



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

JOHN ELIAS BALDACCI
 GOVERNOR

DAVID A. COLE
 COMMISSIONER

March 22, 2010
 Subject: **Durham**
 Federal Project No: STP-1680(100)X
 State Pin No: 016801.00
Amendment No. 1

Dear Sir/Ms:

Make the following changes to the Bid Documents:

In the Bid Book (page 28), "CONSTRUCTION NOTES", **CHANGE** item "202.203 DIRTY BORROW" to read "**203.242 DIRTY BORROW**". Make this change in pen and ink.

In the Bid Book (page 48), "SPECIAL PROVISION, SECTION 108, PAYMENT, (Asphalt Escalator)", **ADD** the following in pen and ink under "108.4.1 Price Adjustment for Hot Mix Asphalt:

<u>403.2073</u>	<u>19.0 mm</u>	<u>Warm Mix Asphalt Base</u>	<u>5.2%</u>
<u>403.2083</u>	<u>12.5 mm</u>	<u>Warm Mix Asphalt Surface</u>	<u>5.6%</u>
<u>403.2103</u>	<u>9.5 mm</u>	<u>Warm Mix Asphalt</u>	<u>6.2%</u>
<u>403.2113</u>	<u>9.5 mm</u>	<u>Warm Mix Asphalt Shim</u>	<u>6.2%</u>
<u>403.2123</u>	<u>4.75 mm</u>	<u>Warm Mix Asphalt Shim</u>	<u>6.8%</u>
<u>403.2133</u>	<u>12.5 mm</u>	<u>Warm Mix Asphalt Base</u>	<u>5.6%</u>

In the Bid Book (pages 73 thru 75), **REMOVE** "SPECIAL PROVISION, SECTION 401, HOT MIX ASPHALT PAVEMENTS, (Warm Mix Asphalt Pavements)", 3 pages dated February 3, 2010 and **REPLACE** with the attached new "SPECIAL PROVISION, SECTION 401, HOT MIX ASPHALT PAVEMENTS, (Warm Mix Asphalt Pavements)", 3 pages dated March 4, 2010.

In the Bid Book (pages 76 and 77), **REMOVE** "SPECIAL PROVISION, SECTION 403, HOT MIX ASPHALT OVERLAY", 2 pages dated February 24, 2010 and **REPLACE** with the attached new "SPECIAL PROVISION, SECTION 403, HOT MIX ASPHALT OVERLAY", 2 pages dated March 22, 2010.

The following questions have been received:

Question: Items 403.2103 and 403.2113 are not covered in the 108 Section for escalation. Will escalation apply and at what %?



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Response: Please see the above change.

Question: Construction Note on page 28 shows an item 202.203 as dirty borrow for backing pavement. Please clarify.

Response: Please see the above pen and ink change.

Question: The 403 Section calls for 1 variable depth layer of shim. This conflicts with the construction notes. Please clarify.

Response: Please see the attached new Special Provision 403.

Consider these changes and information prior to submitting your bid on March 24, 2010.

Sincerely,



FOR

Scott Bickford
Contracts & Specifications Engineer

SPECIAL PROVISION
SECTION 401
HOT MIX ASPHALT PAVEMENTS
(Warm Mix Asphalt Pavements)

The Special Provision 401 – Hot Mix Asphalt Pavement, has been modified with the following revisions. All sections not revised by this Special Provision shall be as outlined in the Special Provision 400 Pavements, section 401 – Hot Mix Asphalt Pavement. References to Standard Specifications, Special Provisions, or other documents, shall be determined as the most current version available at the time of bid. All references or conditions applied to Hot Mix Asphalt (HMA) pavements shall be replaced with Warm Mix Asphalt (WMA) unless otherwise amended or revised within this specification.

401.01 Description The Contractor shall furnish and place one or more courses of Warm Mix Asphalt Pavement (WMA) 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

401.03 Composition of Mixtures This section has been amended as follows:

For the purposes of comparative testing, a HMA JMF shall be submitted for the establishment of a control strip. The control strip section shall be constructed with an approved JMF, submitted without WMA technology or additives. The HMA design shall be submitted with the same aggregate, aggregate percentages, asphalt supply, and asphalt target percentages as the WMA JMF.

401.031 Warm Mix Technology

The Contractor shall specify the method or type of WMA technology to be utilized to produce mixtures for use on Department projects. Methods or technologies shall generally be at the Contractors option, but will be limited to proven, Agency and Industry accepted practice. Examples of acceptable methods are listed :

Option A - The use of organic additives such as a paraffin wax and or a low molecular weight esterified wax. Wax derived additives shall be introduced at the rate recommended by the manufacture. Percentages shall be limited at a rate as to not impact on the binder's low temperature properties. Wax derived additives shall be introduced into the hot asphalt binder at the asphalt suppliers facility , or asphalt mixture plant and fully blended using a tank agitator / stirrer. Minimum placement temperatures shall be as per manufactures recommendations.
A Quality Control Plan shall be submitted for approval by the Department.

Option B – The use of a manufactured synthetic zeolite (Sodium Aluminum Silicate). Sodium aluminum silicate additives shall be introduced at a rate recommended by the manufacturer. Sodium aluminum

silicate additives shall be introduced into the hot mix plant mixing chamber by mechanical means that can be controlled and tied directly to the hot mix asphalt plants rate of production. Minimum placement temperatures shall be as per manufactures recommendations. A Quality Control Plan shall be submitted for approval by the Department.

Option C – The use of a chemical additive technology and a "Dispersed Asphalt Technology" delivery system, This process utilizes a dispersed asphalt phase (emulsion) in asphalt mixture plant at a rate recommended by the manufacturer. This additive shall be introduced into the hot mix plant mixing chamber by mechanical means that can be controlled and tied directly to the hot mix asphalt plants rate of production. Minimum placement temperatures shall be as per manufactures recommendations. A Quality Control Plan shall be submitted for approval by the Department.

Option D – The use of a controlled asphalt foaming system. This process utilizes an injection system to introduce water to the asphalt stream and “expand” the asphalt prior to mixing with the aggregate in asphalt mixture plant at a rate recommended by the manufacturer. This shall be introduced into the plant mixing chamber by mechanical means that can be controlled and tied directly to the asphalt plants rate of production. Minimum placement temperatures shall be as per manufactures recommendations. A Quality Control Plan shall be submitted for approval by the Department.

401.04 Temperature Requirements After the JMF is established, the temperatures of the WMA mixture shall conform to the following tolerances:

In the truck at the mixing plant	– allowable range determined by manufacturer
At the Paver	– allowable range determined by manufacturer

Mixture, placement and volumetric testing details, including temperatures, shall be included in the project specific QCP, and submitted to the Department prior to any work.

401.18 Quality Control Method A, B & C – This section has been amended as follows:

Establishment of Control Strip - The Contractor shall place a control strip for each mixture type consisting of Hot Mix Asphalt Pavement produced without warm mix technology. Prior to the placement of the control strip a passing verification test is required. The control test strip shall be placed over the full width of the travel way section, not to exceed 500 ton production per lane. The control strip will not be excluded from QA analysis, but will be evaluated in accordance with Section 401.03. The Contractor shall notify the Department at least 48 hours in advance of placing the control strip.

Control strips shall be required for all mixtures to be utilized in the contract. Wearing, shim, or lower lift base mixtures shall be placed as required within the control strip limits. A minimum of three mixture samples shall be randomly selected from the control strips and evaluated under Method B criteria. When density payfactors apply, a minimum of three core samples shall be randomly selected from wearing or lower lift base course control strips and evaluated under Method B criteria. After completion of the control strip, the Contractor shall make any final adjustments to the job mix formula in accordance to Standard Specifications, Section 401, subsection 401.03 - Composition of Mixtures, or compaction method. Any changes to the HMA JMF shall result in a change in the WMA JMF to identical target values. Paving operations shall not resume until the Contractor and the Department determines that material meeting the Contract requirements can be produced, and any changes to the Job Mix Formula have been approved by

the Department. The Department shall pay for an accepted control strip as determined Section 401.222 – Pay Factor A and B, for this item. A new control strip shall be required if a current JMF is terminated, and a new JMF is started.

Once established, all production methods, equipment, and JMF's will become part of the QCP. The control strip will allow for any necessary adjustments to the mix design and or plant mixing procedures, as well as for the Department to evaluate the quality of the pavement.

Payments will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
403.2073 19.0 mm Warm Mix Asphalt Base	Ton
403.2083 12.5 mm Warm Mix Asphalt Surface	Ton
403.2103 9.5 mm Warm Mix Asphalt	Ton
403.2113 9.5 mm Warm Mix Asphalt Shim	Ton
403.2123 4.75 mm Warm Mix Asphalt Shim	Ton
403.2133 12.5 mm Warm Mix Asphalt Base	Ton

SPECIAL PROVISION
SECTION 403
HOT MIX ASPHALT OVERLAY

Desc. of Course	Grad. Design	Item Number	Bit Cont. % of Mix	Total Thick	No. Of Layers	Comp. Notes
<u>¾" HMA Overlay</u>						
<u>Travelway and Shoulders</u>						
Wearing	9.5mm	403.2103	N/A	¾"	1	1,4,9,11,20,22
Shim	9.5mm	403.2113	N/A	variable	1/more	1,2,4,9,11,20
<u>Drives, Misc.</u>						
Wearing	9.5mm	403.209	N/A	¾" - 1"	1/more	2,4,10,11,14

COMPLEMENTARY NOTES

1. The required PGAB for this mixture will meet a **PG 64-28** or **PG 58-28** grading. All mixtures designated shall be produced using warm mix technology, with the exception of the control strip. Refer to Special Provision Section 401- Hot mix Asphalt Pavements; Warm Mix Asphalt Pavements.
2. The density requirements are waived. The use of an oscillating steel roller shall be required to compact all HMA pavements placed on bridge decks in addition to the normal roller train.
4. The design traffic level for mix placed shall be .3 to 3 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **50 gyrations**.
9. Section 106.6 Acceptance, (2) Method C. The Contractor may request a contract modification to change to testing method "A" prior to work starting on this item.
10. Section 106.6 Acceptance, (2) Method D.
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.
14. A mixture meeting the requirements of section 703.09 Grading 'D', with a minimum PGAB content of 6%, and the limits of Special Provision 401, Table 9 (Drives and Sidewalks) for PGAB content and gradation may be substituted for this item. A job mix formula shall be submitted to the Department for approval.
20. The Contractor may place the specified HMA pavement course, not to exceed 1¼ inch (30mm) compacted depth, over the full single travel lane width, for each production day. If this option is utilized the Contractor will be required to place a matching course of HMA over the adjacent section of travel lane before the end of the following calendar day. The Contractor will also be responsible for installing additional warning signage that clearly defines the centerline elevation differential hazard, as well as additional centerline delineation such as double RPM application, or temporary painted line. The Traffic Control Plan shall be amended to include this option and the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of 0.50 mile [0.80 km] for the entire length of the effected roadway section. On roadways with two-way traffic, the Contractor will be required to place the specified course over the full width of the mainline traveled way being paved prior to opening the sections to weekend or holiday traffic.
 If this option is utilized, all additional signing, labor, traffic control devices, or incidentals will not be paid for directly, but will be considered incidental to the appropriate 403 items.
22. See Special Provision 401 – ¾ inch (20mm) Surface Treatment for project specifics

Durham
STP-1680(100)X
Route 9
WMA .75 inch Overlay
March 22, 2010

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.