



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

Janet T. Mills
GOVERNOR

Bruce A. Van Note
COMMISSIONER

March 10, 2025
Subject: Pavement Milling, Ultra-Thin Bond
WIN: 027498.00
Location: **Benton, Fairfield, Oakland,
Sidney, Augusta & Waterville**
Amendment No. 4

Dear Sir/Ms.:

In the contract bid book:

Replace the Schedule of Items included in Amendment #3, 5 pages dated 3/5/2025 with the attached Schedule of Items, 5 pages dated 3/10/2025.

Remove pages 42 thru 45, Construction Notes dated 2/5/2025, 4 pages and replace with the attached Construction Notes dated 3/7/2025, 4 pages.

Insert Special Provision, Section 424, Mastic For Asphaltic Plug Joint Replacement, 4 pages dated 1/19/2024.

The following questions have been received:

Question: Will the Department please add the appropriate item to address the potential bridge header issues on the project? Using hourly items does not adequately cover the costs for the scope of work that is required.

Response: Please see the new schedule of items and specifications.

Consider these changes and information prior to submitting your bid on **March 12, 2025**.

Sincerely,

Kevin Hanlon for
George M. A. Macdougall P.E.
Contracts & Specifications Engineer

3/10/2025

Maine Department of Transportation

Proposal Schedule of Items

Page 1 of 5

Proposal ID: 027498.00

Project(s): 027498.00

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	202.2023 REMOVING PAVEMENT SURFACE - MEDIUM CUT DRUM	390,000.000 SY	_____	_____	_____	_____
0020	202.205 RUMBLE STRIPS - SHOULDER	127,000.000 LF	_____	_____	_____	_____
0030	403.2081 12.5 MM POLYMER MODIFIED HOT MIX ASPHALT	2,300.000 T	_____	_____	_____	_____
0040	403.2111 9.5 MM POLYMER MODIFIED HMA (SHIM)	1,000.000 T	_____	_____	_____	_____
0050	409.15 BITUMINOUS TACK COAT - APPLIED	3,000.000 G	_____	_____	_____	_____
0060	410.151 EMULSIFIED ASPHALT SEALCOAT, APPLIED	130,000.000 SY	_____	_____	_____	_____
0070	424.22 ASPHALT RUBBER CRACK SEALER TYPE 2, APPLIED	85,000.000 LB	_____	_____	_____	_____
0080	424.3333 LOW MODULUS JOINT SEALER, APPLIED	7,000.000 LF	_____	_____	_____	_____
0090	424.38 CRACK REPAIR - HOT POUR MASTIC	55,000.000 LB	_____	_____	_____	_____
0100	424.385 MASTIC FOR ASPHALTIC PLUG JOINT REPLACEMENT, 0.75-1.25 INCH	775.000 LF	_____	_____	_____	_____
0110	462.301 POLYMER MODIFIED ULTRATHIN BONDED WEARING COURSE	360,000.000 SY	_____	_____	_____	_____

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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
0120	606.1305 31" W-BM GR, MID-WAY SPLICE FLARED TERMINAL	51.000 EA	_____	_____	_____	_____
0130	606.178 GUARDRAIL BEAM	500.000 LF	_____	_____	_____	_____
0140	606.265 TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	5.000 EA	_____	_____	_____	_____
0150	606.353 REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	150.000 EA	_____	_____	_____	_____
0160	606.362 GUARDRAIL ADJUSTED	7,500.000 LF	_____	_____	_____	_____
0170	606.363 GUARDRAIL REMOVE AND DISPOSE	125.000 LF	_____	_____	_____	_____
0180	606.367 REPLACE UNUSABLE EXISTING GUARDRAIL POSTS	15.000 EA	_____	_____	_____	_____
0190	606.93 SACRIFICIAL CRASH CUSHION	2.000 EA	_____	_____	_____	_____
0200	618.14 SEEDING METHOD NUMBER 2	700.000 UN	_____	_____	_____	_____
0210	619.12 MULCH	700.000 UN	_____	_____	_____	_____
0220	627.18 12 " SOLID WHITE PAVEMENT MARKING	10,000.000 LF	_____	_____	_____	_____
0230	627.30 GROOVING FOR PAVEMENT MARKING	134,000.000 SF	_____	_____	_____	_____

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0240	627.744 6" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	12,000.000 LF	_____	_____	_____	_____
0250	627.745 6" WHITE OR YELLOW POLYUREA PAVEMENT MARKING LINE (RECESSED)	260,000.000 LF	_____	_____	_____	_____
0260	627.78 TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	330,000.000 LF	_____	_____	_____	_____
0270	627.781 TEMPORARY 6 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	350,000.000 LF	_____	_____	_____	_____
0280	629.05 HAND LABOR, STRAIGHT TIME	75.000 HR	_____	_____	_____	_____
0290	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	200.000 HR	_____	_____	_____	_____
0300	631.13 BULLDOZER (INCLUDING OPERATOR)	100.000 HR	_____	_____	_____	_____
0310	631.133 SKID STEER (INCLUDING OPERATOR)	75.000 HR	_____	_____	_____	_____
0320	631.14 GRADER (INCLUDING OPERATOR)	50.000 HR	_____	_____	_____	_____
0330	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	400.000 HR	_____	_____	_____	_____
0340	631.212 SMALL PAVEMENT GRINDER (INCLUDING OPERATOR)	50.000 HR	_____	_____	_____	_____

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0350	631.22 FRONT END LOADER (INCLUDING OPERATOR)	50.000 HR	_____	_____	_____	_____
0360	639.18 FIELD OFFICE TYPE A	1.000 EA	_____	_____	_____	_____
0370	643.87 WEIGH-IN-MOTION SYSTEM	1.000 EA	_____	_____	_____	_____
0380	649.10 CONTINUOUS COUNT STATION	1.000 EA	_____	_____	_____	_____
0390	652.30 FLASHING ARROW BOARD	5.000 EA	_____	_____	_____	_____
0400	652.33 DRUM	200.000 EA	_____	_____	_____	_____
0410	652.34 CONE	1,300.000 EA	_____	_____	_____	_____
0420	652.35 CONSTRUCTION SIGNS	4,000.000 SF	_____	_____	_____	_____
0430	652.36 MAINTENANCE OF TRAFFIC CONTROL DEVICES	160.000 CD	_____	_____	_____	_____
0440	652.41 PORTABLE CHANGEABLE MESSAGE SIGN	5.000 EA	_____	_____	_____	_____
0450	652.441 TYPE 1 SMART WORK ZONE SYSTEM	2.000 EA	_____	_____	_____	_____
0460	652.442 TYPE 2 SMART WORK ZONE SYSTEM	1.000 EA	_____	_____	_____	_____

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0470	652.45 AUTOMATED TRAILER MOUNTED SPEED LIMIT SIGN	4.000 EA	_____	_____	_____	_____
0480	652.46 SEQUENTIAL FLASHING WARNING LIGHTS	40.000 EA	_____	_____	_____	_____
0490	652.47 TEMPORARY PORTABLE RUMBLE STRIP	8.000 GP	_____	_____	_____	_____
0500	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM	LUMP SUM		_____	_____
0510	659.10 MOBILIZATION	LUMP SUM	LUMP SUM		_____	_____
0520	801.03 TEST PITS	6.000 EA	_____	_____	_____	_____
Section: 1			Total:		_____	_____
			Total Bid:		_____	_____

Construction Notes

202.2023 Removing Pavement Surface – Medium Cut Drum

Mainline				
<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Depth</u>	<u>Remarks</u>
1267+04	-	1256+64	1 ½"	38.0' +/- full width Clinton Claussion Bridge Deck
1256+64	-	1253+00	¾"	28.5' +/- total width 12.5' +/- travel/16.0'+/- passing
1253+00	-	1251+68	1 ½"	38.0' +/- full width MCRR Bridge Deck
1251+68	-	1246+89	¾"	28.5' +/- total width 12.5' +/- travel/16.0'+/- passing
1246+89	-	1245+21	1 ½"	38.0' +/- full width US Route 201 Bridge Deck
1245+21	-	1084+44	¾"	28.5' +/- total width 12.5' +/- travel/16.0'+/- passing
1084+44	-	1082+20	1 ½"	38.0' +/- full width Main Street Bridge Deck
1082+20	-	1058+85	¾"	28.5' +/- total width 12.5' +/- travel/16.0'+/- passing
1058+85	-	1048+61		No work planned Messalonskee Stream Bridge Deck
1048+61	-	1044+81	1 ½" ¾"	28.5' +/- total width 12.5' +/- travel 16.0'+/- passing
1044+81	-	1042+18	1 ½"	38.0' +/- full width County Road Bridge Deck
1042+18	-	920+92	1 ½" ¾"	28.5' +/- total width 12.5' +/- travel 16.0'+/- passing

Construction Notes

202.2023 Removing Pavement Surface – Medium Cut Drum (Continued)

Mainline

<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Depth</u>	<u>Remarks</u>
920+92	-	918+72	1 ½"	38.0' +/- full width Kennedy Memorial Drive Bridge Deck
918+72	-	897+22	¾"	28.5' +/- total width 12.5' +/- travel/16.0'+/- passing
889+37	-	826+85	¾"	28.5' +/- total width 12.5' +/- travel/16.0'+/- passing
826+85	-	826+21	¾"	38.0' +/- full width Webb Road Bridge Deck (UTBWC Full Width)
826+21	-	163+53	¾"	28.5' +/- total width 12.5' +/- travel/16.0'+/- passing
163+89	-	114+09	¾"	28.5' +/- total width 12.5' +/- travel/16.0'+/- passing

Shoulder

<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Depth</u>	<u>Remarks</u>
825+18	-	768+15	1 ½"	10.0' +/- total width travel lane shoulder
428+05	-	367+32	1 ½"	10.0' +/- total width travel lane shoulder
358+00	-	350+00	1 ½"	10.0' +/- total width travel lane shoulder
343+75	-	308+65	1 ½"	10.0' +/- total width travel lane shoulder
228+00	-	224+25	1 ½"	10.0' +/- total width travel lane shoulder
201+60	-	201+20	1 ½"	10.0' +/- total width travel lane shoulder
179+05	-	167+30	1 ½"	10.0' +/- total width travel lane shoulder

**Above locations are estimates only and may be changed by the Resident.
Shoulder areas shall be milled as directed.**

Construction Notes

202.2023 Removing Pavement Surface – Medium Cut Drum (Continued)

Contractor will remove pavement to maintain existing cross slopes or as directed by the Resident. Bridges will be profiled for milling and paving operations. Mark downs shall be in place on Mainline prior to commencing milling operations. Contractor will establish centerline control points prior to removal of existing centerline. **Contractor is advised that the crack near centerline may not represent true centerline.** The centerline may require adjustment to maintain the twelve-foot travel lanes, and a four-foot passing lane shoulder widths.

Webb Road Bridge #1461 shall be profiled milled, full width, to improve ride quality.

403.2111 9.5mm Polymer Modified HMA Shim

<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Remarks</u>
1048+61	-	1044+81	Travel Lane
1042+18	-	920+92	Travel Lane

This item may be used for a leveling course and possible de-lamination areas in the pavement removal areas, rutting areas, and as directed the Resident.

410.151 Emulsified Asphalt Sealcoat Applied

To be applied to the 4' & 10' shoulders the entire length of project and as directed. Only the rumble strips on the passing lane will be seal coated.

424.22 Asphalt Rubber Crack Sealer Type 2, Applied

Item will be used to treat centerline, longitudinal cracks on mainline & shoulders and as directed by the Resident.

424.3333 Low Modulus Joint Sealer, Applied

Item used as depicted in Typical 3. Item shall be applied to bridge centerline longitudinal joint, and gutter lines.

424.38 Crack Repair- Hot Pour Mastic

Item will be used to treat centerline, longitudinal cracks on mainline & shoulders and directed by the Resident.

Construction Notes

424.385 Mastic for Asphaltic Plug Joint Replacement, 0.75-1.25 Inch

Item will be used to address asphaltic plug joints and concrete joints at bridges.

627.30 Grooving for Pavement Marking

Item shall include yellow edge line, white edge line, and white skips. Skip lines shall be ground 15 feet in length.

627.78 Temporary 4" Painted Pavement Marking Line, White or Yellow

All areas that have received the surface course shall be painted prior to being opened to traffic or immediately after the lane closure is removed. Any striping procedure besides paint, including white and yellow temporary approved raised pavement markers, shall be considered incidental.

627.781 Temporary 6" Painted Pavement Marking Line, White or Yellow

Item is to be used once lanes have been milled, prior to being opened to traffic or immediately after the lane closure is removed. Any striping procedure besides paint, including white and yellow temporary approved raised pavement markers, shall be considered incidental.

629 & 631 Items

These Items to be used for plumbing existing delineator posts, cleaning culverts, cleaning winter sand from guardrail areas and paved areas under overpasses, and removing excess material from in-slopes, in-slopes behind guardrail areas, ditching, and other work as directed. All equipment used for certain tasks and operations will be as directed by the Resident.

The following areas may need additional grinding to remove excess pavement outside the four-foot passing lane shoulder:

1023+80-1006+10	813+85-806+90
1000+85-963+25	805+95-802+00
963+65-952+50	801+25-767+25
951+75-935+50	425+70-389+00
906+08-903+00	388+10-384+40
902+33-897+22	383+30-358+00
889+37-884+70	330+25-187+35
876+10-863+50	183+90-163+53
857+10-840+00	168+88-150+50
824+75-818+15	145+50-136+75

652.35 Construction Signs

Two "Road Work Next 21 Miles" signs are required as part of this project.

SPECIAL PROVISION
SECTION 424

Mastic for Asphaltic Plug Joint Replacement

Description This work consists of the preparation, cleaning, furnishing and installing of asphaltic mastic materials in one or more layers over prior installed asphaltic plug joint (APJ) systems or in new locations as indicated in the contract documents, or shown on the Plans, in accordance with these Specifications or as directed by the Department.

This work will include the removal of any existing pavement over the prior existing APJ or bridge joint to a width of 24 inches, or as otherwise described in the contract. It shall also include any required trimming, cleaning or drying of the pavement, supply, installation and finishing of asphaltic mastic materials to the required depth, grade and cross slope. This work may include the installation of headers or templates before the placement of the surrounding pavement surface layers with the intent to form an area above the existing asphaltic plug joint channel and provide an installation reservoir for the asphaltic mastic materials without the need to remove pavement layers.

MATERIALS

The hot pour mastic materials required are hot-applied, pourable, self-adhesive type mastics blended with aggregates designed for maintenance and repair of asphalt and Portland cement concrete pavements. Hot pour mastic materials are composed of highly modified polymer asphalt binder and fine graded aggregates as required by the application.

The mastic materials shall be delivered in the manufacturer's original container. The material shall be pre-packaged with the manufacturers name and product name marked on each container. The materials shall conform to the following requirements:

Parameter

Color	Black
Pourability @ 400F (PTM1)*	1000-1400 gm
Stability @ 158F (PTM2)	.6in. max
Flexibility @ Low Temperature (PTM3)	Pass @ -20F
Adhesion @77F (PTM4)	15psi min.
Specific Gravity (ASTM D792)	1.35max.
Skid Resistance, BPN (ASTM E303)	40 min.
Minimum Application Temperature	375°F
Maximum Application Temperature	410°F

The density of the mastic with aggregate weight per gallon is 15.5 lbs/gal at 60°F.

EQUIPMENT

Equipment Equipment used in the performance of the work shall be subject to the Departments or authorized representative's approval and shall be maintained in a satisfactory working condition at all times.

(a) Air Compressor: Air compressors shall be portable and capable of furnishing not less than 4 yd³ of air per minute at not less than 90 psi pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water.

(b) Sweeper: Manually operated, gas powered air-broom or self-propelled sweeper designed especially for use in cleaning pavements shall be used to remove debris, dirt, and dust from the cracks.

(c) Hot Air Lance: Should operate with propane and compressed air in combination at 2000°F - 3000°F, exit air heated at 1000 ft/s. The lance should draw propane from no smaller than a 100 lb tank using separate hoses for propane and air draw. The hoses shall be wrapped together with reflectorized wrap to keep them together and to protect workers in low light situations.

(d) Hand Tools: Shall consist of Boxed or V-shaped squeegee, brooms, shovels, metal bars with chisel shaped ends, and any other tools which may be satisfactorily used to accomplish this work.

(e) Melting Kettle: The unit used to heat asphaltic mastics shall be a double boiler unit equipped with continuous horizontal full sweep agitation and have separate thermostatic control devices that will automatically regulate hot oil and material temperature. Separate digital readouts shall display the temperatures of the hot oil and material. The kettle shall be equipped with mixing paddles, blending augers, or other satisfactory means of agitating, mixing, and blending the aggregates and mastic together. The kettle must be equipped with thermostatic control calibrated between 200°F and 550°F.

An application wand may be required for the work type, and shall apply a controlled flow of material via an insulated or heated hose. The nozzle shall distribute the material as called for in this specification. A pressure regulator shall be provided to regulate pressure at the nozzle. A bypass line into the holding tank is required for use when the nozzle is shut off.

CONSTRUCTION REQUIREMENTS

Weather Asphaltic mastics shall not be applied on a wet or damp surface, or when the atmospheric temperature is below 40°F in a shaded area at the job site, or when weather conditions are otherwise unfavorable to proper crack repair procedures.

Preparation All reservoirs shall be prepared to receive the asphaltic mastic material. All cracks must be cleaned of debris, dried and heated to ensure optimal bonding of the sealant material to the existing pavement and crack edges.

Reservoirs shall be thoroughly cleaned by use of compressed air, hand tools and brooms as needed, and dried by use of a hot air lance. The area shall be free of any moisture, pavement debris, dirt, dust, moisture, petroleum or solvents that might contaminate the mastic materials, or reduce the bond of the joint system to the substrate or vertical faces. Any loose or broken materials will be removed from the repair area before placing asphaltic mastic materials.

Installation Asphaltic mastic materials shall be installed in accordance with manufacturer's latest instructions and this specification.

Asphalt pavement layers shall be removed to a 24 inch width centered over the previously installed APJ location, visible bridge joint, or as otherwise described in the contract. The asphalt pavement shall be sawcut or milled to the required surface layer depth, but not to a depth that will damage the underlying existing APJ material or HMA layer. The pavement layer shall be removed in a manner that will not damage any existing APJ material or underlying HMA layer.

Interlayers, fabrics, or headers may be used as required to form an installation reservoir and protect the existing APJ channel from damage. Vertical surfaces of the asphalt pavement layers shall be trimmed as needed to provide a straight, uniform width reservoir and shall be cleaned to remove all water, dust, or other contaminants.

All reservoirs shall be flush filled with pre-blended mastic with minimal overband in the same workday as directed by the Resident or authorized representative. The mastic material shall be poured into the repair area and worked using boxed or v-shaped squeegees, tools, lutes or heated irons. Care should be taken not to over work the material and cause unequal dispersion of the aggregate within the repair. The material may be applied in multiple lifts to accommodate material shrinkage or flow during cooling.

Mastics shall be applied in one or more layers to prepared areas directly from the melting kettle chute, wand or other conveyance method filled from the kettle. If bucketed, material cooling during transfer must be minimized.

All asphaltic mastic materials shall be heated to between 380°F and 410°F and thoroughly agitated prior to application. A non-contact infrared thermometer shall be used periodically to monitor the temperature of the material as it exits the kettle. Material may not be used if it is heated beyond the safe heating temperature of 410°F, exceeds the recommended pot life, or is reheated more than one time. Mastics may be applied to prepared areas when the material has been heated to the lower end of the temperature range to minimize material flow and cooling time.

After the material has been applied to the areas, indirect heating by torch or hot air lance can be used to heat the edges and ensure a watertight seal. Do not burn, scorch or ignite the mastic or adjoining pavement when heating.

Traffic will not be allowed on the filled area for one ½ hour, or until the material has cooled enough to support traffic, divots do not occur, and tracking is minimal. Vehicular traffic may pass over finished joints two-hours after completion.

Quality of Work Excess mastic shall be removed from the pavement by approved methods and discarded. Any work determined to be below normal acceptable standards will not be accepted, and will be corrected and / or replaced as directed by the Resident or authorized representative.

Method of Measurement Mastic for Asphaltic Plug Joint Replacement will be measured by the linear foot along the top surface of the installation to the required limits. Preparation of surfaces for the proposed joint system including cutting, grinding, trimming, drying and cleaning will not be measured separately for payment, but shall be incidental to the Asphaltic Plug Joint Replacement.

Basis of Payment Mastic for Asphaltic Plug Joint Replacement will be paid for at the Contract unit price per linear foot which will be full compensation for furnishing the mastic material, heating, placing and finishing the mastic materials, as well as cleaning and preparing the areas for installation of the mastic, including the use of compressed air, hot air lance, grinding, trimming or saw cutting, any sweeping required to remove contaminants from and drying the areas to be treated.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
424.385 Mastic for Asphaltic Plug Joint Replacement , 0.75 – 1.25 inch	Linear Foot
424.386 Mastic for Asphaltic Plug Joint Replacement , >1.25 inch	Linear Foot