



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

JOHN ELIAS BALDACCI  
GOVERNOR

DAVID A. COLE  
COMMISSIONER

April XX, 2008  
Subject: **Brunswick – Gardiner I-295**  
Project No. IM-1511(400) E  
Pin No. 015114.00  
**Amendment No. 1**

Dear Sir/Ms:

Please make the follow change to the Plans:

**REMOVE** Sheet 5 of 45 (GUARDRAIL NOTES) and **REPLACE** with the attached NEW Sheet 5 of 45 (GUARDRAIL NOTES).

On Sheet 28 of 45 the plans, under MATERIALS, change Class “A” concrete to Class “LP”

- On Sheet 31 of 45 **add note 6**
- On Sheet 34 of 45 **add note 6**
- On Sheet 35 of 45 **add note 6**
- On Sheet 38 of 45 **add note 6 and note 4**
- On Sheet 41 of 45 **add note 6**
- On Sheet 42 of 45 **add note 6**
- On Sheet 45 of 45 **add note 6**

**Note 4.** The bridge rail post bolt anchorage system shall be from MaineDOT's Qualified Products List or an approved equal. The Contractor shall submit the proposed system to the Resident for review prior to use. The bolt anchorages shall be installed in strict accordance with the selected manufacturer's recommendations. The anchor bolts shall have an ultimate tension capacity of 33 kips. Payment for bridge rail post relocation and associated materials, equipment, labor and incidentals necessary to complete the work will be considered incidental to Item No. 526.34, Permanent Concrete Transition Barrier.

**Note 6.** For each Permanent Concrete Bridge Transition the Contractor shall provide a Pre-Cast Concrete Transition Curb, per standard detail 526.22. Payment for the Pre-Cast Concrete Transition Curb shall be considered incidental pay item 526.34.

Please make the following change to the Bid Book:



PRINTED ON RECYCLED PAPER

In the NOTICE TO CONTRACTORS, in the first paragraph, second sentence, change "Bids will be accepted.....Highway Construction and Paving Projects." to read as follows "Bids will be accepted from contractors prequalified by the Department of Transportation for Highway Construction and Paving Projects that attended the mandatory pre-bid meeting."

In the NOTICE TO CONTRACTORS, in the first paragraph, remove the third sentence that reads "All other Bids may be rejected." Please make this change in pen & ink.

Make the following changes to the "SCHEDULE OF ITEMS":

Page 5, Item 205.512 change the Quantity to **9000 SY**

Page 10, Item 606.3581 change the Quantity to **7125 LF**

Page 10, Item 606.70 Change the Quantity to **6.0 EA**

Please make these changes in pen & ink.

SPECIAL PROVISION, SECTION 304 & 703, DENSE GRADED AGGREGATES, page 65 of the Bid Book. Change the last sentence to read "Payment to be considered incidental to item **304.13**". Please make this change in pen & ink.

**ADD** the attached "SPECIAL PROVISIONS, SECTION 108 PAYMENT (Price adjustments for performance graded asphalt) (1 page) after page 54 in the Bid Book.

**ADD** the attached "SPECIAL PROVISIONS, SECTION 108 PAYMENT (Diesel fuel adjustment) (1 page) after page 54 in the Bid Book.

**REMOVE** "SPECIAL PROVISION, DIVISION 401, HOT MIX ASPHALT PAVEMENT (Asphalt Rich Base Mixture) page 91 and 92 (dated March 26, 2008) of the Bid Book and **REPLACE** with the attached NEW "SPECIAL PROVISION, DIVISION 401, HOT MIX ASPHALT PAVEMENT (Asphalt Rich Base Mixture) dated April 15, 2008 (2 pages).

**REMOVE** "SECTION 401, HOT MIX ASPHALT PAVEMENT, High Performance Rubberized Asphalt Pavement", pages 94-104 (dated March 26, 2008) and **REPLACE** with the attached NEW "SECTION 401, HOT MIX ASPHALT PAVEMENT, High Performance Rubberized Asphalt Pavement" dated April 16, 2008 (11 pages).

**REMOVE** "SPECIAL PROVISION, SECTION 403, HOT MIX ASPHALT OVERLAY" page 107 in the Bid Book, dated March 26, 2008 and **REPLACE** with the attached NEW "SPECIAL PROVISION, SECTION 403, HOT MIX ASPHALT OVERLAY" dated April 16, 2008 (1 page). (4inch overlay sections)

**REMOVE** "SPECIAL PROVISION, SECTION 403, HOT MIX ASPHALT OVERLAY" page 108 & 109 in the Bid Book, dated March 26, 2008 and **REPLACE** with the attached NEW "SPECIAL PROVISION, SECTION 403, HOT MIX ASPHALT OVERLAY" dated April 16, 2008 (2 pages). (8 inch overlay sections)

**REMOVE** "SPECIAL PROVISION, SECTION 403, HOT MIX ASPHALT OVERLAY" page 112 in the Bid Book, dated March 26, 2008 (1 page) and **REPLACE** with the attached NEW "SPECIAL PROVISION, SECTION 403, HOT MIX ASPHALT OVERLAY" dated April 16, 2008 (2 pages). (Bridge Decks)

**ADD** the attached "SPECIAL PROVISION, SECTION 502, STRUCTURAL CONCRETE, (Concrete Wearing Surface) (2 pages) dated April 16, 2008, after page 127 of the Bid Book.

The following questions have been received:

**Question:** Special Provision 107, Note 4 indicates that station 511+00 to 712+50 must be completed by June 15, 2008. Does this include the bridge work?

**Response:** We recognize that this work will require an extremely accelerated effort 24/7 and the use of high early strength materials.

**Question:** Is the concrete for the wearing surface (502.29) at the Cathance River Bridge Class "A" as stated on page 28 of the plan set or Class "LP" as stated on page 123 of the specifications. We think it would very difficult to finish a bridge deck with LP concrete.

**Response:** The Cathance River Bridge wearing surface will be Class LP concrete.

**Question:** Item 606.3581 modify guardrail, is the post spacing already 6.3 or is it 12'6"?

**Response:** The post spacing is 6' 3".

**Question:** Please tell us the locations for the guardrail to be modified to type 3D?

**Response:** These locations have been added to the Guardrail Notes of the plan set. The existing Sheet 5 will be replaced by bid amendment.

**Question:** Item 606.792 Median Terminal System, what specific end system do you want?

**Response:** A flared median system that is 350 compliant.

**Question:** Where are the 507,000LF of temporary pavement markings going to be placed? It is our understanding that 4 miles of roadway will need temporary PMs on each pavement course, and this would account for less than 175,000 LF, are Temp PMs going to be required on the closed section of I-295 also?

**Response:** The quantity accounts for temporary striping in the closed section on the surface pavement and also on the ramps.

**Question:** Do subcontractors need to be pre-qualified to bid?

**Response:** No.

**Question:** When crack sealing the 10' shoulder from station 511+00 to 534+00; what is the curing time before placing HMA over it?

**Response:** 7 days cure time will be required for crack sealing before pavement is placed on all areas that are crack sealed.

**Question:** According to the book, there is not a special provision 108 that states that there is any escalation for several of the mix types including 403.2081, 403.2102, 403.2131, and 403.325. Is this correct? If not, what is the base price for each mix and how will it be monitored?

**Response:** Please see the new Special Provision 108 in the bid amendment.

**Question:** Is there going to be any escalation set for the price of diesel, if so, what will the base price be set at and how will it be monitored?

**Response:** Yes, Please see the new Special Provision 108 in the bid amendment.

**Question:** In special provision, section 403 for stations 534+00 to 729+50 it states to place 2-2" lift for the 10' shoulder. For compaction purposes could the shoulder be paved in a 2.5" and 1.5" lift instead.

**Response:** Yes, please see the attached Special Provision 403 for this area.

**Question:** In special provisions, section 403 for the stations 1661+00 to 729+50, is note 1 correct for the base layer 403.213, not allowing rap and requiring PG 70-28 grade?

**Response:** No, please see the attached Special Provision 403 for this area.

**Question:** Can all bridge decks be paved at night?

**Response:** Yes

**Question:** Can the Cathance River Bridge slab be placed in 2 sections rather than 1 section?

**Response:** No

**Question:** Is GPS acceptable for horizontal control in locating and reestablishing center line or will staking be necessary for the entire length of the project? If so, what will be the tolerances?

**Response:** Yes

**Question:** Can the lower section from station 712+50 to 511+00 be paved at night after the June 15<sup>th</sup> deadline and not be charged for liquidated damages?

**Response:** No

**Question:** Section 403, regarding bridge decks, indicates that the Maine Central RR bridge is to be paved with 12.5mm, item 403.2131, meeting the gradation requirements of a "fine graded" 9.5mm.

**Response:** Please see the attached Special Provision 403 for this area.

**Question:** Will an MTV be required on bridge decks?

**Response:** No

**Question:** What is the Departments intent regarding ownership/transport of the HMA millings?

**Response:** Please see General Note 1, Sheet 6 of the plan set.

**Question:** The specification for the High Performance Rubberized Asphalt Pavement is quite similar to that of Rosphalt. Are there other products/suppliers available that meet your expectations?

**Response:** Yes

**Question:** 401.021 states that the modifier will be packaged in 10.1 Kg (22.5 lb) meltable polyethylene bags, with a minimum of 45 pounds of modifier. Should that say a minimum of 45 pounds of modifier per ton of HMA? If so, does that mean the design criteria of 3 – 5% rubber additive in 401.03 would not apply if bagged rubber modifiers are used?

**Response:** See the attached amended 401 Special Provision

**Question:** 401.11: Is there a specification for the impermeable hot-mix waterproofing asphalt course? What type edge sealer are you looking for?

**Response:** Please see the attached amended 401 Special Provision. The edge sealer used will be what is recommended by the manufacturer.

**Question:** Tack Coat application in section 403 is contradictory to 401.15 and 401.17. Which is correct?

**Response:** Please see note 23 of Special Provision 403 for Bridge Decks.

**Question:** According to Special Provision 403, the Maine Central Railroad Bridge is listed twice, is this incorrect, if so, then which description is meant for the Androscoggin River Bridge?

**Response:** Yes, please see the attached Special Provision 403 for bridge decks.

**Question:** The Underdrain and French drains call for a layer of HMA, would cold patch be considered an alternative for the HMA?

**Response:** Yes

**Question:** We would like to have specifications for item 527.34, Work Zone Crash Cushions.

**Response:** Please see Standard Specification Section 527 and Standard Detail 527(01). Both are available online at:[http://www.maine.gov/mdot/contractor-consultant-information/contractor\\_cons.php](http://www.maine.gov/mdot/contractor-consultant-information/contractor_cons.php)

**Question:** Special Provision #304 and 703, last sentence states: "If dense graded aggregate is used, the top two inches in the subbase shall meet the requirements of 411.12 Crushed Stone Surface" ..... Whereas the roadway will not have traffic on it until after it is paved – does this sentence still pertain to the dense graded aggregate (if used) ?

**Response:** Yes

**Question:** It is also stated that the payment shall be incidental to item 304.10. There is not an item 304.10 in this bid. Please clarify.

**Response:** See the above pen and ink change.

Consider these changes and information prior to submitting your bid on **April 23, 2008**.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Bickford". The signature is written in a cursive style with a large initial "S".

Scott Bickford  
Contracts & Specifications Engineer





**SPECIAL PROVISIONS**  
**SECTION 108 PAYMENT**

(PRICE ADJUSTMENTS FOR PERFORMANCE GRADED ASPHALT BINDER)

Price Adjustment for Hot Mix Asphalt: Items 403.208, 403.2081, 403.2102, 403.211, 403.213, 403.2131, and 403.2132 shall have a price adjustment for the performance graded binder.

Price adjustments will be based on the variance in costs for the performance graded binder component of the hot mix asphalt. They will be determined as follows:

The actual quantity of hot mix asphalt used will be multiplied by the appropriate asphalt content percentage listed below, times the difference in price in excess of 5 percent between the base price and the period price of asphalt cement. Adjustments will be made upward or downward, as prices increase or decrease.

Item 403.208	5.7%
Item 403.2081	5.7%
Item 403.2102	6.5%
Item 403.213	5.7%
Item 403.2131	5.7%
Item 403.2132	6.0%
Item 403.211	6.3%

Hot Mix Asphalt: The quantity of hot mix asphalt will be determined from the quantity shown on the progress estimate for each pay period.

Base Price: The base price of performance graded binder to be used is the price per standard ton current with the **bid opening date**. This price is determined by using the average N.E. Barge Price, FOB, as listed in the Asphalt Weekly Monitor.

Period Price: The period price of performance graded binder will be determined by the Department by using the average N.E. Barge Price, FOB, listed in the Asphalt Weekly Monitor current with the pay period ending date of the progress estimate.

**SPECIAL PROVISIONS**  
**SECTION 108 PAYMENT**  
**(Diesel fuel Adjustment)**

108.4.2 Price Adjustment for Diesel Fuel: A price adjustment for diesel fuel will be made for all 403 items.

Price adjustments will be based on the variance in costs for diesel fuel. They will be determined as follows:

The quantity of hot mix asphalt actually used, in tons, for each pay item will be multiplied by 2.75 times the difference in price in excess of 5 percent between the base price and the period price of diesel fuel. Adjustments will be made upward or downward, as prices increase or decrease.

Hot Mix Asphalt: The quantity of hot mix asphalt will be determined from the quantity shown on the progress estimate for each pay period.

Base Price: The base price of diesel fuel to be used is the price per gallon current with the **bid opening date**. This price is determined by using the weekly retail diesel price for the New England area, as listed on the Energy Information Administration's webpage.

Period Price: The period price of diesel fuel will be determined by the Department by using the weekly retail diesel price for the New England area, as listed on the Energy Information Administration's webpage current with the pay period ending date of the progress estimate.

**SPECIAL PROVISION**  
**DIVISION 401**  
**HOT MIX ASPHALT PAVEMENTS**  
**(Asphalt Rich Base Mixture)**

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 Asphalt Rich Base Hot Mix Asphalt (ARBHMA) on an approved base in accordance with the contract documents and in reasonably close conformity with the lines, grades, thickness, and typical cross sections shown on the plans or established by the Resident. 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 Maine DOT Policies and Procedures for HMA Sampling and Testing.

**MATERIALS**

401.02 Materials This section has been modified with the following revision:

The Asphalt Rich Base HMA shall be designed for an Air Void Target of 2.5 % at 50 Gyration.

401.03 Composition of Mixtures This section has been modified with the following revision:

The Asphalt Rich Base HMA shall meet the following design criteria.

**DESIGN CRITERIA**

Gradation	PGAB Targets
9.5mm mixture	7.0 %
12.5mm mixture	6.5 %
19.0mm mixture	6.0 %

The mixture shall meet the gradation requirements of a current MaineDOT approved 9.5mm, 12.5mm, or 19.0mm 50 Gyration JMF, as required by the contract, and the minimum PGAB content noted above. The Acceptance Limit targets for gradation will be as specified on the JMF.

401.201 Method A Lot Size will be the entire production per JMF for the project, or if so agreed at the Pre-paving Conference, equal lots of up to 4050 Mg [4500 tons], with unanticipated over-runs of up to 1350 Mg [1500 ton] rolled into the last lot. Sublot sizes shall be 675 Mg [750 ton] for mixture properties, 450 Mg [500 ton] for base or binder densities and 225 Mg [250 ton] for surface densities. The minimum number of sublots for mixture properties shall be 4, and the minimum number of sublots for density shall be five.

TABLE 5: METHOD A 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%
Air Voids	<b>2.5%</b> +/-1.5%
Fines to Effective Binder	0.4 to 1.2
Voids in the Mineral Aggregate	LSL Only from Table 1
Voids Filled with Binder	Table 1 values plus a <b>8%</b> production tolerance for USL only
% TMD (In place density)	<b>96.0%</b> +/- 2.5%

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
403.2102 – 9.5mm Asphalt Rich Base HMA	Ton
403.2132 – 12.5mm Asphalt Rich Base HMA	Ton
403.2072 – 19.0mm Asphalt Rich Base HMA	Ton

SECTION 401  
HOT MIX ASPHALT PAVEMENT  
High Performance Rubberized Asphalt Pavement

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

401.01 Description. The Contractor shall furnish and place one or more courses of High Performance Rubberized Asphalt Pavement surface, or 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 by the Resident.

This Special Provision requires the Contractor to design, produce, and install a High Performance Rubberized Asphalt Pavement course system that will serve as a waterproofing layer, as well as a base course / wearing course over the bridge deck surfaces.

The Department will accept this work under Quality Assurance provisions, in accordance with these specifications and the requirements of Section 106 - Quality.

Contractor Option – The contractor shall utilize one of the following materials and processes to design and produce a High Performance Rubberized Asphalt Pavement.

Rubber Modifier Additive 401.021

**Option A** – The High Performance Rubberized Asphalt Pavement shall be modified with a polymer modifier packaged in 10.1kg (22.5 pound) units in meltable polyethylene bags, with a minimum of 45 pounds of polymer modifier per ton of mix. The meltable bags shall be introduced into the pug mill without opening, and will melt to disperse the additive through the normal mixing action of the pug mill. The exact rubber modifier content shall be determined by the mix design submitted by the Contractor and modifier supplier based on laboratory testing. The final blend will be in accordance with the rubber modifier manufacturer requirements and approved by the Engineer. The modifier shall be a concentrated thermoplastic virgin polymeric material that is waterproof, has a melting point of 250 degrees Fahrenheit and an embrittlement point of -34 degrees Fahrenheit.

Or

**Option B** - The granulated rubber shall be vulcanized rubber product from the ambient temperature processing of scrap, pneumatic tires. The granulated rubber shall meet the following gradations:

<u>Sieve Size</u>	<u>% Passing</u>
2.00 mm, (#10)	100
1.18 mm, (#16)	90 – 100
0.60 mm, (#30)	25 – 100
0.18 mm, (#80)	0 - 20

The use of rubber of multiple types from multiple sources is acceptable provided that the overall blend of rubber meets the gradation requirements. The length of the individual rubber particles shall not exceed 3 mm, (1/8"). The rubber shall be accepted by certification from the rubber supplier.

The percent of rubber shall be a minimum of 15% by weight of total asphalt-rubber mixture. The exact granulated rubber content shall be determined by the mix design submitted by the Contractor and granulated rubber supplier based on laboratory testing.

The temperature of the asphalt shall be between 177°C and 218°C, (350°F and 425°F), at the time of addition of the granulated reclaimed rubber. The asphalt and rubber shall be combined and mixed together in a blender unit and reacted for a minimum of one hour. The temperature of the asphalt-rubber mixture shall be above 163°C, (325°F), during the reaction period.

A mechanical blender for proper proportioning and thorough mixing of the asphalt-cement and granulated rubber is required. This unit shall be equipped with: an asphalt totaling meter (liters or gallons); a flow rate meter (liters per minute or gallons per minute); a positive displacement auger to feed the rubber properly to mixing chamber at the specified rate; and a static motionless mixer. Blender will have a separate asphalt cement feed pump and finished product pump to maximize production. Blender shall be capable of providing 100% proportional mix at any given time during the blending cycle and documentation from the manufacturer shall be submitted to the Maine DOT.

401.03 Composition of Mixtures; revised as follows:

The Contractor shall compose the High Performance Rubberized Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), mineral filler if required and crumb rubber concentrate. The final job mix design will be according to the crumb rubber modifier manufacturer's requirements and approved by the Department. The High Performance Rubberized Asphalt Pavement shall be designed and tested according to AASHTO T312 and the design criteria listed below. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF).

Design Criteria

PGAB Content	6.5 – 10.0
Air Void	2.0 +/- 1.5%
Rubber Additive	As recommended by the Manufacturer.

GRADATION REQUIREMENTS

<u>Option A</u>		<u>Option B</u>
Sieve Size	Percent Passing	Percent Passing
19.0mm [3/4 inch]	100	100
12.5 mm [1/2 inch]	100	95-100
9.5 mm [3/8 inch]	75-100	78-92
4.75 mm [No. 4]	55-85	28-42
2.36 mm [No. 8]	48-65	15-25
1.18 mm [No. 16]	28-40	-
0.600 mm [No. 30]	15-25	5-15
0.300 mm [No. 50]	10-18	-
0.075 mm [No. 200]	2-6.0	2-6.0

The construction of a test strip will be required prior to production of the High Performance Rubberized Asphalt Pavement.

401.031 Test Strip A test strip shall be constructed prior to the placement of High Performance Rubberized Asphalt Pavement on the bridge decks. The test strip will be constructed offsite to establish the proper production, placement, and compaction procedures for this contract prior to full plant production.

The test strip is to be constructed off site, and shall consist of a 20 ton minimum quantity. The Contractor shall notify the Department within 48 hours prior to their intent to construct the strip. The Contractor shall provide the Department with two mix samples from the test strip produced material for mix verification. The samples shall be tested for asphalt content and gradation against the JMF and other contract requirements before further production. A minimum of three cores will be sampled from the test strip, and the average density of the three is required to be above the LSL of 93.0 %. If the average density of the three cores is less than the LSL of 93.0, the test strip will be rejected and a new test strip will be required before further production. There will be no separate payment for material placed in a offsite test strip, but shall be considered incidental to the 403.325 High Performance Rubberized Asphalt Pavement , 9.5 mm item.

Modified bituminous concrete surface course production will not resume unless the Department is confident material meeting the contract requirements can be produced.

401.04 Temperature Requirements This section has been modified with the addition of the following:

After the JMF is established, the temperatures of the mixture shall conform to the following tolerances:

- At the Plant – Additive manufactures recommended mix temp. ± 10°C [20°F]
- At the Paver – Additive manufactures recommended compaction temp. ± 10°C [20°F]

The JMF, and the mix subsequently produced, shall meet the requirements of the design criteria and Section 703.07. Under no circumstances will the Department accept HMA (unless the binder has been modified) that has been heated to temperatures exceeding the manufactures recommendations. The Department will have a full time inspector in the plant during all production of the High Performance Rubberized Asphalt Pavement. The Contractor shall notify the Department within 48 hours prior to producing the High Performance Rubberized Asphalt Pavement.

401.05 Performance Graded Asphalt Binder This section has been modified with the addition of the following:

Unless otherwise noted in Special Provision 403 - Hot Bituminous Pavement, the PGAB shall be 64-28, or 70-28, The use of Recycled Asphalt Pavement (RAP) will not be permitted. The PGAB shall meet the applicable requirements of AASHTO M320 - Standard Specification for PGAB. The Contractor shall provide the Department with an approved copy of the Quality Control Plan for PGAB in accordance with AASHTO R 26-01 Certifying Suppliers of PGAB.

401.08 Hauling Equipment This section has been modified with the addition of the following:

All truck dump bodies shall have a cover of canvas or other water repellent material capable of heat retention, which completely covers the entire mixture. The cover shall be securely fastened on the loaded truck except when unloading.

401.10 Rollers This section has been modified with the addition of the following:

Full compaction of the High Performance Rubberized Asphalt Pavement is required and shall be achieved by utilizing steel double drum drive rollers used in the static mode. One roller will be required for break down, and one for finish rolling. A third roller, the same as the two being utilized to do the work, will be on the job to cover any breakdowns. The rollers' water system must be in reliable working order, and apply even water coverage to the asphalt mat. High Performance Rubberized Asphalt Pavement may be temperatures are higher than conventional mixes and require more water to keep the material from sticking to the steel rolls. Pneumatic rollers are not required on the High Performance Rubberized Asphalt Pavement.

The contractor may use other compaction means in areas where the specified roller train can't access. The use of an asphalt vibratory whacker may be allowed as long as it is in good working order and the watering system works reliably. Breakdown rolling will be done immediately behind the spreading operation. The finish roller will follow breakdown and used to remove imperfections in the mat. The rolling pattern will be straight with the paving direction, with minimal turning. The Department will work with the Contractor to control the rolling pattern and the frequency of passes in required. Any changes to the paving and rolling procedures must be approved by the Resident and included in a modified QCP.

If methods of compaction other than the conventional the rolling train is required, additional manpower shall be provided by the Contractor to ensure that the areas not accessible by rollers



is compacted before the material cools below breakdown compaction temperatures. Areas found to be deficient due to lack of observed compactive effort, or tested to be below the minimum density requirement, will be corrected in accordance with this Special Provision's Section, 401.20 – Acceptance: Correction of Deficiencies.

401.11 Preparation of Existing Surface This section has been modified with the addition of the following:

(Deck Preparation) Following any required deck patching and prior to placement of the High Performance Rubberized Asphalt Pavement, the concrete deck shall be prepared as follows:

The work under this Item shall consist of cleaning the surface of the concrete deck to remove any milled material or debris which would reduce or prevent bonding, furnishing and applying Edge Sealer and Tack Coat as recommended by the manufacturer, furnishing and placing on the cleaned and tack coated bridge deck, a hot-mix asphalt waterproofing course to the lines, grades, width and depth as indicated on the plans, and saw cutting and filling any construction joints with rubberized joint sealer, all in accordance with the specifications and as directed by the Engineer.

High Performance Rubberized Asphalt Pavement shall not be placed until the moisture content of the surface it is to be placed on is at or below 6%. The moisture content will be checked with a "Sovereign Potable Electronic Moisture master" meter or an approved equal. The moisture content shall be checked in a minimum of one location in each span. High Performance Rubberized Asphalt Pavement shall not be placed until the new concrete has been in place a minimum of 7 days. The entire deck shall be shot blasted to achieve an anchor profile which is clean of foreign materials, such as oil or grease, and any sharp protrusions removed and free of laitance. The Contractor shall have a copy of Technical Guideline No. 03732 (Guideline for Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays) published by the International Concrete Repair Institute. The final concrete surface profile shall range between a CSP 1 and CSP 5 as defined by this guideline. Areas where rapid setting patching materials have been placed shall be cured for a minimum of 72 hours or longer when recommended by the product manufacturer prior to applying the High Performance Rubberized Asphalt Pavement. All surfaces shall then be swept and cleaned by brooms and compressed air as directed by the Resident before the modified bituminous concrete surface course is placed.

The deck must be clean and free of any loose debris and moisture. A 100-150 mm (4-6 inch) application of Edge Sealer specified by the manufacturer, and at a rate specified by the manufacturer, to be used to seal all edges of the planned day's placement of the High Performance Rubberized Asphalt Pavement. Particular attention shall be given to vertical edges of headers, drains, scuppers, expansion joints or wherever compaction may be difficult to achieve. Where vertical edges exist, apply Edge Sealer 100-150 mm (4-6 inch) out from curb scuppers, joints, etc., on the horizontal and up to the top of the proposed finished surface grade. When practical, this should be done the day before or as early as possible to maximize drying time.

The Tack Coat shall be applied to the existing horizontal concrete bridge deck surfaces in a uniform coating at the rate specified by the manufacturer.

Butt joints made during paving operations must have Edge Sealer applied to the butt surface before the joining asphalt lift. Construction joints shall be saw cut to a 12.7 mm (½ inch) width and filled to within 3 mm (1/8 inch) of the surface with the rubberized asphalt joint sealer previously specified. Extreme care shall be taken so as not to overfill these sawed joints since excess joint sealer material will cause ripples in the surface course necessitating corrective work by the Contractor.

Edge Sealer shall be applied to all terminations of the paved asphalt, including curb lines and deck joints, as soon as possible after the pavement has cooled.

The Contractor shall thoroughly clean the surface of all objectionable material upon which modified bituminous concrete surface course is to be placed.

401.15 Spreading and Finishing This section has been modified with the addition of the following:

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impracticable, the Contractor shall spread, rake, and lute the High Performance Rubberized Asphalt Pavement with hand tools to provide the required compacted thickness.

On roads opened to two-way traffic, the Contractor shall place each course over the full width of the traveled way section being paved that day, unless otherwise noted by the Department in Section 403 - Hot Bituminous Pavement.

All pavements shall be placed on surfaces that have a Tack Coat applied, as specified by the manufacturer, and allowed to cure for a minimum period of 40 minutes. An approved Tack Coat shall be applied to the existing concrete deck, and to the first layer of pavement in accordance with the manufacturer's recommendations if required. The film thickness of the Tack Coat shall be 0.04 to 0.15 gallons per square yard, or as otherwise specified by the manufacturer. The Tack Coat shall be allowed to break or dry prior to placement of the modified bituminous concrete surface course. A Tack Coat is not required between the pavement layers if the base and surface layers of pavement are placed the same working day, or unless the base layer surface becomes contaminated with materials that would reduce bond between layers. The material shall be placed at temperatures specified by the manufacturer.

401.16 Compaction This section has been modified with the addition of the following:

Immediately after the High Performance Rubberized Asphalt Pavement has been spread, struck off, and any surface irregularities adjusted, the Contractor shall thoroughly and uniformly compact the modified bituminous concrete surface course by rolling.

The Contractor shall roll the surface when the mixture is in the proper condition and when the rolling does not cause undue displacement, cracking, or shoving. The Contractor shall prevent

adhesion of the High Performance Rubberized Asphalt Pavement to the rollers or vibrating compactors without the use of fuel oil or other petroleum based release agents.

The Contractor shall immediately correct any displacement occurring as a result of the reversing of the direction of a roller or from other causes to the satisfaction of the Department. Any operation that results in breakdown of the aggregate shall be discontinued. Any new pavement that shows obvious cracking, checking, or displacement shall be removed and replaced for the full lane width as directed by the Resident at no cost to the Department.

Along forms, curbs, headers, walls, and other places not accessible to the rollers, the Contractor shall thoroughly compact the High Performance Rubberized Asphalt Pavement with mechanical vibrating compactors. The Contractor shall only use hand tamping in areas inaccessible to all other compaction equipment. On depressed areas, the Contractor may use a trench roller or cleated compression strips under a roller to transmit compression to the depressed area. If methods of compaction other than the conventional the rolling train is required, additional manpower shall be provided by the Contractor to ensure that the areas not accessible by rollers is compacted before the material cools below breakdown compaction temperatures. Areas found to be deficient due to lack of observed compactive effort, or tested to be below the minimum density requirement, will be corrected in accordance with this Special Provision's Section, 401.20 – Acceptance: Correction of Deficiencies.

Any High Performance Rubberized Asphalt Pavement that becomes unacceptable due to cooling, cracking, checking, segregation or deformation as a result of an interruption in mix delivery shall be removed and replaced, with material that meets contract specifications at no cost to the Department.

401.17 Joints This section has been modified with the addition of the following:

The Contractor shall construct wearing course transverse joints in such a manner that minimum tolerances shown in Section 401.101 - Surface Tolerances are met when measured with a straightedge.

The paver shall always maintain a uniform head of High Performance Rubberized Asphalt Pavement during the joint construction. The High Performance Rubberized Asphalt Pavement shall be free of segregation and meet temperature requirements. Transverse joints of the wearing course shall be straight and neatly trimmed. The Contractor may form a vertical face exposing the full depth of the course by inserting a header, by breaking the bond with the underlying course, or by cutting back with hand tools.

Longitudinal joints shall be constructed in a manner that will best ensure joint integrity. Methods or activities that prove detrimental to the construction of sound longitudinal joints will be discontinued.

The edges of the pavement shall be sealed by applying Edge Sealer on all vertical faces which will be in contact with the High Performance Rubberized Asphalt Pavement. The material shall be applied so the entire edge of the layer, and a few inches onto the deck surface, is coated.

A Tack Coat shall be applied to the existing concrete deck, and the first layer of pavement in accordance with the manufacturer's recommendations. The film thickness of the tack coat shall be 0.04 to 0.15 gallons per square yard, or as otherwise specified by the manufacturer. The Tack Coat shall be allowed to break or dry prior to placement of the High Performance Rubberized Asphalt Pavement. A Tack Coat is not required between the pavement layers if the base and surface layers of pavement are placed the same working day, or unless the base layer surface becomes contaminated with materials that would reduce bond between layers.

The Contractor shall use an approved spray apparatus designed for covering a narrow surface. The Department may approve application by a brush for small surfaces, or in the event of a malfunction of the spray apparatus, but for a period of not more than one working day.

Where High Performance Rubberized Asphalt Pavement under this contract joins an existing pavement or when the Department-directs, the Contractor shall cut the existing pavement along a smooth line, producing a neat, even, vertical joint. The Department will not permit broken or raveled edges. The cost of all work necessary for the preparation of joints is incidental to related contract pay items.

The Contractor shall fill all holes in the pavement resulting from cutting cores acceptable mixture no later than the following working day. The Contractor shall carefully clean the holes and apply a coating of Edge sealer. On surface courses, cores shall not be cut except for Quality Assurance.

Contractor shall monitor plant production using running average of three control charts as specified in Section 106 - Quality. Control limits shall be as noted in Table 3 below.

The Resident may at any time, notwithstanding previous sampling and certification, notify and stop the Contractor, reject and require the Contractor to dispose of any batch of bituminous mix which is rendered unfit for use due to temperature, oxidation, contamination, segregation or incomplete coating of aggregate. Such rejection may be based on visual inspection alone.

401.20 Acceptance This section has been modified with the addition of the following:

Pavement Density The Department will High Performance Rubberized Asphalt Pavement density using core samples tested according to AASHTO T-166. The Department will randomly determine core locations. The Contractor shall cut 150 mm [6 in] diameter cores at no additional cost to the Department by the end of the working day following the day the pavement is placed, and immediately give them to the Department. The cores will be placed in a transport container provided by the Department and transported by the Contractor to the designated MDOT Lab as directed by the Department. Pre-testing of the cores will not be allowed. At the time of sampling, the Contractor and the Department shall mutually determine if a core is damaged. If it is determined that the core(s) is damaged, the Contractor shall cut new core(s) at the same offset and within 1 m [3 ft] of the initial sample. At the time the core is cut, the Contractor and the Department will mutually determine if saw cutting of the core is needed, and will mark the core at the point where sawing is needed. The core may be saw cut by the MaineDOT Lab, without disturbing the layer being tested to remove lower layers of Hot Mix

Asphalt Pavement, gravel, or RAP. No recuts are allowed at a test location after the core has been tested. Upon conclusion of each lot, density results shall be examined for statistical outliers as stated in Section 106.7.2.

401.203 Acceptance Testing This section has been modified with the addition of the following:

Lot Size will be the entire production per JMF for the project, or if so agreed at the Pre-paving Conference, equal lots of up to 4050 Mg [4500 tons], with unanticipated over-runs of up to 1350 Mg [1500 ton] rolled into the last lot. Sublot sizes shall be 675 Mg [750 ton] for mixture properties, 450 Mg [500 ton] for base or binder densities and 225 Mg [250 ton] for surface densities. The minimum number of sublots for mixture properties shall be 4, and the minimum number of sublots for density shall be five.

**TABLE 7: 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%
Air Voids	2.0% +/-1.5%
Fines to Effective Binder	N/A
Voids in the Mineral Aggregate	N/A
Voids Filled with Binder	N/A
% TMD (In place density)	96.0% +/- 2.5%

Correction of Deficiencies In the event of any portions of pavement fails to comply with specified quality requirements, the Contractor shall replace or repair deficient pavements as directed by the Resident. Corrections shall be made as work progresses and not reserved for a separate operation at some later date.

1. For thickness deficiencies, the only acceptable repair methods are removal and replacement, or placement of an overlay layer. Corrective work shall begin and end at the repair, and feather edging will not be permitted.
2. Where more than 6 mm (1/4 inch) above the required grade, correct deficiency by removal as necessary to comply with the specifications, except where an approved contour pattern satisfying riding quality and drainage as shown on the Contract Drawings has been established.
3. For deficiency in smoothness tolerance, correct any deficiency by means approved by the Resident and subject to all other provisions hereof. The area for correction of deficiencies in surface smoothness and surface grade tolerance shall be those areas, which fail to satisfy quality requirements. Existing pavement shall be removed as necessary to provide square joints for the full depth of the course.
4. For deficiency of in-place voids, remove and replace deficient pavement in accordance with all requirements specified herein. The area replaced for deficiency

of in-place voids shall be the total area paved with-in the deficient paving lot. Existing pavement shall be removed as necessary to provide square joints for the full depth of the course.

5. For deficiency involving a porous surface in the mat at longitudinal joints, or at construction joints, the surface shall be sealed with an asphalt filler/sealer material submitted to and approved by the Resident.

401.222 Pay Factor (PF) This section has been modified with the addition of the following:

The Department will use the following criteria for pay adjustment using the pay adjustment factors under Section 106.7 - Quality Level Analysis:

Density If the pay factor for Density falls below 0.80 all of the cores will be randomly recut by Sublot. A new pay factor will be calculated that combines all initial and retest results. If the resulting pay factor is below 0.80, the entire Lot shall be removed and replaced with material meeting the specifications at no additional cost to the Department, except that the Department may, when it appears that there is a distinct pattern of defective material, isolate any defective material by investigating each mix sample subplot and require removal of defective mix sample sublots only, leaving any acceptable material in place if it is found to be free of defective material. Pay factors equal to or greater than the reject level will be paid accordingly.

TABLE 9: TABLE OF GRADATION COMPOSITE "f" FACTORS  
(Methods A and B)

Constituent		"f" Factor			
		19 mm	12.5 mm	9.5 mm	4.75 mm
Gradation	25 mm	-	-	-	-
	19 mm	4	-	-	-
	12.5 mm		4	4	-
	9.50 mm				4
	2.36 mm	6	6	6	8
	1.18 mm				
	0.60 mm	2	2	2	2
	0.30 mm	2	2	2	2
	0.075 mm	6	6	6	8

For HMA evaluated under this specification, the Department will determine a pay factor using acceptance limits from Table 7: Acceptance Limits.

VMA, Air Voids, VFB and Fines to Effective Binder The Department will determine a pay factor (PF) using the applicable Acceptance Limits.

The following variables will be used for pay adjustment:

- PA = Pay Adjustment
- Q = Quantity represented by PF in Mg [ton]
- P = Contract price per Mg [ton]
- PF = Pay Factor

Pay Adjustment This section has been modified with the addition of the following:

The Department will use density, Performance Graded Asphalt Binder content, and the screen sizes listed in Table 7 for the type of HMA represented in the JMF. If any pay factor for any single property falls below 0.85, the Contractor shall shut down the HMA plant. If the PGAB content falls below 0.80, then the PGAB pay factor shall be 0.55. If the percent passing the nominal maximum sieve, the 2.36 mm sieve, the 0.300 mm sieve or the 0.075 mm sieve falls below 0.80, then the composite pay factor for the four sieves shall be 0.55.

Density: For mixes having a density requirement, the Department will determine a pay factor using Table 7: Acceptance Limits:

$$PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$$

PGAB Content and Gradation The Department will determine a pay factor using Table 7: Acceptance Limits. The Department will calculate the price adjustment for Mixture Properties as follows:

$$PA = (\% \text{ Passing Nom. Max PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 2.36 mm PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 0.30 mm PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 0.075 mm PF} - 1.0)(Q)(P) \times 0.10 + (\text{PGAB PF} - 1.0)(Q)(P) \times 0.25$$

VMA, Air Voids, VFB and Fines to Effective Binder The Department will determine a pay factor (PF) using Table 7: Acceptance Limits. The Department will not make price adjustments for VMA, Air Voids, VFB or Fines to Effective Binder, but will monitor them as shutdown criteria.

Method of Measurement. High Performance Rubberized Asphalt Pavement will be measured by the ton, complete and in place.

Basis of Payment. High Performance Rubberized Asphalt Pavement (HPRA) will be paid for at the contract unit price per ton. Such payment shall be full compensation for obtaining and furnishing all aggregate, additives, and bituminous material including tack and edge sealer, for processing, heating, mixing, weighing, trucking, placing, and rolling; for furnishing the test strip, all labor, equipment, tools and all incidentals necessary to complete the work. Price adjustments will be made in accordance to the designated testing method.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
403.325 High Performance Rubberized Asphalt Pavement, 9.5 mm	Ton

**SPECIAL PROVISION**  
**SECTION 403**  
**HOT MIX ASPHALT OVERLAY**

<b>Desc. of Course</b>	<b>Grad. Design</b>	<b>Item Number</b>	<b>Bit Cont. % of Mix</b>	<b>Total Thick</b>	<b>No. Of Layers</b>	<b>Comp. Notes</b>
<b><u>Sta. 534+00 to 729+50 Travel and Passing Lane with Shoulder</u></b>						
<b><u>4" HMA Resurfacing</u></b>						
Wearing	12.5mm	403.2081	N/A	1 ½"	1	1,5,7,12,22
Base	12.5mm	403.2131	N/A	1 ½"	1	1,5,7,12
Base	9.5mm	403.2102	N/A	1"	1	4,7,11,19
<b><u>Sta. 534+00 to 729+50 Travel Lane Shoulders &amp; GR Shoulders</u></b>						
<b><u>4" HMA Resurfacing</u></b>						
Wearing	12.5mm	403.208	N/A	1.5"	1	5,7,12
Base	12.5mm	403.213	N/A	2.5"	1	5,7,12
<b><u>Miscellaneous Areas</u></b>						
Shim	9.5 mm	403.211	N/A	variable	1	2,4,7,11

**COMPLEMENTARY NOTES**

1. The required PGAB for this mixture will meet a **PG 70-28** to **PG 76-28** grading. The use of Recycled Asphalt Pavement (RAP) will not be permitted in mixtures utilizing modified PGAB's.
2. The density requirements are waived.
4. The design traffic level for mix placed shall be 0.3 to <3 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **50 gyrations**.
5. 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 **75 gyrations**.
7. Section 106.6 Acceptance, (1) Method A.
11. The combined aggregate gradation required for this item shall be classified as a 9.5mm "**fine graded**" mixture, (using the Primary Control Sieve control point) as defined in 703.09.
12. The combined aggregate gradation required for this item shall be classified as a 12.5mm "**fine graded**" mixture (using the Primary Control Sieve control point) as defined in 703.09.
19. Refer to Special Provision 401 – Asphalt Rich Base Mixture for project specifics.
22. The final pavement surface shall be evaluated for smoothness in accordance with Special Provision section 402 – Pavement Smoothness dated 3-12-08. Acceptance limits shall be as outlined under the **Level 1** classification.

**Tack Coat**

A tack coat of emulsified asphalt, RS-1, Item #409.15 shall be applied to any existing pavement at a rate of approximately 0.025 G/SY, and on milled pavement approximately 0.05 G/SY, prior to placing a new course. A fog coat of emulsified asphalt shall be applied between shim / intermediate course and the surface course, at a rate not to exceed 0.025 G/SY. Tack used between layers of pavement will be paid for at the contract unit price for Item 409.15 Bituminous Tack Coat.



**SPECIAL PROVISION**  
**SECTION 403**  
**HOT MIX ASPHALT OVERLAY**

<b>Desc. of Course</b>	<b>Grad. Design</b>	<b>Item Number</b>	<b>Bit Cont. % of Mix</b>	<b>Total Thick</b>	<b>No. Of Layers</b>	<b>Comp. Notes</b>
<b><u>Sta. 729+50 to 1661+00</u></b>						
<b><u>8" HMA Pavement Reconstruction Areas</u></b>						
<b><u>Travel and Passing Lanes</u></b>						
Wearing	12.5mm	403.2081	N/A	1 ½"	1	1,5,7,12,22
Wearing	12.5mm	403.2131	N/A	1 ½"	1	1,5,7,12
Base	12.5mm	403.213	N/A	2 ½"	1	5,7,13
Base	12.5mm	403.2132	N/A	2 ½"	1	4,7,13,19
<b><u>Sta. 729+50 to 1661+00</u></b>						
<b><u>3" HMA Pavement Reconstruction</u></b>						
<b><u>Passing Lane Shoulders and Guardrail Areas</u></b>						
Wearing	12.5mm	403.2081	N/A	1 ½"	1	1,5,7,12
Base	12.5mm	403.2131	N/A	1 ½"	1	1,5,7,12
<b><u>Sta. 729+50 to 1661+00</u></b>						
<b><u>3" HMA Pavement Reconstruction</u></b>						
<b><u>Travel Lane Shoulders and Guardrail Areas</u></b>						
Wearing	12.5mm	403.208	N/A	1 ½"	1	5,7,12
Base	12.5mm	403.213	N/A	1 ½"	1	5,7,12
<b><u>Miscellaneous Areas</u></b>						
Shim	9.5 mm	403.211	N/A	variable	1	2,4,7,11

**COMPLEMENTARY NOTES**

- The required PGAB for this mixture will meet a **PG 70-28** to **PG 76-28** grading. The use of Recycled Asphalt Pavement (RAP) will not be permitted in mixtures utilizing modified PGAB's.
- The density requirements are waived.
- The design traffic level for mix placed shall be 0.3 to <3 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **50 gyrations.**
- 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 **75 gyrations.**
- Section 106.6 Acceptance, (1) Method A.
- The combined aggregate gradation required for this item shall be classified as a 9.5mm "**fine graded**" mixture, (using the Primary Control Sieve control point) as defined in 703.09.
- The combined aggregate gradation required for this item shall be classified as a 12.5mm "**fine graded**" mixture (using the Primary Control Sieve control point) as defined in 703.09.
- The combined aggregate gradation required for this item shall be classified as a 12.5mm "**fine graded**" mixture, or a 19.0mm "**fine graded**" mixture (using the Primary Control Sieve control point) as defined in 703.09.

**Brunswick - Gardiner  
IM-1511(400)E  
I - 295 Southbound  
8 inch Overlay Section  
Highway Rehabilitation  
April 16, 2008**

19. Refer to Special Provision 401 – Asphalt Rich Base Mixture for project specifics.
22. The final pavement surface shall be evaluated for smoothness in accordance with Special Provision section 402 – Pavement Smoothness dated 3-12-08. Acceptance limits shall be as outlined under the **Level 1** classification.

Tack Coat

A tack coat of emulsified asphalt, RS-1 Item #409.15 shall be applied to any existing pavement at a rate of approximately 0.025 G/SY, and on milled pavement approximately 0.05 G/SY, prior to placing a new course. A fog coat of emulsified asphalt shall be applied between shim / intermediate course and the surface course, at a rate not to exceed 0.025 G/SY. Tack used between layers of pavement will be paid for at the contract unit price for Item 409.15 Bituminous Tack Coat.

**SPECIAL PROVISION**  
**SECTION 403**  
**HOT MIX ASPHALT OVERLAY**

<b>Desc. of Course</b>	<b>Grad. Design</b>	<b>Item Number</b>	<b>Bit Cont. % of Mix</b>	<b>Total Thick</b>	<b>No. Of Layers</b>	<b>Comp. Notes</b>
<b><u>2" HMA Mill and 2 1/4" Resurface</u></b>						
<b><u>Travel and Passing Lanes</u></b>						
<b><u>Maine Central Railroad Bridge</u></b>						
Wearing	12.5 mm	403.2081	N/A	2 1/4"	1/more	1,5,7,12
<b><u>2" HMA Mill and 2 1/4" Resurface</u></b>						
<b><u>Travel and Passing Lanes</u></b>						
<b><u>Old Lewiston Road</u></b>						
Wearing	9.5 mm	403.325	N/A	2 1/4"	1/more	5,7,11,23
<b><u>2" HMA Mill and 2 1/4" Resurface</u></b>						
<b><u>Travel and Passing Lanes</u></b>						
<b><u>Androscoggin River Bridge</u></b>						
Wearing	9.5 mm	403.325	N/A	2 1/4"	1/more	5,7,11,23
<b><u>Miscellaneous Areas</u></b>						
Shim	9.5 mm	403.211	N/A	variable	1	2,4,7,11

**COMPLEMENTARY NOTES**

- The required PGAB for this mixture will meet a **PG 70-28** to **PG 76-28** grading. The use of Recycled Asphalt Pavement (RAP) will not be permitted in mixtures utilizing modified PGAB's.
- The density requirements are waived.
- The design traffic level for mix placed shall be 0.3 to <3 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **50 gyrations.**
- 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 **75 gyrations.**
- Section 106.6 Acceptance, (1) Method A.
- The combined aggregate gradation required for this item shall be classified as a 9.5mm "**fine graded**" mixture, (using the Primary Control Sieve control point) as defined in 703.09.
- The combined aggregate gradation required for this item shall be classified as a 12.5mm "**fine graded**" mixture (using the Primary Control Sieve control point) as defined in 703.09.
- Refer to Special Provision 401 – High Performance Rubberized Hot Mix Asphalt for project specifics.

**Brunswick - Gardiner  
IM-1511(400)E  
I - 295 Southbound  
Bridge Decks  
Highway Rehabilitation  
April 16, 2008**

Tack Coat

A tack coat of emulsified asphalt, RS-1, Item #409.15 shall be applied to any existing pavement at a rate of approximately 0.025 G/SY, and on milled pavement approximately 0.05 G/SY, prior to placing a new course. A tack coat of emulsified asphalt, SS-1, Item #409.15 shall be applied to any PCC pavement at a rate of approximately 0.025 G/SY. A fog coat of emulsified asphalt, RS-1, shall be applied between shim / intermediate course and the surface course, at a rate not to exceed 0.025 G/SY.

Tack used between layers of pavement will be paid for at the contract unit price for Item 409.15 Bituminous Tack Coat.

SPECIAL PROVISION  
SECTION 502  
STRUCTURAL CONCRETE  
(Concrete Wearing Surface)

The following shall be added to Sections:

**502.11 Placing Concrete, Sub-Section G**

Preplacement Concrete Wetting

After cleaning has been accepted, thoroughly wet the structural slab surface and all porous surfaces to be in contact with new concrete for at least 12 hours immediately prior to placement. Remove all standing water with oil-free compressed air, and protect the deck from drying, so the concrete remains in a saturated surface dry condition.

**502.14 Finishing Concrete Surfaces**

F. Transverse Saw Cut Grooving of Concrete Wearing Surface

Description A transverse saw cut finish will be applied to the concrete wearing surface after the specified curing period has elapsed.

Materials Use a multi-bladed wet saw cutting equipment using circular saw blades. The Resident Engineer may allow the use of a single blade, circular saw equipment, where it is determined such equipment is necessary to complete the work as required. The equipment the Contractor proposes to use will be subject to the approval of the Resident Engineer, prior to use.

Construction Requirements Start saw cutting only after the specified curing period has elapsed. Cut transverse grooves perpendicular to the centerline of the roadway using a single pass. Cut all grooves in a rectangular shape conforming to the following dimensions:

Spacing: Center-to-Center  $\frac{3}{4}$ " to 1  $\frac{1}{4}$ "

Width:  $\frac{1}{8}$ " +/-  $\frac{1}{32}$ "

Depth:  $\frac{1}{4}$ " +/-  $\frac{1}{16}$ "

Terminate grooves within 6" to 12" of the vertical face of curb or parapet.

During the grooving operations, the Resident Engineer will verify, at random, that the minimum grooved depth is being achieved. Should the Resident Engineer determine the minimum groove depth is not being achieved; the contractor shall stop grooving operations and make all adjustments necessary to achieve the minimum depth.

The Contractor will supply the Resident Engineer with two (2) accurate, easily readable gauges with which to verify groove depth. Deliver the gauges and applicable

manufacturer's instructions for use, if necessary, no later than one week prior to the anticipated beginning of grooving operations.

The contractor shall continuously collect and dispose of all slurry or debris created by this activity.

**502.18 Method of Measurement** The quantity will not be measured directly for payment.

**502.19 Basis of Payment** The Payment for the Transverse Saw Cut Grooving will include, but not limited to, all materials, equipment and labor to perform the work and shall be considered incidental to item 502.29 Structural Concrete Wearing Surfaces.