.03 Composition of Mixtures The specimens shall be prepared in accordance with AASHTO M323 and R35. The Contractor shall not use RAP in the HiMAP mixture at any percentage.

The mix design will satisfy the following criteria:

TABLE 1: HiMAP VOLUMETRIC DESIGN CRITERIA

Property		Criteria
Required Density (Percent of Gmm)	N <sub>initial</sub>	≤89.0
	N <sub>design</sub>	97.0
	N <sub>max</sub>	≤99.0
Voids in Mineral Aggregates (VMA)		15% minimum
Voids Filled with Binder (VFB)		65-85%
Fines/Effective Binder Ratio		0.5-1.1
HWT, Rut Depth (20,000 passes) @ 50°C		12.5mm maximum
HWT, Stripping Inflection Point (SIP)		15,000 minimum

401.031 Hamburg Wheel Tracker (HWT) Prior to the test strip, the Contractor shall provide the Department with **four boxes** of the proposed plant or lab produced asphalt mixture for HWT approval. The mixture will be tested for rutting and moisture sensitivity in the Hamburg Wheel Tracker according to AASHTO T324, “Hamburg Wheel-Track Testing of Hot Mix Asphalt (HMA).” If the sample meets the requirements of Table 1, an approved JMF will be forwarded to the Contractor with a comment referencing the passing HWT reference number for use on the test strip. The Department shall provide final approval of the JMF based on the results of the Test Strip. The Department will have five business days from receipt of the sample at the Central Laboratory to process, test, and report the Hamburg Wheel Tracker sample. The first day’s production shall be monitored, and the approval may be withdrawn if the mixture exhibits undesirable characteristics such as checking, shoving or displacement.

401.032 Warm Mix Technology The HiMAP shall be modified using an approved Warm-Mix Asphalt (WMA) additive that may reduce compactive effort and emissions. No WMA foaming technology will be permitted which requires the mechanical injection of steam or water into the liquid asphalt. The WMA additive must be compatible with polyphosphoric acid modified and polymer modified asphalts. The WMA additive shall be introduced in accordance with the Manufacturer’s dosing rates and approved blending methods.



**401.04 Temperature Requirements** After the JMF is established, the temperatures of the mixture shall conform to the following tolerances unless otherwise authorized by the Department:

In the truck at the mixing plant – allowable range 290° to 340°F  
 At the Paver – allowable range 290° to 340°F

**401.05 Performance Graded Asphalt Binder** The Performance Graded Asphalt Binder (PGAB) shall comply with AASHTO M 332 and R 92 and have a PG Grading of **PG 76E-28** with a minimum 6% SBS Polymer. The Multiple Stress Creep Recovery (MSCR) shall have a  $J_{nr}$ 3.2 maximum value of 0.1 kPa<sup>-1</sup> when tested according to AASHTO T 350. The minimum MSCR % recovery at 3.2 kPa shall be 90%. The MSCR test for  $J_{nr}$  and % recovery shall be run at 76°C. The viscosity shall be less than or equal to 3.0 Pa-s, however the Department may increase this limit to 5.0 Pa-s if the binder supplier and contractor agree that the binder is suitably workable.

**401.10 Rollers** Section 401.10 shall apply, with the following exceptions; a Pneumatic roller will not be required. A 3-5 ton dual drum vibratory shall be required to replace the pneumatic roller in the required roller train, and aid in compaction in areas inaccessible to larger rollers.

**401.19 Quality Control - Method A, B, C & D** The Contractor shall have a testing lab at the plant site, equipped with all testing equipment necessary to complete the tests in Table 2. The Contractor shall locate an approved Gyratory Compactor at the plant testing lab. The Contractor shall generate QC sampling random numbers for each approved mix design. A copy of the random numbers shall be emailed to the QC.mainedot@maine.gov email address and remain on-file (in print) and be available for inspection at the QC laboratory. The Contractor shall sample, test, and evaluate Hot Mix Asphalt Pavement in accordance with the following minimum frequencies per each approved mix design:

TABLE 2: MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Temperature of mix	6 per day at street and plant	-
Temperature of mat	4 per day	-
%TMD (Surface)	1 per 125 ton	AASHTO T 355 or AASHTO T 343
%TMD (Base)	1 per 250 ton	AASHTO T 355 or AASHTO T 343
Fines / Effective Binder	1 per 500 ton	AASHTO T 312
Gradation	1 per 500 ton	AASHTO T 30
PGAB content	1 per 500 ton	AASHTO T164 or AASHTO T 308
Voids at $N_{design}$	1 per 500 ton	AASHTO T 312
Voids in Mineral Aggregate at $N_{design}$	1 per 500 ton	AASHTO T 312
Rice Specific Gravity	1 per 500 ton	AASHTO T 209
Coarse Aggregate Angularity	1 per 5,000 ton	ASTM D5821
Flat and Elongated Particles	1 Per 5,000 ton	ASTM D4791
Fine Aggregate Angularity	1 Per 5,000 ton	AASHTO T 304
<u>Hamburg Wheel Tracker</u>	<u>1 Per 4,000 ton and at least once per Acceptance Lot</u>	<u>AASHTO T 324</u>

The Contractor shall monitor plant production on each approved mix design using running average of three control charts as specified in Section 106 - Quality. Control limits shall be as noted in Table 3 below. The UCL and LCL, shall not exceed the allowable gradation control points for the particular type of mixture as outlined in Table 1 of Section 703.0

Hamburg Wheel Tracker (HWT) The project specific QCP shall address the sampling, transport, and testing of Hamburg Wheel Tracker QC samples and what potential steps will be taken if QC samples do not meet the requirements in Table 1. The project specific QCP shall also contain a sample Hamburg Wheel Tracker test report for approval. The Contractor shall sample and test HMA Pavement in the Hamburg Wheel Tracker according to AASHTO T324 in accordance with the minimum frequencies listed in Table 2.

The Contractor shall sample the HMA on the first day of production and test the sample in the Hamburg Wheel Tracker according to AASHTO T324. This sample will not count towards the minimum quality control frequency specified in Table 2. The Contractor shall submit all Hamburg Wheel Tracker test reports in writing, signed by the appropriate technician and present them to the Department within ten working days of initial sampling, except when otherwise noted in the project specific QCP due to local restrictions. The Contractor shall make the raw Hamburg Wheel Tracker data from QC samples available to the Department upon request. If a QC sample fails to meet the criteria in Table 1, the Contractor will be required to submit a corrective action letter to the Resident, Materials Engineer, Pavement Quality Manager, and Pavement Quality Engineer by the end of the following working day with the proposed changes to bring the mixture back into compliance. The Department will respond and either accept or reject the Contractor's proposed corrective action by the end of the following working day from when the letter was received.

401.20 Acceptance Method The HiMAP will be evaluated by the acceptance limits specified in Table 3 and in accordance with Section 106.6 Acceptance, (1) Method A as specified Section 401.20 - Quality Assurance Methods A and C of the most recent Special Provision 400 - Pavements.

The Department will sample the HiMAP on the first day of production and at the acceptance frequencies specified in Table 2 to verify the compliance with the HWT. For all QA samples identified as a HWT sample, the Department will collect four additional boxes of the HMA mixture to verify compliance with the HWT requirements. The minimum sampling shall be as specified in Table 3A.

If an acceptance sample fails to meet the criteria in Table 1, the Contractor will be required cease production and submit a corrective action letter to the Resident, Materials Engineer, Pavement Quality Manager, and Pavement Quality Engineer by the end of the following working day with the proposed changes to bring the mixture back into compliance. Failure to do so will be treated as a second incident under 106.4.6 QCP Non-compliance.

TABLE 3: ACCEPTANCE LIMITS

Property	USL and LSL
Passing 4.75 mm and larger sieves	Target +/-7%
Passing 2.36 mm to 1.18 mm sieves	Target +/-4%
Passing 0.60 mm	Target +/-3%
Passing 0.30 mm to 0.075 mm sieve	Target +/-2%
PGAB Content	Target +/-0.4%
Voids at N <sub>design</sub>	3.0% +/- 1.5%
Fines to Effective Binder	0.8 +/-0.3
Voids in the Mineral Aggregate	LSL from Table 1
Voids Filled with Binder	401.03 Composition of Mixtures Table 1 values plus a 4% production tolerance for USL only
% TMD (In place density)	94.5% +/- 2.5%

TABLE 3A: MINIMUM HWT ACCEPTANCE FREQUENCIES

<u>Test or Action</u>	<u>Frequency</u>	<u>Test Method</u>
<u>Hamburg Wheel Tracker</u>	1 per 4,000 ton and at least once per Acceptance Lot	<u>AASHTO T 324</u>

HWT Pay Adjustment For Hamburg Wheel Tracker, if the mix is within the tolerances listed in Table 1, the Department will pay the contract unit price, otherwise pay adjustments as shown in Table 4 shall be applied to the quantity of mix represented by the test.

TABLE 4: HWT PAY ADJUSTMENT

<u>Number of Passes</u>	<u>Pay Adjustment</u>
< 20,000	-1.0% for every 1000 passes below target

A pay adjustment will not be applied to the HWT acceptance sample taken within the test strip or within the first lot on the first day of production per JMF.

Test Strip A test strip of a minimum 60 tons placed at a nominal depth of 1 ¾ inch, full lane width, shall be required. The Department shall take at a minimum a single sample consisting of eight boxes and three cores stratified over the length of the test strip. The mixture will be evaluated under the Method B and HWT testing requirements. The exact location of the test strip will be identified by the Department. Prior to placement of the test strip, a leveling course (Item 403.211) shall be placed at the chosen location. A fog coat of Item 409.15, Bituminous Tack Coat, shall be applied to the level course prior to the placement of the HMA surface course, payment to be made under the 409.15 pay item. The test strip will be excluded from the remainder of the projects' QA analysis. The Contractor shall notify the Department at least 48 hours in advance of placing the test strip. The test strip is intended to allow the Contractor to establish a method of compaction, adjust plant settings prior to mainline plant production, and obtain a HWT and production sample for the final approval of the JMF.

403.05 Basis of Payment The accepted quantities of HiMAP will be paid for at the contract unit price per ton for the mixture in place.

Payments will be made under the appropriate mixture type used:

Pay Item

403.2084 12.5mm Highly Modified Asphalt Pavement (HiMAP)	<u>Pay Unit</u> Ton
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**SPECIAL PROVISION**

**SECTION 403**

**HOT MIX ASPHALT**

Desc. Of Course	Grad Design.	Item Number	Total Thick	No. Of Layers	Comp. Notes
<b><u>7" HMA - Full Construction Areas</u></b>					
<b><u>Curb Installation &amp; Structure Adjustment Areas</u></b>					
<b><u>Travelway, Shoulders &amp; Gore Areas (As Indicated)</u></b>					
Wearing	12.5 mm	403.2084	1 ½"	1	2,4,7,22,24,25,26,42,43,53
Intermediate	12.5 mm	403.2131	2 ½"	1	1,4,7,22,23,24,41,42,43,53,55
Base	19.0 mm	403.2071	3"	1	1,4,7,41,53,55
<b><u>3" HMA - New Bridge Deck Construction (Ramp SP4)</u></b>					
<b><u>Travelway &amp; Shoulder (As Indicated)</u></b>					
Wearing	12.5 mm	403.2084	1 ½"	1	2,4,7,24,25,26,30,31
Base	12.5 mm	403.2131	1 ½"	1	1,4,7,24,30,31,44
<b><u>Variable Depth Mill &amp; 4" HMA Overlay w/ Variable Depth Shim</u></b>					
<b><u>Travelway &amp; Shoulder (As Indicated)</u></b>					
Wearing	12.5 mm	403.2084	1 ½"	1	2,4,7,24,25,26,42
Intermediate	12.5 mm	403.2131	2 ½"	1	1,4,7,23,24,42
Shim	9.5 mm	403.2111	variable	1/more	1,4,8,20,30,42
<b><u>Variable Depth Mill &amp; 1 ½" HMA Overlay w/ Variable Depth Shim</u></b>					
<b><u>Travelway &amp; Shoulders (As Indicated)</u></b>					
Wearing	12.5 mm	403.2084	1 ½"	1	2,4,7,24,25,26,42
Shim	9.5 mm	403.2111	variable	1/more	1,4,8,20,30,42
<b><u>Drives, Islands, Misc. (As Indicated or Directed)</u></b>					
Wearing	9.5 mm	403.209	2-3"	1/more	3,20,30,32

**COMPLEMENTARY NOTES**

1. The required PGAB shall be a storage-stable, homogeneous, polymer modified asphalt binder that meets **PG 64E-28** grading requirements in AASHTO M 332. All polymer modified asphalt grades utilized on the Project shall be treated with an approved liquid anti-strip. PG binders shall be treated either at the asphalt source terminal with the required dose rate on the delivery documentation, or at the hot mix asphalt plant utilizing a system integrated with the plants controls that will introduce a minimum 0.50 percent anti-strip by weight of asphalt binder used unless a rate is otherwise recommended by the anti-strip manufacturer. The PGAB and anti-strip blend shall meet the **PG 64E-28** requirements. The Contractor shall provide supporting test data showing the PGAB and anti-strip blend meet the required criteria.
2. The required PGAB shall be a storage-stable, homogeneous, polymer modified asphalt binder that meets **PG 76E-28** grading requirements in AASHTO M 332. All polymer modified asphalt grades utilized on the Project shall be treated with an approved liquid anti-strip. PG binders shall be treated either at the asphalt source terminal with the required dose rate on the delivery documentation, or at the hot mix asphalt plant utilizing a system integrated with the plants controls that will introduce a minimum 0.50 percent anti-strip by weight of asphalt binder used unless a rate is otherwise recommended by the anti-strip manufacturer. The PGAB and anti-strip blend shall meet the **PG 76E-28** requirements. The Contractor shall provide supporting test data showing the PGAB and anti-strip blend meet the required criteria.

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3. The aggregate qualities shall meet the design traffic level of <3 million ESALS for mix placed under this contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
4. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
7. Section 106.6 Acceptance, (1) **Method A** as specified Section 401.20 - Quality Assurance Methods A and C.
8. Section 106.6 Acceptance, (2) **Method B** as specified Section 401.21 - Quality Assurance Methods B and D.
20. The combined aggregate gradation required for this item shall be classified as a 9.5mm Thin Lift Mixture (TLM) mixture, using the Aggregate Gradation Control Points as defined in 703.09.
22. Longitudinal joint density testing shall be applied to the specified HMA layer. See Special Provision 401 – Hot Mix Asphalt Longitudinal Joint Density for project specifics.
23. The mixture shall meet the minimum requirements of Special Provision 401 – HMA Hamburg Wheel Tracker Specification. The Department shall collect 4 additional boxes of HMA on the first day of production and may collect additional material as deemed appropriate.
24. See Special Provision 401 - HMA with Fine Micro-Deval Requirement for project specifics.
25. The mixture shall meet the Hamburg Wheel Tracker requirements as specified in Special Provision 401 - HMA with Highly Modified Asphalt Pavement (HIMAP).
26. See Special Provision 401 - HMA with Highly Modified Asphalt Pavement (HiMAP) for project specifics.
30. The incentive/disincentive provisions for density shall not apply. Rollers shall meet the requirements of this special provision. The use of an oscillating steel roller shall be required to compact all mixtures pavements placed on bridge decks.
31. Compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **10 ton** oscillatory, **12 ton** pneumatic, and a **10 ton** finish roller for roadway work. A **Quality Control Technician (QCT) equipped with a density meter** shall be required for all roadway mixtures placed under this contract. Density testing of the mixture will be performed by the QCT in accordance with AASHTO T355 or AASHTO T343. The mixture will be rolled until the density readings show less than 1 pcf change for the final roller passes. This density will be used as the target TMD for the mixture. The remaining mixture shall be compacted to a minimum density of 95% of the target density as determined in the control section. The Contractor shall make density test results, including randomly sampled densities, available to the Department's representative onsite. Summaries of each day's results, including a daily paving report, summarizing the mixture type, mixture temperature, equipment used, environmental conditions, and number of roller passes, shall be recorded and signed by the QCT and presented to the Department's representative by the **end of the working day**. The Department may require cores for informational purposes.
32. In areas inaccessible to a **10 ton** roller, compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **3-5 ton** vibratory roller. Areas less than 2 feet wide shall be compacted with a minimum of a **150 pound** plate compactor. An approved release agent is required to ensure the mixture does not adhere to hand tools, rollers, pavers, and truck bodies. The use of petroleum based fuel oils, or asphalt stripping solvents will not be permitted.

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41. The entire HMA pavement section (consisting of 2.5"-12.5mm intermediate and 3"-19mm base layers) shall be completed before winter suspension. Any surface or base HMA placed after the seasonal limitations shall be considered temporary and removed and replaced the following construction season. The Department will not be responsible for costs or time related to the placement, removal or replacement of temporary pavement
42. The Contractor shall be responsible to plan its saw cutting and construction sequencing so that longitudinal joints are parallel to the existing centerline and **do not** fall within the **vehicle wheel path**. Lanes shall be constructed in a manor so that no crown is created at the match point (straight graded) unless otherwise directed.
43. The contractor shall mill a stepped butt joint into the existing pavement at both the beginning and end joints for each pavement layer excluding the bottom base layer. For each layer, the stepped joint shall be cut to the depth and width of the pavement layer being placed and extend 5 feet beyond the immediate underlying layer. The **butt joint** for the overlying layer shall be **completed prior** to placing the adjacent layer. The Resident may extend this length as determined by the condition of the match point. No additional payment will be made for the milling of the butt joints but will instead be considered incidental to associated paving items.
44. The entire HMA pavement section (consisting of 1.5" base layer) shall be completed before winter suspension. Any surface or base HMA placed after the seasonal limitations shall be considered temporary and removed and replaced the following construction season. The Department will not be responsible for costs or time related to the placement, removal or replacement of temporary pavement.
53. At the discretion of the Contractor, the use of concrete fill will be allowed in lieu of pavement and gravel to back fill around granite curbing (Type 1 & 5). When utilized, at least 3" of HMA shall be placed on top of the concrete fill for cover on the mainline edge of curb (face of curb). At minimum, the Concrete shall be a 3000 psi Class S or Class Fill Concrete. **Flowable fill shall not be permitted**. Unless otherwise specified, there will not be additional compensation for the Concrete Fill but shall be considered incidental to the 609 items.
55. The vertical surface of the longitudinal joint between the edge of existing HMA and proposed HMA shall be completely sealed with hot-applied rubberized asphalt material, meeting the requirements of Type 4 crack seal. Sealant shall be applied to form a complete seal between the existing and proposed HMA and shall extend up the vertical surface to within ½ inch of the top of the HMA base or intermediate layers. This work shall be considered incidental to the contract pavement items.

Tack Coat

A tack coat of emulsified asphalt, RS-1, RS-1h, CRS-1 or CRS-1h, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.030 gal/yd<sup>2</sup>, and on milled pavement approximately 0.050 gal/yd<sup>2</sup> prior to placing a new course. A fog coat of emulsified asphalt shall be applied between shim /base courses and surface course as well as to any bridge membrane prior to the placement of HMA layers at a rate not to exceed 0.030 gal/yd<sup>2</sup>. Tack used will be paid for at the contract unit price for Item 409.15 Bituminous Tack Coat.