

**Updated 11/10/10**

# **FEDERAL PROJECT**

## BIDDING INSTRUCTIONS

### FOR ALL PROJECTS:

1. Use pen and ink to complete all paper Bids.
2. As a minimum, the following must be received prior to the time of Bid opening:

#### For a Paper Bid:

- a) a copy of the Notice to Contractors, b) the completed Acknowledgement of Bid Amendments form, c) the completed Schedule of Items, d) two copies of the completed and signed Contract Offer, Agreement & Award form, e) a Bid Guaranty, (if required), and f) any other certifications or Bid requirements listed in the Bid Documents as due by Bid opening.

#### For an Electronic Bid:

- a) a completed Bid using Expedite® software and submitted via the Bid Express™ web-based service, b) an electronic Bid Guaranty (if required) or a faxed copy of a Bid Bond (with original to be delivered within 72 hours), and c) any other Certifications or Bid requirements listed in the Bid Documents as due by Bid opening.
3. Include prices for all items in the Schedule of Items (excluding non-selected alternates).
4. Bid Guaranty acceptable forms are:
  - a) a properly completed and signed Bid Bond on the Department's prescribed form (or on a form that does not contain any significant variations from the Department's form as determined by the Department) for 5% of the Bid Amount or
  - b) an Official Bank Check, Cashier's Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors or
  - c) an electronic bid bond submitted with an electronic bid.
5. If a paper Bid is to be sent, Federal Express overnight delivery is suggested as the package is delivered directly to the DOT Headquarters Building located at 16 Child Street in Augusta. Other means, such as U.S. Postal Service's Express Mail has proven not to be reliable.

### IN ADDITION, FOR FEDERAL AID PROJECTS:

6. Complete the DBE Proposed Utilization form, and submit with your bid. If you are submitting your bid electronically, you must FAX the form to (207) 624-3431.

*If you need further information regarding Bid preparation, call the DOT Contracts Section at (207) 624-3410.*

*For complete bidding requirements, refer to Section 102 of the Maine Department of Transportation, Standard Specifications, Revision of December 2002.*

# NOTICE

**The Maine Department of Transportation is attempting to improve the way Bid Amendments/Addendums are handled, and allow for an electronic downloading of bid packages from our website, while continuing to maintain a planholders list.**

**Prospective bidders, subcontractors or suppliers who wish to download a copy of the bid package and receive a courtesy notification of project specific bid amendments, must provide an email address to Diane Barnes or Mike Babb at the MDOT Contracts mailbox at: [MDOT.contracts@maine.gov](mailto:MDOT.contracts@maine.gov). Each bid package will require a separate request.**

**Additionally, interested parties will be responsible for reviewing and retrieving the Bid Amendments from our web site, and acknowledging receipt and incorporating those Bid Amendments in their bids using the Acknowledgement of Bid Amendment Form.**

**The downloading of bid packages from the MDOT website is not the same as providing an electronic bid to the Department. Electronic bids must be submitted via <http://www.BIDX.com>. For information on electronic bidding contact Larry Childs at [Larry.Childs@maine.gov](mailto:Larry.Childs@maine.gov).**

# NOTICE

For security and other reasons, all Bid Packages which are mailed, shall be provided in double (one envelope inside the other) envelopes. The *Inner Envelope* shall have the following information provided on it:

Bid Enclosed - Do Not Open

PIN:

Town:

Date of Bid Opening:

Name of Contractor with mailing address and telephone number:

In Addition to the usual address information, the *Outer Envelope* should have written or typed on it:

Double Envelope: Bid Enclosed

PIN:

Town:

Date of Bid Opening:

Name of Contractor:

*This should not be much of a change for those of you who use Federal Express or similar services.*

Hand-carried Bids may be in one envelope as before, and should be marked with the following information:

Bid Enclosed: Do Not Open

PIN:

Town:

Name of Contractor:

**STATE OF MAINE DEPARTMENT OF TRANSPORTATION**  
Bid Guaranty-Bid Bond Form

**KNOW ALL MEN BY THESE PRESENTS THAT** \_\_\_\_\_

\_\_\_\_\_, of the City/Town of \_\_\_\_\_ and State of \_\_\_\_\_

as Principal, and \_\_\_\_\_ as Surety, a

Corporation duly organized under the laws of the State of \_\_\_\_\_ and having a usual place of

Business in \_\_\_\_\_ and hereby held and firmly bound unto the Treasurer of

the State of Maine in the sum of \_\_\_\_\_ for payment which Principal and Surety bind

themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

The condition of this obligation is that the Principal has submitted to the Maine Department of

Transportation, hereafter Department, a certain bid, attached hereto and incorporated as a

part herein, to enter into a written contract for the construction of \_\_\_\_\_

\_\_\_\_\_ and if the Department shall accept said bid

and the Principal shall execute and deliver a contract in the form attached hereto (properly

completed in accordance with said bid) and shall furnish bonds for this faithful performance of

said contract, and for the payment of all persons performing labor or furnishing material in

connection therewith, and shall in all other respects perform the agreement created by the

acceptance of said bid, then this obligation shall be null and void; otherwise it shall remain in full

force, and effect.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

WITNESS:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

WITNESS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

PRINCIPAL:

By \_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

SURETY:

By \_\_\_\_\_

By: \_\_\_\_\_

Name of Local Agency: \_\_\_\_\_

# NOTICE

## Bidders:

Please use the attached “Request for Information” form when faxing questions and comments concerning specific Contracts that have been Advertised for Bid. Include additional numbered pages as required. Questions are to be faxed to the number listed in the Notice to Contractors. This is the only allowable mechanism for answering Project specific questions. Maine DOT will not be bound to any answers to Project specific questions received during the Bidding phase through other processes.



# NOTICE

## Disadvantaged Business Enterprise Proposed Utilization

All Bidders must submit the Disadvantaged Business Enterprise Proposed Utilization form with their bid.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form contains information that is required by U.S. DOT.

The Maine Department of Transportation's Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form must be used.

A copy of the new Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan and instructions for completing it are attached.

Note: Questions about DBE firms, or to obtain a printed copy of the DBE Directory, contact The Office of Civil Rights at (207) 624-3066.

MDOT's DBE Directory of Certified firms can also be obtained at [www.maine.gov/mdot/disadvantaged-business-enterprises/dbe-home.php](http://www.maine.gov/mdot/disadvantaged-business-enterprises/dbe-home.php)

# INSTRUCTIONS FOR PREPARING THE CONTRACTOR'S DISADVANTAGED BUSINESS ENTERPRISE UTILIZATION PLAN

## The Contractor Shall:

1. Submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan with your bid on the Bid day.
2. Extend equal opportunity to MDOT certified DBE firms (as listed in MDOT's DBE Directory of Certified Businesses) in the selection and utilization of Subcontractors and Suppliers.

## SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

Insert Contractor name, the name of the person(s) preparing the form, and that person(s) telephone, fax number and e-mail address.

Provide total Bid price, Federal Project Identification Number, and location of the Project work.

In the columns, name each subcontractor, DBE and non-DBE firm to be used, provide the Unit/Item cost of the work/product to be provided by the subcontractor, give a brief description and the dollar value of the work.

# **DBE GOAL NOTICE**

## **Maine Department of Transportation Disadvantaged Business Enterprise Program**

Notice is hereby given that in accordance with US DOT regulation 49 CFR Part 26, the Maine Department of Transportation has established a DBE Program for disadvantaged business participation in the federal-aid construction program; MaineDOT contracts covered by the program include consulting, construction, supplies, manufacturing, and service contracts.

For FFY 2010 (October 1, 2009 through September 30, 2010), MaineDOT has established a DBE participation goal of 5.9% to be achieved through race/gender neutral means.

Interested parties may view MaineDOT's DBE goal setting methodology posted on this website. If you have questions regarding this goal you may contact the Maine Department of Transportation, Civil Rights Office by telephone at (207) 624-3042 or by e-mail at: [theresa.savoy@maine.gov](mailto:theresa.savoy@maine.gov).

This DBE goal, at the request of Federal Highway Administration, has been recalculated and was resubmitted for approval on May 6, 2010. This goal remains in effect through September 30, 2012 unless otherwise determined by Federal Highway Administration.

**MaineDOT CONTRACTOR'S DBE/SUBCONTRACTOR UTILIZATION FORM**

**All Bidders must furnish this form with their bid on Bid Opening day**

Contractor: \_\_\_\_\_ Telephone: \_\_\_\_\_ Ext. \_\_\_\_\_

Contact Person: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

BID PRICE: \$ \_\_\_\_\_ BID DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

FEDERAL PROJECT PIN # \_\_\_\_\_ PROJECT LOCATION: \_\_\_\_\_

TOTAL ANTICIPATED DBE \_\_\_\_\_ % PARTICIPATION FOR THIS SUBMISSION

| W<br>B<br>E• | D<br>B<br>E• | Non<br>DBE | Firm Name | Item Number &<br>Description of<br>Work | Quantity | Cost per<br>Unit/Item               | Actual \$ Value |
|--------------|--------------|------------|-----------|---|----------|-------------------------------------|-----------------|
|              |              |            |           |   |          |                                     |                 |
|              |              |            |           |   |          |                                     |                 |
|              |              |            |           |   |          |                                     |                 |
|              |              |            |           |   |          |                                     |                 |
|              |              |            |           |   |          |                                     |                 |
|              |              |            |           |   |          |                                     |                 |
|              |              |            |           |   |          |                                     |                 |
|              |              |            |           |   |          |                                     |                 |
|              |              |            |           |   |          |                                     |                 |
|              |              |            |           |   |          | <b>Subcontractor<br/>Total &gt;</b> |                 |
|              |              |            |           |   |          | <b>DBE Total &gt;</b>               |                 |

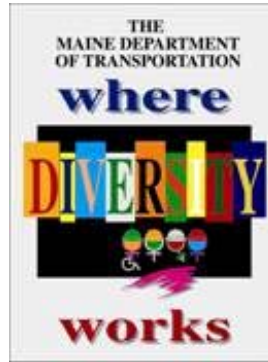
**NOTE: THIS INFORMATION IS USED TO TRACK AND REPORT ANTICIPATED DBE PARTICIPATION IN ALL FEDERALLY FUNDED MAINE DOT CONTRACTS. THE ANTICIPATED DBE AMOUNT IS VOLUNTARY AND WILL NOT BECOME A PART OF THE CONTRACTUAL TERMS.**

Equal Opportunity Use:

Form received: \_\_\_\_/\_\_\_\_/\_\_\_\_ Verified by: \_\_\_\_\_

cc:  Contracts  Other \_\_\_\_\_

**For a complete list of certified firms and company designation (WBE/DBE) go to <http://www.maine.gov/mdot>**



**Maine Department of Transportation Civil  
Rights Office**

**Directory of Certified Disadvantaged Business  
Enterprises**

**Listing can be found at:**

**[www.maine.gov/mdot/disadvantagedbusiness-  
enterprises/dbe-home.php](http://www.maine.gov/mdot/disadvantagedbusiness-enterprises/dbe-home.php)**

**For additional information and guidance contact: Civil  
Rights Office at (207) 624-3066**

*It is the responsibility of the Contractor to access  
the DBE Directory at this site in order to have  
the most current listings.*

September 14, 2007

## **Vendor Registration**

Prospective Bidders must register as a vendor with the Department of Administrative & Financial Services if the vendor is awarded a contract. Vendors will not be able to receive payment without first being registered. Vendors/Contractors will find information and register through the following link –

<http://www.maine.gov/purchases/vendorinfo/vss.htm>

**STATE OF MAINE DEPARTMENT OF TRANSPORTATION  
NOTICE TO CONTRACTORS**

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper "Bids for C.A. Clauson Northbound and C.A. Clauson Southbound Bridge Deck Replacements in the town of **FAIRFIELD & BENTON**, and Maine Central Railroad Bridge Deck Replacement in the town of **FAIRFIELD**," will be received from contractors at the Reception Desk, Maine DOT Building, Capitol Street, Augusta, Maine, until 11:00 o'clock A.M. (prevailing time) on July 20, 2011 and at that time and place publicly opened and read. Bids will be accepted from all bidders. The lowest responsive bidder must have completed, or successfully complete, a bridge, or project specific prequalification to be considered for the award of this contract. **We now accept electronic bids for those bid packages posted on the bidx.com website. Electronic bids do not have to be accompanied by paper bids. Please note: the Department will accept a facsimile of the bid bond; however, the original bid bond must then be received at the MDOT Contract Section within 72 hours of the bid opening.** Until further notice, **dual bids (one paper, one electronic) will be accepted, with the paper copy taking precedence.**

Description: Maine Federal Aid Project No. IM-A670(000)E PIN 016700.00, IM-1668(600)E PIN 016686.00, and BR-1781(400)X PIN 017814.00

Location: In Kennebec and Somerset Counties, C.A. Clauson Northbound and C.A. Clauson Southbound bridge projects are located on the Interstate 95 Fairfield - Benton town line over the Kennebec River. In Somerset County, Maine Central Railroad Bridge project is located on Interstate 95 over Maine Central Railroad.

Scope of Work: Interstate 95 median crossover construction. C.A. Clauson Northbound, C.A. Clauson Southbound, and Maine Central Railroad Bridge Deck replacements plus other incidental work.

For general information regarding Bidding and Contracting procedures, contact Scott Bickford at (207)624-3410. Our webpage at <http://www.maine.gov/mdot/contractors/> contains a copy of the schedule of items, Plan Holders List, written portions of bid amendments (not drawings), and bid results. For Project-specific information fax all questions to **Project Manager Ben Condon** at (207)624-3431. Questions received after 12:00 noon of Monday prior to bid date will not be answered. Bidders shall not contact any other Departmental staff for clarification of Contract provisions, and the Department will not be responsible for any interpretations so obtained. Hearing impaired persons may call the Telecommunication Device for the Deaf at 888-516-9364.

Plans, specifications and bid forms may be seen at the Maine DOT Building in Augusta, Maine. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Full size plans \$132.00 (\$140.00 by mail). Half size plans \$66.00 (\$70.00 by mail), Bid Book \$10 (\$13 by mail), Single Sheets \$2, payment in advance, all non-refundable.

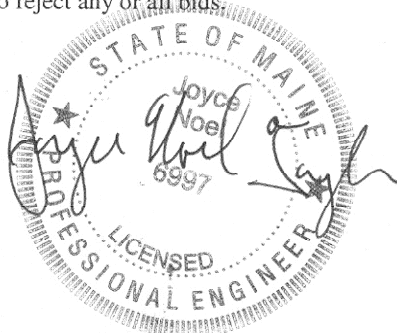
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of \$250,000.00 payable to Treasurer, State of Maine as a Bid guarantee. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each in the amount of 100 percent of the Contract price, will be required of the successful Bidder.

This Contract is subject to all applicable Federal Laws. This contract is subject to compliance with the Disadvantaged Business Enterprise program requirements as set forth by the Maine Department of Transportation.

All work shall be governed by "State of Maine, Department of Transportation, Standard Specifications, Revision of December 2002", price \$10 [\$13 by mail], and Standard Details, Revision of December 2002, price \$20 [\$25 by mail]. Standard Detail updates can be found at [http://www.maine.gov/mdot/contractor-consultant-information/contractor\\_cons.php](http://www.maine.gov/mdot/contractor-consultant-information/contractor_cons.php)

The right is hereby reserved to the MDOT to reject any or all bids.

Augusta, Maine  
June 29, 2011



JOYCE N. TAYLOR P.E.  
DEPUTY CHIEF ENGINEER

**SPECIAL PROVISION 102.7.3**  
**ACKNOWLEDGMENT OF BID AMENDMENTS**

With this form, the Bidder acknowledges its responsibility to check for all Amendments to the Bid Package. For each Project under Advertisement, Amendments are located at <http://www.maine.gov/mdot/contractors/> . It is the responsibility of the Bidder to determine if there are Amendments to the Project, to download them, to incorporate them into their Bid Package, and to reference the Amendment number and the date on the form below. The Maine DOT will not post Bid Amendments any later than noon the day before Bid opening without individually notifying all the planholders.

| Amendment Number | Date |
|------------------|------|
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |
|                  |      |

The Contractor, for itself, its successors and assigns, hereby acknowledges that it has received all of the above referenced Amendments to the Bid Package.

CONTRACTOR

\_\_\_\_\_   
Date

\_\_\_\_\_   
Signature of authorized representative

\_\_\_\_\_   
(Name and Title Printed)

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016686.00

PROJECT(S): IM-1668(600)E  
 IM-a670(000)e  
 BR-1781(400)X

CONTRACTOR : \_\_\_\_\_

| LINE NO | ITEM DESCRIPTION | APPROX. QUANTITY AND UNITS | UNIT PRICE |     | BID AMOUNT |     |
|---------|------------------|----------------------------|------------|-----|------------|-----|
|         |                  |                            | DOLLARS    | CTS | DOLLARS    | CTS |

SECTION 0001 project items

|      |   |      |          |  |  |  |  |
|------|---|------|----------|--|--|--|--|
| 0010 | 202.132 REMOVE EXISTING RAIL (RETAINED BY DEPARTMENT)           | LUMP | LUMP     |  |  |  |  |
| 0020 | 202.17 REMOVING EXISTING STRUCTURAL CONCRETE                    | LUMP | LUMP     |  |  |  |  |
| 0030 | 202.18 REMOVE EXISTING BITUMINOUS PAVEMENT (INCLUDING MEMBRANE) | LUMP | LUMP     |  |  |  |  |
| 0040 | 202.203 PAVEMENT BUTT JOINTS                                    | SY   | 125.000  |  |  |  |  |
| 0050 | 202.205 RUMBLE STRIPS - SHOULDER                                | LF   | 5700.000 |  |  |  |  |
| 0060 | 304.09 AGGREGATE BASE COURSE - CRUSHED                          | CY   | 30.000   |  |  |  |  |
| 0070 | 403.208 HOT MIX ASPHALT 12.5 MM HMA SURFACE                     | T    | 696.000  |  |  |  |  |
| 0080 | 403.211 HOT MIX ASPHALT (SHIMMING)                              | T    | 400.000  |  |  |  |  |
| 0090 | 403.213 HOT MIX ASPHALT 12.5 MM BASE                            | T    | 696.000  |  |  |  |  |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016686.00

PROJECT(S): IM-1668(600)E  
 IM-a670(000)e  
 BR-1781(400)X

CONTRACTOR : \_\_\_\_\_

| LINE NO | ITEM DESCRIPTION   | APPROX. QUANTITY AND UNITS | UNIT PRICE |     | BID AMOUNT |     |
|---------|--|----------------------------|------------|-----|------------|-----|
|         |  |                            | DOLLARS    | CTS | DOLLARS    | CTS |
| 0100    | 409.15 BITUMINOUS TACK COAT - APPLIED  | 700.000<br>G               |            |     |            |     |
| 0110    | 502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS                               | LUMP                       | LUMP       |     |            |     |
| 0120    | 502.23 STRUCTURAL CONCRETE PIERS   | 64.000<br>CY               |            |     |            |     |
| 0130    | 502.26 STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLABS ON STEEL BRIDGES C.A. CLAUSON N.B. | LUMP                       | LUMP       |     |            |     |
| 0140    | 502.26 STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLABS ON STEEL BRIDGES C.A. CLAUSON S.B. | LUMP                       | LUMP       |     |            |     |
| 0150    | 502.26 STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLABS ON STEEL BRIDGES M C RR            | LUMP                       | LUMP       |     |            |     |
| 0160    | 502.49 STRUCTURAL CONCRETE CURBS AND SIDEWALKS   | LUMP                       | LUMP       |     |            |     |
| 0170    | 503.12 REINFORCING STEEL, FABRICATED AND DELIVERED                                       | 840703.000<br>LB           |            |     |            |     |
| 0180    | 503.13 REINFORCING STEEL, PLACING  | 840703.000<br>LB           |            |     |            | 4   |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016686.00

PROJECT(S): IM-1668(600)E  
 IM-a670(000)e  
 BR-1781(400)X

CONTRACTOR : \_\_\_\_\_

| LINE NO | ITEM DESCRIPTION  | APPROX. QUANTITY AND UNITS | UNIT PRICE |     | BID AMOUNT |     |
|---------|---|----------------------------|------------|-----|------------|-----|
|         |   |                            | DOLLARS    | CTS | DOLLARS    | CTS |
| 0190    | 504.8101 REMOVAL OF STRUCTURAL STEEL                          | 26700.000<br>LB            |            |     |            |     |
| 0200    | 504.811 STRUCTURAL STEEL REPAIR                               | 46512.000<br>LB            |            |     |            |     |
| 0210    | 505.08 SHEAR CONNECTORS                                       | LUMP                       | LUMP       |     |            |     |
| 0220    | 506.142 FIELD PAINTING EXISTING STRUCTURAL STEEL              | LUMP                       | LUMP       |     |            |     |
| 0230    | 506.144 FIELD PAINTING NEW AND EXISTING STRUCTURAL STEEL      | LUMP                       | LUMP       |     |            |     |
| 0240    | 506.17 SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL       | LUMP                       | LUMP       |     |            |     |
| 0250    | 506.18 CONTAINMENT AND POLLUTION CONTROL                      | LUMP                       | LUMP       |     |            |     |
| 0260    | 506.191 DISPOSAL OF SPECIAL WASTE OR HAZARDOUS WASTE MATERIAL | LUMP                       | LUMP       |     |            |     |
| 0270    | 506.30 SHOP COATING OF STRUCTURAL STEEL                       | LUMP                       | LUMP       |     |            |     |
| 0280    | 507.0811 STEEL BRIDGE RAILING, 2 BAR                          | LUMP                       | LUMP       |     |            |     |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016686.00

PROJECT(S): IM-1668(600)E  
 IM-a670(000)e  
 BR-1781(400)X

CONTRACTOR : \_\_\_\_\_

| LINE NO | ITEM DESCRIPTION  | APPROX. QUANTITY AND UNITS | UNIT PRICE |     | BID AMOUNT |     |
|---------|---|----------------------------|------------|-----|------------|-----|
|         |   |                            | DOLLARS    | CTS | DOLLARS    | CTS |
| 0290    | 508.14 HIGH PERFORMANCE WATERPROOFING MEMBRANE                              | LUMP                       | LUMP       |     |            |     |
| 0300    | 510.301 EXPRESSWAY MEDIAN CROSSOVER   | LUMP                       | LUMP       |     |            |     |
| 0310    | 514.06 CURING BOX FOR CONCRETE CYLINDERS                                    | 3.000<br>EA                |            |     |            |     |
| 0320    | 515.21 PROTECTIVE COATING FOR CONCRETE SURFACES                             | LUMP                       | LUMP       |     |            |     |
| 0330    | 518.50 REPAIR OF UPWARD FACING SURFACES - TO REINFORCING STEEL < 7.9 IN.    | 20.000<br>SF               |            |     |            |     |
| 0340    | 518.51 REPAIR OF UPWARD FACING SURFACES - BELOW REINFORCING STEEL < 7.9 IN. | 300.000<br>SF              |            |     |            |     |
| 0350    | 518.60 REPAIR OF VERTICAL SURFACES < 7.9 IN.                                | 185.000<br>SF              |            |     |            |     |
| 0360    | 518.61 REPAIR OF VERTICAL SURFACES > 7.9 IN.                                | 10.000<br>CY               |            |     |            |     |
| 0370    | 518.80 CRACK REPAIR   | 160.000<br>LF              |            |     |            |     |
| 0380    | 520.21 EXPANSION DEVICE - GLAND SEAL  | 1.000<br>EA                |            |     |            | 6   |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016686.00

PROJECT(S): IM-1668(600)E  
 IM-a670(000)e  
 BR-1781(400)X

CONTRACTOR : \_\_\_\_\_

| LINE NO | ITEM DESCRIPTION   | APPROX. QUANTITY AND UNITS | UNIT PRICE |     | BID AMOUNT |     |
|---------|--|----------------------------|------------|-----|------------|-----|
|         |  |                            | DOLLARS    | CTS | DOLLARS    | CTS |
| 0390    | 520.22 EXPANSION DEVICE<br>- COMPRESSION SEAL            | 2.000<br>EA                |            |     |            |     |
| 0400    | 521.23 EXPANSION DEVICE<br>FINGER JOINT TYPE B           | 1.000<br>EA                |            |     |            |     |
| 0410    | 521.23 EXPANSION DEVICE<br>FINGER JOINT TYPE D           | 2.000<br>EA                |            |     |            |     |
| 0420    | 521.32 FABRIC TROUGH FOR<br>FINGER JOINT                 | 1.000<br>EA                |            |     |            |     |
| 0430    | 521.33 FABRIC CURTAIN<br>FOR FINGER JOINT                | 8.000<br>EA                |            |     |            |     |
| 0440    | 523.52 BEARING<br>INSTALLATION                           | 136.000<br>EA              |            |     |            |     |
| 0450    | 523.5301 STEEL BEARINGS,<br>FIXED, SLIDING PLATE         | 12.000<br>EA               |            |     |            |     |
| 0460    | 523.5302 STEEL BEARINGS,<br>EXPANSION, SLIDING PLATE     | 36.000<br>EA               |            |     |            |     |
| 0470    | 523.5401 LAMINATED<br>ELASTOMERIC BEARINGS,<br>FIXED     | 28.000<br>EA               |            |     |            |     |
| 0480    | 523.5402 LAMINATED<br>ELASTOMERIC BEARINGS,<br>EXPANSION | 60.000<br>EA               |            |     |            |     |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016686.00

PROJECT(S): IM-1668(600)E  
 IM-a670(000)e  
 BR-1781(400)X

CONTRACTOR : \_\_\_\_\_

| LINE NO | ITEM DESCRIPTION  | APPROX. QUANTITY AND UNITS | UNIT PRICE |     | BID AMOUNT |     |
|---------|---|----------------------------|------------|-----|------------|-----|
|         |   |                            | DOLLARS    | CTS | DOLLARS    | CTS |
| 0490    | 524.301 TEMPORARY STRUCTURAL SUPPORT                      | LUMP                       | LUMP       |     |            |     |
| 0500    | 524.32 TEMPORARY SUPPORT - BEAMS AND GIRDERS              | 13.000<br>EA               |            |     |            |     |
| 0510    | 524.40 PROTECTIVE SHIELD                                  | LUMP                       | LUMP       |     |            |     |
| 0520    | 526.34 PERMANENT CONCRETE TRANSITION BARRIER              | 8.000<br>EA                |            |     |            |     |
| 0530    | 526.3401 PERMANENT CONCRETE TRANSITION BARRIER - MODIFIED | 8.000<br>EA                |            |     |            |     |
| 0540    | 527.34 WORK ZONE CRASH CUSHIONS                           | 4.000<br>UN                |            |     |            |     |
| 0550    | 606.1721 BRIDGE TRANSITION - TYPE 1                       | 16.000<br>EA               |            |     |            |     |
| 0560    | 606.23 GUARDRAIL TYPE 3C - SINGLE RAIL                    | 400.000<br>LF              |            |     |            |     |
| 0570    | 606.232 GUARDRAIL TYPE 3C - OVER 15 FOOT RADIUS           | 37.500<br>LF               |            |     |            |     |
| 0580    | 606.353 REFLECTORIZED FLEXIBLE GUARDRAIL MARKER           | 15.000<br>EA               |            |     |            |     |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016686.00

PROJECT(S): IM-1668(600)E  
 IM-a670(000)e  
 BR-1781(400)X

CONTRACTOR : \_\_\_\_\_

| LINE NO | ITEM DESCRIPTION  | APPROX. QUANTITY AND UNITS | UNIT PRICE |     | BID AMOUNT |     |
|---------|---|----------------------------|------------|-----|------------|-----|
|         |   |                            | DOLLARS    | CTS | DOLLARS    | CTS |
| 0590    | 606.369 GUARDRAIL REMOVED AND STACKED                                   | 3800.000<br>LF             |            |     |            |     |
| 0600    | 606.64 GUARDRAIL THRIE BEAM - DOUBLE RAIL                               | 625.000<br>LF              |            |     |            |     |
| 0610    | 606.65 GUARDRAIL THRIE BEAM - SINGLE RAIL                               | 987.500<br>LF              |            |     |            |     |
| 0620    | 606.78 LOW VOLUME GUARDRAIL END - TYPE 3                                | 1.000<br>EA                |            |     |            |     |
| 0630    | 607.184 CHAIN LINK SNOW FENCE 3 FOOT                                    | 240.000<br>LF              |            |     |            |     |
| 0640    | 609.312 SPECIAL CURB PLASTIC  | 250.000<br>LF              |            |     |            |     |
| 0650    | 620.6012 HDPE GEOMEMBRANE   | 32.000<br>SY               |            |     |            |     |
| 0660    | 627.72 6 INCH WHITE PAVEMENT MARKING LINE                               | 5700.000<br>LF             |            |     |            |     |
| 0670    | 627.74 6 INCH YELLOW PAVEMENT MARKING LINE                              | 7500.000<br>LF             |            |     |            |     |
| 0680    | 627.781 TEMPORARY 6 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW | 11600.000<br>LF            |            |     |            |     |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016686.00

PROJECT(S): IM-1668(600)E  
 IM-a670(000)e  
 BR-1781(400)X

CONTRACTOR : \_\_\_\_\_

| LINE NO | ITEM DESCRIPTION                                   | APPROX. QUANTITY AND UNITS | UNIT PRICE |     | BID AMOUNT |     |
|---------|--|----------------------------|------------|-----|------------|-----|
|         |  |                            | DOLLARS    | CTS | DOLLARS    | CTS |
| 0690    | 629.05 HAND LABOR, STRAIGHT TIME                   | 60.000<br>HR               |            |     |            |     |
| 0700    | 631.21 ROAD BROOM (INCLUDING OPERATORS AND HAULER) | 40.000<br>HR               |            |     |            |     |
| 0710    | 637.071 DUST CONTROL                               | LUMP                       | LUMP       |     |            |     |
| 0720    | 639.18 FIELD OFFICE TYPE A                         | 1.000<br>EA                |            |     |            |     |
| 0730    | 644.31 GLARE SCREEN REMOVE & RESET                 | 630.000<br>LF              |            |     |            |     |
| 0740    | 652.30 FLASHING ARROW BOARD                        | 2.000<br>EA                |            |     |            |     |
| 0750    | 652.312 TYPE III BARRICADE                         | 25.000<br>EA               |            |     |            |     |
| 0760    | 652.32 BATTERY OPERATED LIGHT                      | 30.000<br>EA               |            |     |            |     |
| 0770    | 652.33 DRUM  | 300.000<br>EA              |            |     |            |     |
| 0780    | 652.34 CONE  | 100.000<br>EA              |            |     |            |     |

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 016686.00

PROJECT(S): IM-1668(600)E  
 IM-a670(000)e  
 BR-1781(400)X

CONTRACTOR : \_\_\_\_\_

| LINE NO | ITEM DESCRIPTION   | APPROX. QUANTITY AND UNITS | UNIT PRICE |     | BID AMOUNT |     |
|---------|--|----------------------------|------------|-----|------------|-----|
|         |  |                            | DOLLARS    | CTS | DOLLARS    | CTS |
| 0790    | 652.35 CONSTRUCTION SIGNS  | 3000.000<br>SF             |            |     |            |     |
| 0800    | 652.361 MAINTENANCE OF TRAFFIC CONTROL DEVICES                   | LUMP                       | LUMP       |     |            |     |
| 0810    | 652.38 FLAGGER   | 200.000<br>HR              |            |     |            |     |
| 0820    | 652.381 TRAFFIC OFFICER  | 400.000<br>HR              |            |     |            |     |
| 0830    | 652.43 PORTABLE CHANGEABLE MESSAGE SIGN - RETAINED BY DEPARTMENT | 4.000<br>EA                |            |     |            |     |
| 0840    | 656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL        | LUMP                       | LUMP       |     |            |     |
| 0850    | 659.10 MOBILIZATION  | LUMP                       | LUMP       |     |            |     |
| 0860    | 660.21 ON-THE-JOB TRAINING (BID)                                 | 1000.000<br>HR             |            |     |            |     |
|         | SECTION 0001 TOTAL   |                            |            |     |            |     |
|         | TOTAL BID  |                            |            |     |            |     |

## CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

\_\_\_\_\_ a corporation or other legal entity organized under the laws of the State of \_\_\_\_\_, with its principal place of business located at \_\_\_\_\_

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

### **A. The Work.**

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN **016686.00 & 016700.00**, for the **C.A. Clauson Southbound Bridge Deck Replacement & C.A. Clauson Northbound Bridge Deck Replacement** in the town of **Fairfield and Benton**, Counties of **Somerset and Kennebec**, Maine. PIN **017814.00**, for the **Maine Central Railroad Bridge Deck Replacement** in the town of **Fairfield**, County of **Somerset**. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

### **B. Time.**

The Contractor agrees to complete all Work, except warranty work, on or before **December 13, 2013**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002 and related Special Provisions.

**C. Price.**

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is \_\_\_\_\_

\_\_\_\_\_

\$\_\_\_\_\_ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

**D. Contract.**

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

**E. Certifications.**

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the Federal Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

**F. Offer.**

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **PIN 016686.00 C.A. Clauson Southbound Bridge, PIN 016700.00 C.A. Clauson Northbound Bridge Deck Replacement, and PIN 017814.00 Maine Central Railroad Bridge Deck Replacement**, State of Maine, on which bids will be received until the time specified in the “Notice to Contractors” do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached “Schedule of Items”.

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached “Schedule of Items” in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached “Schedule of Items”, which may be ordered by the Resident, and to accept as full compensation the amount determined upon a “Force Account” basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier’s check, certificate of deposit or U. S. Postal Money Order in the amount given in the “Notice to Contractors”, payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the Standard Specifications Revision of December 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor’s Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

\_\_\_\_\_  
Date

\_\_\_\_\_  
(Signature of Legally Authorized Representative  
of the Contractor)

\_\_\_\_\_  
Witness

\_\_\_\_\_  
(Name and Title Printed)

**G. Award.**

Your offer is hereby accepted.  
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_  
Date

\_\_\_\_\_  
By: David Bernhardt, Commissioner

\_\_\_\_\_  
Witness

## CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

\_\_\_\_\_ a corporation or other legal entity organized under the laws of the State of \_\_\_\_\_, with its principal place of business located at \_\_\_\_\_

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

### **A. The Work.**

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN **016686.00 & 016700.00**, for the **C.A. Clauson Southbound Bridge Deck Replacement & C.A. Clauson Northbound Bridge Deck Replacement** in the town of **Fairfield and Benton**, Counties of **Somerset and Kennebec**, Maine. PIN **017814.00**, for the **Maine Central Railroad Bridge Deck Replacement** in the town of **Fairfield**, County of **Somerset**. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

### **B. Time.**

The Contractor agrees to complete all Work, except warranty work, on or before **December 13, 2013**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002 and related Special Provisions.

**C. Price.**

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is \_\_\_\_\_

\_\_\_\_\_

\$\_\_\_\_\_ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

**D. Contract.**

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

**E. Certifications.**

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the Federal Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

**F. Offer.**

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **PIN 016686.00 C.A. Clauson Southbound Bridge, PIN 016700.00 C.A. Clauson Northbound Bridge Deck Replacement, and PIN 017814.00 Maine Central Railroad Bridge Deck Replacement**, State of Maine, on which bids will be received until the time specified in the “Notice to Contractors” do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached “Schedule of Items”.

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached “Schedule of Items” in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached “Schedule of Items”, which may be ordered by the Resident, and to accept as full compensation the amount determined upon a “Force Account” basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier’s check, certificate of deposit or U. S. Postal Money Order in the amount given in the “Notice to Contractors”, payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the Standard Specifications Revision of December 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor’s Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

\_\_\_\_\_  
Date

\_\_\_\_\_  
(Signature of Legally Authorized Representative  
of the Contractor)

\_\_\_\_\_  
Witness

\_\_\_\_\_  
(Name and Title Printed)

**G. Award.**

Your offer is hereby accepted.  
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_  
Date

\_\_\_\_\_  
By: David Bernhardt, Commissioner

\_\_\_\_\_  
Witness

## CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and (Name of the firm bidding the job) a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at (address of the firm bidding the job)

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

### **A. The Work.**

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. 1224.00, for the Hot Mix Asphalt Overlay in the town/city of South Nowhere, County of Washington, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

### **B. Time.**

The Contractor agrees to complete all Work, except warranty work, on or before November 15, 2006. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002 and related Special Provisions.

**C. Price.**

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is           (Place bid here in alphabetical form such as One Hundred and Two dollars and 10 cents)            
\$ (repeat bid here in numerical terms, such as \$102.10) Performance Bond and Payment Bond each being 100% of the amount of this Contract.

**D. Contract.**

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

**E. Certifications.**

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

**F. Offer.**

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

**PIN 1234.00 South Nowhere, Hot Mix Asphalt Overlay**,

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the Standard Specifications Revision of 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

\_\_\_\_\_  
Date

\_\_\_\_\_  
**(Witness Sign Here)**  
Witness

\_\_\_\_\_  
**(Sign Here)**  
(Signature of Legally Authorized Representative of the Contractor)

\_\_\_\_\_  
**(Print Name Here)**  
(Name and Title Printed)

CONTRACTOR

**G. Award.**

Your offer is hereby accepted.  
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_  
Date

\_\_\_\_\_  
By: David Bernhardt, Commissioner

\_\_\_\_\_  
(Witness)

BOND # \_\_\_\_\_

CONTRACT PERFORMANCE BOND  
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_  
\_\_\_\_\_ **in the State of** \_\_\_\_\_, as principal,  
and.....  
a corporation duly organized under the laws of the State of ..... and having a  
usual place of business .....  
as Surety, are held and firmly bound unto the Treasurer of the State of Maine in the sum  
of \_\_\_\_\_ **and 00/100 Dollars (\$** \_\_\_\_\_ **)**,  
to be paid said Treasurer of the State of Maine or his successors in office, for which  
payment well and truly to be made, Principal and Surety bind themselves, their heirs,  
executors and administrators, successors and assigns, jointly and severally by these  
presents.

The condition of this obligation is such that if the Principal designated as Contractor in  
the Contract to construct Project Number \_\_\_\_\_ in the Municipality of  
\_\_\_\_\_ promptly and faithfully performs the Contract, then this  
obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the State  
of Maine.

Signed and sealed this ..... day of ....., 20.....

WITNESSES:

SIGNATURES:

CONTRACTOR:

Signature.....

.....

Print Name Legibly .....

Print Name Legibly .....

SURETY:

Signature .....

.....

Print Name Legibly .....

Print Name Legibly .....

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

.....  
.....  
.....

ADDRESS .....

TELEPHONE.....

.....

BOND # \_\_\_\_\_

CONTRACT PAYMENT BOND  
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_  
\_\_\_\_\_ **in the State of** \_\_\_\_\_, as principal,  
and.....  
a corporation duly organized under the laws of the State of ..... and having a  
usual place of business in .....  
as Surety, are held and firmly bound unto the Treasurer of the State of Maine for the use  
and benefit of claimants as herein below defined, in the sum of  
\_\_\_\_\_ **and 00/100 Dollars (\$** \_\_\_\_\_ **)**  
for the payment whereof Principal and Surety bind themselves, their heirs, executors and  
administrators, successors and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal designated as Contractor in  
the Contract to construct Project Number \_\_\_\_\_ in the Municipality of  
\_\_\_\_\_ promptly satisfies all claims and demands incurred for all  
labor and material, used or required by him in connection with the work contemplated by  
said Contract, and fully reimburses the obligee for all outlay and expense which the  
obligee may incur in making good any default of said Principal, then this obligation shall  
be null and void; otherwise it shall remain in full force and effect.

A claimant is defined as one having a direct contract with the Principal or with a  
Subcontractor of the Principal for labor, material or both, used or reasonably required for  
use in the performance of the contract.

Signed and sealed this ..... day of ....., 20 .. .

WITNESS:

SIGNATURES:

CONTRACTOR:

Signature.....

.....

Print Name Legibly .....

Print Name Legibly .....

SURETY:

Signature.....

.....

Print Name Legibly .....

Print Name Legibly .....

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

.....

ADDRESS .....

.....

.....

TELEPHONE .....

.....

# Maine DOT Map



Map Scale 1:6337

Map Generated on Tuesday, June 07, 2011 12:44:26 PM

The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch. Road names used on this map may not match official road names.

General Decision Number: ME100020 06/03/2011 ME20

State: Maine

Construction Type: Heavy

County: Kennebec County in Maine.

HEAVY CONSTRUCTION PROJECTS

|                     |                  |
|---------------------|------------------|
| Modification Number | Publication Date |
| 0                   | 04/08/2011       |
| 1                   | 06/03/2011       |

ELEC1253-004 12/01/2010

|                  |          |         |
|------------------|----------|---------|
|                  | Rates    | Fringes |
| ELECTRICIAN..... | \$ 27.25 | 12.87   |
| -----            |          |         |

\* IRON0007-019 03/16/2011

|  |          |         |
|--|----------|---------|
|  | Rates    | Fringes |
| IRONWORKER, STRUCTURAL AND<br>REINFORCING..... | \$ 20.87 | 19.37   |
| -----  |          |         |

SUME2011-004 03/16/2011

|  |          |         |
|--|----------|---------|
|  | Rates    | Fringes |
| CARPENTER (Form Work Only).....                          | \$ 17.71 | 6.07    |
| LABORER: Common or General,<br>Including Pipelaying..... | \$ 13.02 | 0.00    |
| OPERATOR: Asphalt Paver.....                             | \$ 15.19 | 4.65    |
| OPERATOR: Asphalt Roller.....                            | \$ 18.22 | 8.71    |
| OPERATOR: Bulldozer.....                                 | \$ 17.50 | 3.19    |
| OPERATOR: Crane.....                                     | \$ 20.64 | 5.81    |
| OPERATOR: Drill.....                                     | \$ 15.32 | 4.66    |

|                          |          |      |
|--------------------------|----------|------|
| OPERATOR: Excavator..... | \$ 22.35 | 5.22 |
| OPERATOR: Loader.....    | \$ 17.01 | 4.05 |
| OPERATOR: Mechanic.....  | \$ 16.38 | 4.97 |
| OPERATOR: Roller.....    | \$ 12.50 | 1.46 |
| TRUCK DRIVER.....        | \$ 13.16 | 3.33 |

-----  
WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====  
Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

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In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey

program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal Process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party(those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the Interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an Interested party may appeal directly to the Administrative Review Board(formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

General Decision Number: ME100025 06/03/2011 ME25

State: Maine

Construction Type: Heavy

County: Somerset County in Maine.

HEAVY CONSTRUCTION PROJECTS

|                     |                  |
|---------------------|------------------|
| Modification Number | Publication Date |
| 0                   | 04/08/2011       |
| 1                   | 06/03/2011       |

\* IRON0007-019 03/16/2011

|  |          |         |
|--|----------|---------|
|  | Rates    | Fringes |
| IRONWORKER, STRUCTURAL AND<br>REINFORCING..... | \$ 20.87 | 19.37   |

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LABO0327-004 06/01/2010

|   |          |         |
|---|----------|---------|
|   | Rates    | Fringes |
| LABORER: Common or General<br>(Industrial Work Only)..... | \$ 16.62 | 14.35   |

-----  
PLUM0716-002 01/01/2011

|   |          |         |
|---|----------|---------|
|   | Rates    | Fringes |
| PIPEFITTER (Industrial Work<br>Only)..... | \$ 24.03 | 13.93   |

-----  
SUME2011-009 03/16/2011

|                                 |          |         |
|---------------------------------|----------|---------|
|                                 | Rates    | Fringes |
| CARPENTER (Form Work Only)..... | \$ 15.15 | 3.99    |
| ELECTRICIAN.....                | \$ 26.63 | 12.22   |

LABORER: Common or General,  
Excluding Industrial Work and

Fairfield  
C.A. Clauson Bridges  
PIN 016686.00 & 016700.00

|                                 |          |       |
|---------------------------------|----------|-------|
| Including Pipelaying.....       | \$ 12.46 | 1.36  |
| LABORER: Flagger.....           | \$ 9.00  | 0.00  |
| LINE CONSTRUCTION: Lineman..... | \$ 39.66 | 12.09 |
| MILLWRIGHT.....                 | \$ 16.76 | 7.26  |
| OPERATOR: Asphalt Paver.....    | \$ 15.19 | 4.65  |
| OPERATOR: Asphalt Roller.....   | \$ 18.22 | 8.71  |
| OPERATOR: Bulldozer.....        | \$ 19.32 | 7.11  |
| OPERATOR: Crane.....            | \$ 22.70 | 6.40  |
| OPERATOR: Drill.....            | \$ 16.04 | 5.01  |
| OPERATOR: Excavator.....        | \$ 16.96 | 1.30  |
| OPERATOR: Loader.....           | \$ 14.62 | 4.24  |
| OPERATOR: Mechanic.....         | \$ 16.38 | 4.97  |
| OPERATOR: Roller.....           | \$ 13.91 | 3.15  |
| OPERATOR: Backhoe/Trackhoe..... | \$ 14.50 | 3.53  |
| TRUCK DRIVER: Servicer.....     | \$ 10.84 | 4.47  |
| TRUCK DRIVER.....               | \$ 12.15 | 1.81  |

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

-----

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

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WAGE DETERMINATION APPEALS PROCESS

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- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

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END OF GENERAL DECISION

General Decision Number: ME100009 09/03/2010 ME9

Superseded General Decision Number: ME20080009

State: Maine

Construction Type: Highway

Counties: Aroostook, Franklin, Hancock, Kennebec, Knox, Lincoln, Oxford, Piscataquis, Sagadahoc, Somerset, Waldo and York Counties in Maine.

HIGHWAY CONSTRUCTION PROJECTS excluding major bridging (for example: bascule, suspension and spandrel arch bridges; those bridging waters presently navigating or to be navigatable; and those involving marine construction in any degree); tunnels, building structures in rest area projects and railroad construction.

| Modification Number | Publication Date |
|---------------------|------------------|
| 0                   | 03/12/2010       |
| 1                   | 03/26/2010       |
| 2                   | 05/14/2010       |
| 3                   | 09/03/2010       |

\* ENGI0004-015 04/01/2010

|                            | Rates    | Fringes |
|----------------------------|----------|---------|
| Power equipment operators: |          |         |
| Asphalt Roller.....        | \$ 19.43 | 9.06    |
| Pavers.....                | \$ 19.43 | 9.06    |

-----  
SUME2000-008 10/24/2000

|                 | Rates    | Fringes |
|-----------------|----------|---------|
| CARPENTER.....  | \$ 11.60 | 1.51    |
| Ironworkers:    |          |         |
| Structural..... | \$ 12.03 | 1.58    |
| Laborers:       |          |         |
| Drillers.....   | \$ 10.00 | 2.50    |

|                                |          |      |
|--------------------------------|----------|------|
| Flaggers.....                  | \$ 7.25  |      |
| Guardrail Installers.....      | \$ 7.92  |      |
| Landscape.....                 | \$ 7.87  | .16  |
| Line Stripper.....             | \$ 8.69  | .23  |
| Pipelayers.....                | \$ 9.21  | 2.31 |
| Rakers.....                    | \$ 9.00  | 1.51 |
| Sign Erectors.....             | \$ 10.00 |      |
| Unskilled.....                 | \$ 8.66  | 1.38 |
| Wheelman.....                  | \$ 8.50  | .43  |
| <br>Power equipment operators: |          |      |
| Backhoes.....                  | \$ 11.87 | 2.05 |
| Bulldozers.....                | \$ 12.33 | 2.88 |
| Cranes.....                    | \$ 14.06 | 1.75 |
| Excavators.....                | \$ 12.38 | 2.48 |
| Graders.....                   | \$ 13.06 | 3.73 |
| Loaders.....                   | \$ 11.41 | 2.87 |
| Mechanics.....                 | \$ 13.18 | 2.57 |
| <br>Truck drivers:             |          |      |
| Dump.....                      | \$ 9.35  | 3.10 |
| Tri axle.....                  | \$ 8.70  | 1.18 |
| Two axle.....                  | \$ 8.56  | 2.19 |

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

-----

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WAGE DETERMINATION APPEALS PROCESS

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200 Constitution Avenue, N.W.  
Washington, DC 20210

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U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

**SPECIAL PROVISION**  
**SECTION 104**  
**GENERAL RIGHTS & RESPONSIBILITIES**  
**(Bridge Closure Notification)**

Section 104, General Rights and Responsibilities, of the Standard Specifications is amended as follows:

104.4.10 Coordination of Bridge Closure/Bridge Width Restriction Notification:

Paragraphs 4 and 5 are revised to read as follows:

The Contractor shall notify the following public officials, agencies and organizations approximately thirty days prior to, and then again both ten days before, and the day before the date of the beginning of the Exit 133 Northbound On-Ramp closure. The thirty day notice should provide an approximate date and length of closure whereas the ten and one day notices should provide the exact date and the anticipated length of the closure. When the Exit 133 Northbound On-Ramp is reopened to traffic, the following list will again be notified. The Contractor shall provide the Department with documentation that the listed public officials, agencies and organizations received the notification at least 10 days prior to the closure/restriction or with proof that the notification was mailed 15 days prior to the closure/restriction.

Town Officials (Manager) of Fairfield  
County Sheriff's Department  
Fairfield Fire Department  
Fairfield Police Department  
State Police  
Fairfield Rescue Service  
Hospital(s)  
    Maine General Medical Center (Waterville)  
Fairfield School Department  
Post Office  
Chamber of Commerce  
Any Large Employers  
Department of Motor Vehicle- Commercial Vehicle Center (207-626-8630)  
MaineDOT Maintenance Region Office

All newspaper notices, radio announcements and any notifications will be subject to the approval of the Resident and all costs will be considered incidental to the Contract.

**Town:** Fairfield/Benton  
**Project:** I-95 SB Bridge #1456  
IM-1668(600)E  
PIN 016686.00  
**Project:** I-95 NB Bridge #6000  
IM-1670(000)E  
PIN 016700.00  
**Project:** MCRR Bridge #5999  
BR-1781(400)X  
PIN 017814.00  
**Date:** January 27, 2011

**SPECIAL PROVISIONS**  
**SECTION 104**  
**Utilities**

**MEETING**

A Preconstruction Utility Conference, as defined in Subsection 104.4.6 of the Standard Specifications is required with the Maine Central Railroad, CMP and Kennebec Water District.

**GENERAL INFORMATION**

These Special Provisions outline the arrangements that have been made by the Department for utility and/or railroad work to be undertaken in conjunction with this project. The following list identifies all known utilities or railroads having facilities presently located within the limits of this project or intending to install facilities during project construction.

**Utility Summary**

**Central Maine Power Company**

Central Maine Power Company has transmission line facilities overhead of the proposed northerly crossover to be constructed for the project. CMP will be re-tensioning these wires in order to obtain the necessary vertical clearance over the crossover. The Contractor needs to be aware of the lines when using construction equipment underneath. CMP expects to complete their re-tensioning before May 2011.

**Kennebec Water District**

The Kennebec Water District has a 10" main running up the northerly slopes of the Skowhegan Road and a 6" main crossing the railroad tracks and running up the southerly slope near the MCRR bridge. The Contractor needs to be aware of these water lines in the event any excavation is done to the slopes near these two bridges.

**Maine Central Railroad**

Maine Central Railroad has an agreement with the MaineDOT for flagging and inspection of the railroad tracks. A Special Provision is in place and is a part of the bid document. The Contractor needs to be familiar with the Protection of Railroad Traffic and Structures (PRTS) document before commencing work on or near the railroad.

**Town: Fairfield/Benton**  
**Project: I-95 SB Bridge #1456**  
**IM-1668(600)E**  
**PIN 016686.00**  
**Project: I-95 NB Bridge #6000**  
**IM-1670(000)E**  
**PIN 016700.00**  
**Project: MCRR Bridge #5999**  
**BR-1781(400)X**  
**PIN 017814.00**  
**Date: January 27, 2011**

Temporary utility adjustments are not contemplated unless herein provided for.

Utilities have been notified and will be furnished a project specification book. If utility relocations, though unexpected, become necessary, they will be scheduled in compliance with Section 104 of the Standard Specifications and will be done by the utilities in conjunction with the work by the Contractor.

All utility crossings over highways will provide not less than 20 feet vertical clearance over existing ground in cut or over finished grade in fill, during construction of this project.

Unless otherwise provided, utilities will not be required to make underground installations in frozen ground.

Any times and dates mentioned are estimates only and are dependent upon favorable weather, working conditions and freedom from emergencies. The Contractors shall have no claim against the Department if they are exceeded.

Utility working days are Monday through Friday conditions permitting. Times are estimated on the basis of a single crew for each utility.

In all cases, the utilities shall be advised well in advance (generally three weeks) before work, dependent upon other work to be done by the Contractor, in any particular area, is to be commenced by them.

### **UTILITY CONTACT INFORMATION**

The utility contact information is provided as part of the contract document for utility correspondence after contract award. If the Contractor has any questions regarding the utility work or relocations associated with the Project during bidding, the Contractor shall submit questions through the Request for Information process outlined in the contract documents.

Central Maine Power Company, Art Brown, 626-9562, cell 242-8805, pager 851-3834  
Kennebec Water District, Jefferson Longfellow, 872-2763, cell 692-4835, jefferson@prexar.com  
Maine Center Railroad, George Thayer, 1-978-663-6973, gthayer@panamrailways.com

**Town: Fairfield/Benton**  
**Project: I-95 SB Bridge #1456**  
**IM-1668(600)E**  
**PIN 016686.00**  
**Project: I-95 NB Bridge #6000**  
**IM-1670(000)E**  
**PIN 016700.00**  
**Project: MCRR Bridge #5999**  
**BR-1781(400)X**  
**PIN 017814.00**  
**Date: January 27, 2011**

**BLASTING**

In addition to any other notice which may be required, the Contractor shall notify an authorized representative of each utility that have plant close to the site not later than 3:00 p.m. on the working day (Monday through Friday) before the Contractor intends to blast. Notice shall state the approximate time of the blast.

**DIG SAFE**

The contractor will be responsible for determining the presence of underground utility facilities prior to commencing any excavation work and shall notify utilities of proposed excavation in accordance with **M.R.S.A. Title 23 §3360-A, Maine “Dig Safe” System. Call 1-888-344-7233.**

**SAFE PRACTICES AROUND UTILITY FACILITIES**

The Contractor shall be responsible for complying with M.R.S.A. Title 35-A, Chapter 7-A-Sections 751–761 Overhead High-Voltage Line Safety Act. Prior to commencing any work that may come within ten (10) feet of any aerial electrical line; the Contractor shall notify the aerial utilities as per Section 757 of the above act.

**THE CONTRACTOR SHALL PLAN AND CONDUCT HIS WORK ACCORDINGLY.**

SPECIAL PROVISION  
SECTION 104  
GENERAL RIGHTS AND RESPONSIBILITIES  
(Electronic Payroll Submission)  
(Payment Tracking)

104.3.8.1 Electronic Payroll Submission The prime contractor and all subcontractors and lower-tier subcontractors will submit their certified payrolls electronically on this contract utilizing the Elation System web based reporting. There is no charge to the contracting community for the use of this service. The submission of paper payrolls will not be allowed or accepted. Additional information can be found at <http://www.maine.gov/mdot/comprehensive-list-projects/project-information.php> under the first "Notice".

104.3.8.2 Payment Tracking The prime contractor and all subcontractors and lower-tier subcontractors will track and confirm the delivery and receipt of all payments through the Elation System

SPECIAL PROVISION  
**SECTION 105**  
(Access to the Work from I-95)

The Contractor will be allowed access to the work on Interstate 95 in the direction of traffic and only utilizing existing interchanges. The Contractor shall periodically inform all project construction personnel that the use of crossovers is not allowed.

The Contractor shall inform all project construction personnel that they are not authorized to stop traffic. The flaggers are authorized only to control the passage of the Contractor's equipment.

SPECIAL PROVISION  
SECTION 105  
GENERAL SCOPE OF WORK  
(Buy America Certification)

105.11 Federal Requirements Add the following as the third paragraph:

“Prior to payment by the Department, the Contractor shall provide a certification from the producer of steel or iron, or any product containing steel or iron as a component, stating that all steel or iron furnished or incorporated into the furnished product was manufactured in the United States in accordance with the requirements of the Buy America provisions of 23 CFR 635.410, as amended. Such certification shall also include (1) a statement that the iron or steel product or component was produced entirely within the United States, or (2) a statement that the iron or steel product or component was produced within the United States except for minimal quantities of foreign steel and iron valued at \$ (actual value).”

**SPECIAL PROVISION 105**  
**GENERAL SCOPE OF WORK**  
Equal Opportunity and Civil Rights  
(Disadvantaged Business Enterprises Program)

105.10.1.1 Disadvantaged Business Enterprises Program The Maine Department of Transportation (MaineDOT) has established a Disadvantaged Business Enterprise (DBE) program in accordance with regulations of the United States Department of Transportation (USDOT), 49 CFR Part 26. The MaineDOT receives federal financial assistance from USDOT, and as a condition of receiving this assistance, the Department has signed an assurance that it will comply with 49 CFR Part 26. The MaineDOT is responsible for determining the eligibility of and certifying DBE firms in Maine.

A DBE is defined as a for-profit business that is owned and controlled by one or more socially and economically disadvantaged person(s). For the purpose of this definition:

1. "Socially and economically disadvantaged person" means an individual who is a citizen or lawful permanent resident of the United States and who is Black, Hispanic, Native American, Asian, Female; or a member of another group or an individual found to be disadvantaged by the Small Business Administration pursuant to Section 3 of the Small Business Act.
2. "Owned and controlled" means a business which is:
  - a. A sole proprietorship legitimately owned and controlled by an individual who is a disadvantaged person.
  - b. A partnership or limited liability company in which at least 51% of the beneficial ownership interests legitimately are held by a disadvantaged person(s).
  - c. A corporation or other entity in which at least 51% of the voting interest and 51% of the beneficial ownership interests legitimately are held by a disadvantaged person(s).

The disadvantaged group owner(s) or stockholder(s) must possess control over management, interest in capital, and interest in earnings commensurate with the percentage of ownership. If the disadvantaged group ownership interests are real, substantial and continuing and not created solely to meet the requirements of this program, a firm is considered a bona fide DBE.

105.10.1.2 Commercially Useful Function MaineDOT will count expenditures of a DBE contractor toward DBE goals only if the DBE is performing a commercially useful function on that contract. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. Credit will only be given when the DBE meets all conditions for a CUF. Credit for labor will be in accordance with the responsibilities outlined in the contract. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the Contract, for negotiating price, determining quality and quantity, ordering the materials, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, MaineDOT will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the Contract is commensurate with the work it is actually performing and DBE credit claimed for its performance of the work, and other relevant factors.

Rented equipment used by the DBE must not be rented from the Prime Contractor on a job that the DBE is subcontracted with that Prime Contractor for regular course of business.

A current listing of certified DBEs that may wish to participate in the highway construction program and the scope of work for which they are certified can be found at <http://www.maine.gov/mdot/disadvantaged-business-enterprises/pdf/directory.pdf>. Credit will be given for the value described by a DBE performing as:

- A. A prime contractor; 100% of actual value of work performed by own workforces.
- B. An approved subcontractor; 100% of work performed by own workforces.
- C. An owner-operator of construction equipment; 100% of expenditures committed.
- D. A manufacturer; 100% of expenditures committed. The manufacturer must be a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Contractor. Brokers and packagers shall not be regarded as manufacturers.
- E. A regular dealer; 60% of expenditures committed. A regular dealer is defined as a firm that owns, operates, or maintains a store, warehouse or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public. For purposes of this provision a "Broker" is a DBE that has entered into a legally binding relationship to provide goods or services delivered or performed by a third party. Brokers and packagers shall not be regarded as regular dealers.
- F. A bona fide service provider; 100% of reasonable fees or commissions. Eligible services include professional, technical, consultant, or managerial, services and assistance in the procurement of essential personnel, facilities, equipment, materials or supplies required for the performance of the contract. Eligible services also include agencies providing bonding and insurance specifically required for the performance of the contract.
- G. A trucking, hauling or delivery operation. 100% of expenditures committed when trucks are owned, operated, licensed and insured by the DBE and used on the contract and, if applicable, includes the cost of the self supplied materials and supplies. 100% of expenditures committed when the DBE leases trucks from another DBE firm including an owner-operator. 100% of reasonable fees or commissions the DBE receives as a result of a lease arrangement for trucks from a non-DBE, including an owner-operator.
- H. Any combination of the above.

105.10.1.3 Race-neutral Goals The Maine DOT is required to set an annual goal (approved on a three year basis) for DBE participation in Federal-aid projects. In order to fulfill that goal, bidders are encouraged to utilize DBE businesses certified by the MaineDOT. MaineDOT seeks to meet the established DBE goal solely through race-neutral means. *Race-neutral* DBE participation occurs when a DBE is awarded a prime contract through customary competitive procurement procedures, is awarded a subcontract on a contract that does not carry a DBE contract goal, or wins a subcontract from a prime contractor that did not consider its DBE status in making the award. A DBE/subcontractor Utilization Proposed Form is required to be included in bid documents.

MaineDOT will analyze each project and create a Project Availability Target (PAT), based on a number of factors including project scope, available DBE firms, firms certified in particular project work, etc. Each bid will request that the contractor attempt to meet the PAT. This PAT is developed to assist contractors to better understand what the MaineDOT expectations are for a

specific project. The PAT is NOT a mandate but an assessment of what this particular project can bear for DBE participation. The Department anticipates that each contractor will make the best effort to reach or exceed this PAT for the project.

105.10.1.4 Race-conscious Project Goals If it is determined by the Department that the annual DBE goal will not be met through *race-neutral* means, the Department may implement *race-conscious contract goals* on some projects. Race-conscious contract goals are goals that are enforceable by the Department and require that the prime contractor use good faith effort to achieve the goal set by the Department for that particular project. If race conscious means are implemented on a project, the Prime must comply with the requirements of 49 CFR.

At the time of the bid opening, all Bidders shall submit with their bid a Disadvantaged Business Enterprise (DBE) Commitment Form provided by the Department. This form will list the DBE and non-DBE firms that are proposed to be used during the execution of the Work. The list shall show the name of the firm, the item/material/type of work involved and the dollar amount of work to be performed. The dollar total of each commitment shall be totaled and a percentage determined.

If the project goal is not met, acceptable documentation showing all good faith efforts made to obtain participation may be required in order to award the project. Failure to provide the required listing with the dollar participation total or acceptable documentation of good faith efforts to obtain DBE participation within 3 days after the bid opening date will be considered a lack of responsiveness on the part of the low bidder. Rejection of the low bid under these circumstances will require the low bidder to surrender the Proposal Guaranty to the Department. The submission and approval of the above forms does not constitute a formal subcontract.

If for any reason during the progress of the Work the Contractor finds that DBEs included on the list are unable to perform the proposed work, the Contractor, with written release by the committed DBE or approval of the Department, may substitute other DBE firms for those named on the list. If the Contractor is able to clearly document their inability to find qualified substitute firms to meet the project goal, the Contractor may request in writing approval to substitute the DBE with a non-DBE firm. If at any time during the life of the Contract it is determined that the Contractor is not fulfilling the goal or commitment(s) and is not making a good faith effort to fulfill the DBE requirement, the Department may withhold progress payments. If good faith effort is determined by the Department, failure to meet the DBE contract goal will not be a detriment to the bid award. Fulfillment of the goal percentage shall be determined by dividing the dollars committed to the DBEs by the actual contract dollars. These requirements are in addition to all other Equal Employment Opportunity requirements on Federal-aid contracts.

105.10.1.5 Certification of DBE attainment on Contracts The MaineDOT must certify that it has conducted post-award monitoring of all contracts to ensure that DBEs had done the work for which credit was claimed. The certification is for the purpose of ensuring accountability for monitoring which the regulation already requires. The MaineDOT will certify these contracts through review of CUF forms, Elations sub-contract payment tracking as well as occasional on-site reviews of projects and through the project's final closeout documentation provided by our Contracts Section.

105.10.1.6 Bidders' List Survey Pursuant to 49 CFR 26.11 the MaineDOT is required to “create and maintain” a bidders list and gather bidder information on our construction/consultant projects, Contractors will maintain information on all subcontract bids submitted by DBE and Non-DBE firms and provide that information to the Department. The Following information is required:

Firm Name

Firm Address

Firm status (DBE or non-DBE)

Age of firm (years)

And the annual gross receipts amount as indicated by defined brackets, i.e. \$500,000 to \$800,000, rather than requesting exact figures.

Not only is this information critical in determining the availability of DBE businesses relative to other businesses that do similar work, but the Federal Highway Administration requires that we obtain this information.

MaineDOT DBE Project Attainment Target (PAT)  
for this Project is 13.22 %

The MaineDOT seeks to meet the specified annual Disadvantaged Business Enterprise (DBE) usage goal set out by 49 CFR 26.45 through the efforts of contractors seeking to employ qualified DBE subcontractors. We seek to meet this goal by race neutral means and do not, at this time, use contract specific requirements for each project. We do however, understand the capacity of Maine's DBE community and the unique characteristics a project may have that would differ from the broad annual goal.

Taking this into consideration, the MaineDOT will review each project and develop an anticipated attainment or Project Attainment Target (PAT) based on several factors that are project specific. Those factors include:

- Scope of Work
- DBE availability according to Specification Item
- Geographic location
- DBE capacity

This PAT is developed to assist contractors to better understand the DBE participation that the MaineDOT can reasonably expect for a specific project. The PAT is NOT a mandate but an assessment of the DBE opportunities that this project could meet or exceed. MaineDOT anticipates that each contractor will make the best effort to reach or exceed the PAT for this project.

**SPECIAL PROVISION**  
**SECTION 105**  
**LEGAL RELATIONS WITH AND RESPONSIBILITY TO PUBLIC**  
**(NPDES)**

105.8.2 Permit Requirements This Section is revised by the addition of the following paragraph:

”The Contractor is advised that the Environmental Protection Agency has issued a final National Pollutant Discharge Elimination System (NPDES) General Permit for storm water discharges from construction sites disturbing more than 2 ha [5 acres]. This permit requires:

- Storm Water Pollution Prevention Plan
- Submission of a Notification of Intent (NOI) at least 48 hours before construction commences
- Submission of a Notification of Termination (NOT) when a site has been finally stabilized and all storm water discharges from construction activities are eliminated.

If the project’s land disturbances is 2 ha [5 acres] or more, the Department will prepare the plan and submit the NOI (and NOT). The Contractor shall prepare plans and submit NOI’s (and NOT’s) for regulated construction activities beyond the project limits (e.g., borrow pits).

The Contractor shall be familiar with and comply with these regulations.”

**SPECIAL PROVISION 105**  
**CONSTRUCTION AREA**

A Construction Area located in the **Town of Benton** and **Fairfield** has been established by the Maine Department of Transportation (MDOT) in accordance with provisions of 29-A § 2382 Maine Revised Statutes Annotated (MRSA).

- a) The section of highway under construction in the town of Benton and Fairfield, Kennebec and Somerset Counties on Interstate 95 over the Kennebec River.
- b) The section of highway under construction in the town of Fairfield, Somerset County on Interstate 95 over the Maine Central Railroad.
- c) (Interstate 95) over the Kennebec River and Maine Central Railroad station 1248+00.00 to station 1273+29.15 of the construction plus approaches.

Per 29-A § 2382 (7) MRSA, the MDOT may “*issue permits for stated periods of time for loads and equipment employed on public way construction projects, United States Government projects or construction of private ways, when within construction areas established by the Department of Transportation. The permit:*

*A. Must be procured from the municipal officers for a construction area within that municipality;*

*B. May require the contractor to be responsible for damage to ways used in the construction areas and may provide for:*

*(1) Withholding by the agency contracting the work of final payment under contract; or*

*(2) The furnishing of a bond by the contractor to guarantee suitable repair or payment of damages.*

*The suitability of repairs or the amount of damage is to be determined by the Department of Transportation on state-maintained ways and bridges, otherwise by the municipal officers;*

*C. May be granted by the Department of Transportation or by the state engineer in charge of the construction contract; and*

*D. For construction areas, carries no fee and does not come within the scope of this section.”*

The Municipal Officers for the **Town of Benton** agreed that an Overlimit Permit will be issued to the Contractor for the purpose of using loads and equipment on municipal ways in excess of the limits as specified in 29-A MRSA, on the municipal ways as described in the “Construction Area”.

As noted above, a bond may be required by the municipality, the exact amount of said bond to be determined prior to use of any municipal way. The MDOT will assist in determining the bond amount if requested by the municipality.

The maximum speed limits for trucks on any town way will be 25 mph (40 km per hour) unless a higher legal limit is specifically agreed upon in writing by the Municipal Officers concerned.

**SPECIAL PROVISION 105**  
**CONSTRUCTION AREA**

A Construction Area located in the **Town of Benton** and **Fairfield** has been established by the Maine Department of Transportation (MDOT) in accordance with provisions of 29-A § 2382 Maine Revised Statutes Annotated (MRSA).

- a) The section of highway under construction in the town of Benton and Fairfield, Kennebec and Somerset Counties on Interstate 95 over the Kennebec River.
- b) The section of highway under construction in the town of Fairfield, Somerset County on Interstate 95 over the Maine Central Railroad.
- c) (Interstate 95) over the Kennebec River and Maine Central Railroad station 1248+00.00 to station 1273+29.15 of the construction plus approaches.

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*A. Must be procured from the municipal officers for a construction area within that municipality;*

*B. May require the contractor to be responsible for damage to ways used in the construction areas and may provide for:*

*(1) Withholding by the agency contracting the work of final payment under contract; or*

*(2) The furnishing of a bond by the contractor to guarantee suitable repair or payment of damages.*

*The suitability of repairs or the amount of damage is to be determined by the Department of Transportation on state-maintained ways and bridges, otherwise by the municipal officers;*

*C. May be granted by the Department of Transportation or by the state engineer in charge of the construction contract; and*

*D. For construction areas, carries no fee and does not come within the scope of this section.”*

The Municipal Officers for the **Town of Fairfield** agreed that an Overlimit Permit will be issued to the Contractor for the purpose of using loads and equipment on municipal ways in excess of the limits as specified in 29-A MRSA, on the municipal ways as described in the “Construction Area”.

As noted above, a bond may be required by the municipality, the exact amount of said bond to be determined prior to use of any municipal way. The MDOT will assist in determining the bond amount if requested by the municipality.

The maximum speed limits for trucks on any town way will be 25 mph (40 km per hour) unless a higher legal limit is specifically agreed upon in writing by the Municipal Officers concerned.

**SPECIAL PROVISION 105**  
**OVERLIMIT PERMITS**

**Title 29-A § 2382 MRSA Overlimit Movement Permits.**

**1. Overlimit movement permits issued by State.** The Secretary of State, acting under guidelines and advice of the Commissioner of Transportation, may grant permits to move nondivisible objects having a length, width, height or weight greater than specified in this Title over a way or bridge maintained by the Department of Transportation

**2. Permit fee.** The Secretary of State, with the advice of the Commissioner of Transportation, may set the fee for single trip permits, at not less than \$6, nor more than \$30, based on weight, height, length and width. The Secretary of State may, by rule, implement fees that have been set by the Commissioner of Transportation for multiple trip, long-term overweight movement permits. Rules established pursuant to this section are routine technical rules pursuant to Title 5, chapter 375, subchapter II-A.

**3. County and municipal permits.** A county commissioner or municipal officer may grant a permit, for a reasonable fee, for travel over a way or bridge maintained by that county or municipality

**4. Permits for weight.** A vehicle granted a permit for excess weight must first be registered for the maximum gross vehicle weight allowed for that vehicle.

**5. Special mobile equipment.** The Secretary of State may grant a permit, for no more than one year, to move pneumatic-tire equipment under its own power, including Class A and Class B special mobile equipment, over ways and bridges maintained by the Department of Transportation. The fee for that permit is \$15 for each 30-day period.

**6. Scope of permit.** A permit is limited to the particular vehicle or object to be moved, the trailer or semitrailer hauling the overlimit object and particular ways and bridges.

**7. Construction permits.** A permit for a stated period of time may be issued for loads and equipment employed on public way construction projects, United States Government projects or construction of private ways, when within construction areas established by the Department of Transportation. The permit:

A. Must be procured from the municipal officers for a construction area within that municipality;

B. May require the contractor to be responsible for damage to ways used in the construction areas and may provide for:

(1) Withholding by the agency contracting the work of final payment under contract; or

(2) The furnishing of a bond by the contractor to guarantee suitable repair or payment of damages.

The suitability of repairs or the amount of damage is to be determined by the Department of Transportation on state-maintained ways and bridges, otherwise by the municipal officers;

C. May be granted by the Department of Transportation or by the state engineer in charge of the construction contract; and

D. For construction areas, carries no fee and does not come within the scope of this section.

**8. Gross vehicle weight permits.** The following may grant permits to operate a vehicle having a gross vehicle weight exceeding the prescribed limit:

A. The Secretary of State, with the consent of the Department of Transportation, for state and state aid highways and bridges within city or compact village limits;

B. Municipal officers, for all other ways and bridges within that city and compact village limits; and

C. The county commissioners, for county roads and bridges located in unorganized territory.

**9. Pilot vehicles.** The following restrictions apply to pilot vehicles.

A. Pilot vehicles required by a permit must be equipped with warning lights and signs as required by the Secretary of State with the advice of the Department of Transportation.

B. Warning lights may be operated and lettering on the signs may be visible on a pilot vehicle only while it is escorting a vehicle with a permit on a public way.

With the advice of the Commissioner of Transportation and the Chief of the State Police, the Secretary of State shall establish rules for the operation of pilot vehicles.

**9-A. Police escort.** A person may not operate a single vehicle or a combination of vehicles of 125 feet or more in length or 16 feet or more in width on a public way unless the vehicle or combination of vehicles is accompanied by a police escort. The Secretary of State, with the advice of the Commissioner of Transportation, may require a police escort for vehicles of lesser dimensions.

A. The Bureau of State Police shall establish a fee for state police escorts to defray the costs of providing a police escort. A county sheriff or municipal police department may establish a fee to defray the costs of providing police escorts.

B. The Bureau of State Police shall provide a police escort if a request is made by a permittee. A county sheriff or municipal police department may refuse a permittee's request for a police escort.

C. A vehicle or combination of vehicles for which a police escort is required must be accompanied by a state police escort when operating on the interstate highway system.

**10. Taxes paid.** A permit for a mobile home may not be granted unless the applicant provides reasonable assurance that all property taxes, sewage disposal charges and drain and sewer assessments applicable to the mobile home, including those for the current tax year, have been paid or that the mobile home is exempt from those taxes. A municipality may waive the requirement that those taxes be paid before the issuance of a permit if the mobile home is to be moved from one location in the municipality to another location in the same municipality for purposes not related to the sale of the mobile home.

**11. Violation.** A person who moves an object over the public way in violation of this section commits a traffic infraction.

Section History:

- PL 1993, Ch. 683, §A2 (NEW).
- PL 1993, Ch. 683, §B5 (AFF).
- PL 1997, Ch. 144, §1,2 (AMD).
- PL 1999, Ch. 117, §2 (AMD).
- PL 1999, Ch. 125, §1 (AMD).
- PL 1999, Ch. 580, §13 (AMD).
- PL 2001, Ch. 671, §30 (AMD).
- PL 2003, Ch. 166, §13 (AMD).
- PL 2003, Ch. 452, §Q73,74 (AMD).
- PL 2003, Ch. 452, §X2 (AFF).

**Fairfield - Benton  
C.A. Clauson Bridges  
M C RR Bridge  
PIN 016686.00, 016700.00, & 017814.00  
March 14, 2011**

**SPECIAL PROVISION  
SECTION 106  
QUALITY  
(Quality Level Analysis)**

The first formula under Item H under Subsection 106.7.1, Standard Deviation Method, of the 2002 Revision of the Standard Specifications is deleted and replaced with the following:

**Method A:     $PF = [32.5 + (Quality\ Level * 0.75)] * 0.01$**

**SPECIAL PROVISION**  
**SECTION 107**  
**(PROSECUTION AND PROGRESS)**  
**SUPPLEMENTAL LIQUIDATED DAMAGES**  
**CONTRACT TIME**

1. The Contractor shall not be allowed to start work prior to submission and approval of the Soil Erosion and Water Pollution Control Plan.
2. The Contractor shall conduct operations in such a manner that watercraft passage is maintained through the construction area at all times except when the navigation channel is obstructed by ice or for the following construction activities:
  - Structural steel erection
  - Concrete slab placement
  - Existing bridge deck removal.
3. There shall be no Sunday work without the prior approval of the Resident.
4. The Contractor shall conduct operations in such a manner that equipment shall be off the roadways by 3:00 PM on Friday's when the median crossover is not in use or as approved by the Resident.
5. No work shall occur after 12:00 PM on the day preceding a holiday and before 12:00PM on the day following a holiday when the median crossover is not in use or as approved by the Resident. Holidays are: New Years Day; Memorial Day; Independence Day; Labor Day; Thanksgiving; and Christmas.
6. Work shall be allowed prior to activation of the crossovers with the approval of the Resident. No lane closures shall be allowed if snow or inclement weather is present or predicted. Temporary lane closures shall be permitted on bridge and approach roadways. The minimum lane widths shall be 2-foot left shoulder, 12-foot travel lane and 2- foot right shoulder.

107.4.2 Schedule of Work Required. This Section is amended by the following:

A Critical Path Method (CPM) shall be provided prior to the Pre-Construction Conference.

In addition to the Contractors initial CPM Schedule, the Department will require the Contractor to update the schedule monthly to show current progress. The contractor shall provide copies of the schedule to the Resident. The submittal date for monthly updates shall be determined by the Resident.

107.5.1.A Start of Winter Season This subsection is modified by the addition of the following paragraph:

“The Contractor shall complete all final pavement activities prior to October 15<sup>th</sup> of each respective construction year. Pavement shall be complete such that unimpeded traffic flow may be resumed on the entire project area. All work on the crossovers must be complete prior to shifting traffic from Interstate 95 Northbound to Interstate 95 Southbound and Interstate 95 Southbound to Interstate 95 Northbound. Pavement markings must immediately follow the surface pavement placement as approved by the Resident. In the event the membrane and pavement cannot be placed prior to October 15<sup>th</sup> of each year, temporary pavement and pavement markings shall be placed to finished grade at the contractor’s expense. The temporary pavement shall be removed by approved means without damaging new deck after April 15<sup>th</sup> at the contractor’s expense.”

107.8 Supplemental Liquidated Damages This subsection is modified by the addition of the following paragraphs:

The Contractor shall be assessed Supplemental Liquidated Damages at the rate of five thousand dollars (\$5000.00) per day for every day that contract completion exceeds the contract completion date.

Supplemental liquidated damages shall be assessed at a rate of two thousand dollars (\$2000.00) per day for every calendar day that boat traffic is obstructed.

All four lanes of Interstate 95 and Exit 133 Northbound On-Ramp shall be open to traffic on October 25, 2013. The Contractor shall be assessed Supplemental Liquidated Damages at a rate of two thousand dollars (\$2000.00) per day for every calendar day all four lanes of Interstate 95 and the Exit 133 Northbound On-Ramp has not been opened to traffic as specified.

**Fairfield - Benton  
C.A. Clauson Bridges  
M C RR Bridge  
PIN 016686.00, 016700.00, & 017814.00  
June 16, 2011**

Assessment of Supplemental Liquidated Damages shall be in addition to liquidated damages specified in Section 107 of the Standard Specifications. The Supplemental Liquidated Damages will be deducted from amounts otherwise due the Contractor.

The specified contract completion date is December 13, 2013.

**SPECIAL PROVISION  
SECTION 107  
TIME**

(Supplemental Liquidated Damages for Fabrication Time)

107.8.1 Fabrication Time.

The Department has budgeted for the following amounts of continuous fabrication/shop inspection for certain Work components:

| <u>Element</u>                             | <u>Time</u>       | <u>Supplemental LD</u> |
|--|-------------------|------------------------|
| 1) Structural Steel Repairs (cover plates) | 56 calendar days  | \$500 per calendar day |
| 2) Precast concrete deck panels            | 165 calendar days | \$500 per calendar day |

The Contractor is responsible for requiring the fabricators, manufacturers and/or suppliers to produce these products for the Work continuously until finished, including any needed actions to correct unacceptable workmanship or materials. If the Department determines that shop inspection beyond these times is required, then the corresponding Supplemental Liquidated Damages will be deducted as they occur from amounts otherwise due the fabricators, manufacturers and/or suppliers. The Contractor and fabricator/manufacturer will be notified by the Department when these times begin and when the allotted time will expire.

If a fabricator or supplier works more than one shift per day and the Department determines that inspection is required for each shift, each shift will count as a calendar day and the LD rate will be the noted amount per shift per calendar day in lieu of per calendar day.

Precast Deck Panels and Structural Steel Cover Plates are expected to be produced in phases. Each phase shall be completed continuously. Twenty calendar days have been included in the allotted time in consideration of the production phasing.

Precast inspection is required for the following activities: tensioning of strands, batching and casting of concrete, breaking of test cylinders, de-tensioning.

Structural Steel shop inspection is required for the following activities: hot work, curving, and drilling.

**SPECIAL PROVISION  
SECTION 107  
TIME**

107.4.2 Schedule of Work Required. This Section is amended by the following:

A Critical Path Method (CPM) shall be provided prior to the Pre-Construction Conference.

In addition to the Contractors initial CPM Schedule, the Department will require the Contractor to update the schedule monthly to show current progress. The contractor shall provide copies of the schedule to the Resident. The submittal date for monthly updates shall be determined by the Resident.

SPECIAL PROVISION  
SECTION 108  
PAYMENT  
(Asphalt Escalator)

108.4.1 Price Adjustment for Hot Mix Asphalt: For all contracts with hot mix asphalt in excess of 500 tons total, a price adjustment for performance graded binder will be made for the following pay items:

- Item 403.206 Hot Mix Asphalt - 25 mm
- Item 403.207 Hot Mix Asphalt - 19 mm
- Item 403.2071 Hot Mix Asphalt - 19 mm (Polymer Modified)
- Item 403.2072 Hot Mix Asphalt - 19 mm (Asphalt Rich Base)
- Item 403.2073 Warm Mix Asphalt - 19 mm
- Item 403.208 Hot Mix Asphalt - 12.5 mm
- Item 403.2081 Hot Mix Asphalt - 12.5 mm (Polymer Modified)
- Item 403.2083 Warm Mix Asphalt - 12.5 mm
- Item 403.209 Hot Mix Asphalt - 9.5 mm (sidewalks, drives, & incidentals)
- Item 403.210 Hot Mix Asphalt - 9.5 mm
- Item 403.2101 Hot Mix Asphalt - 9.5 mm (Polymer Modified)
- Item 403.2102 Hot Mix Asphalt - 9.5 mm (Asphalt Rich Base)
- Item 403.2103 Warm Mix Asphalt - 9.5 mm
- Item 403.211 Hot Mix Asphalt – Shim
- Item 403.2111 Hot Mix Asphalt – Shim (Polymer Modified)
- Item 403.2113 Warm Mix Asphalt - Shim
- Item 403.212 Hot Mix Asphalt - 4.75 mm (Shim)
- Item 403.2123 Warm Mix Asphalt - 4.75 mm (Shim)
- Item 403.213 Hot Mix Asphalt - 12.5 mm (base and intermediate course)
- Item 403.2131 Hot Mix Asphalt - 12.5 mm (base and intermediate course Polymer Modified)
- Item 403.2132 Hot Mix Asphalt - 12.5 mm (Asphalt Rich Base and intermediate course)
- Item 403.2133 Warm Mix Asphalt - 12.5 mm (base and intermediate course)
- Item 403.214 Hot Mix Asphalt - 4.75 mm (Surface)
- Item 403.2143 Warm Mix Asphalt - 4.75 mm (Surface)
- Item 461.13 Maintenance Surface Treatment

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

The quantity of hot mix asphalt for each pay item will be multiplied by the performance graded binder percentages given in the table below times the difference in price between the base price and the period price of asphalt cement. Adjustments will be made upward or downward, as prices increase or decrease.

Item 403.206: 4.8%

|                   |                    |                    |                    |
|-------------------|--------------------|--------------------|--------------------|
| Item 403.207–5.2% | Item 403.2071–5.2% | Item 403.2072–5.8% | Item 403.2073–5.2% |
| Item 403.208–5.6% | Item 403.2081–5.6% |                    | Item 403.2083–5.6% |
| Item 403.209–6.2% |                    |                    |                    |
| Item 403.210–6.2% | Item 403.2101–6.2% | Item 403.2102–6.8% | Item 403.2103–6.2% |

|                   |                    |                    |
|-------------------|--------------------|--------------------|
| Item 403.211-6.2% | Item 403.2111-6.2% | Item 403.2113-6.2% |
| Item 403.212-6.8% |                    | Item 403.2123-6.8% |
| Item 403.213-5.6% | Item 403.2131-5.6% | Item 403.2132-6.2% |
| Item 403.214-6.8% |                    | Item 403.2133-5.6% |
| Item 461.13-6.4%  |                    | Item 403.2143-6.8% |

**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 New England Selling Price (Excluding the Connecticut market area), 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 New England Selling Price (Excluding the Connecticut market area), listed in the Asphalt Weekly Monitor current with the paving date. The maximum Period Price for paving after the adjusted Contract Completion Date will be the Period Price on the adjusted Contract Completion Date.

**SPECIAL PROVISION**  
**SECTION 202**  
REMOVING STRUCTURES AND OBSTRUCTURES  
(Aluminum Bridge Rail)

**Description:**

Aluminum bridge rail removed and not reused on the project shall remain property of the Department. The Contractor shall use care during removal of the aluminum bridge rail so as not to damage the rail. The aluminum bridge rail shall be removed by the Contractor as shown on the plans and/or as directed by the Resident and transported from the project site to the following location:

Maine Department of Transportation  
Fairfield Maintenance Lot  
10 Mountain Ave.  
Fairfield, ME

The Contractor shall contact the Maine DOT Region 2 office at (207) 624-8200 a minimum of 48 hours in advance of delivery of the aluminum bridge rail. The aluminum bridge rail shall be unloaded by the Department.

The aluminum rail shall be adequately secured to wooden pallets before being returned to the Department. Base plates, rail caps, splice bars, clamp bars and miscellaneous hardware shall be placed in wooden boxes on wooden pallets. The wooden boxes shall have wooden covers attached with two hinges and a clasp. The clasp shall be secured in the closed position by a method approved by the Resident. The size of the pallets and boxes shall be approved by the Resident. The weight limit on the pallets shall be such that no damage will occur to the pallets or the materials stored on the pallets.

**Method of Measurement:**

Aluminum bridge rail removed and not reused on the project shall be measured for payment as one lump sum unit.

**Basis of Payment:**

Payment shall include labor, and equipment, furnishing all material necessary to complete the work, as directed by the Resident, and delivery to the Fairfield Maintenance Lot.

**Pay Item**

202.132 Remove Existing Railings (Retained By Department)

**Pay Unit**

Lump Sum

**SPECIAL PROVISION**  
**SECTION 202**  
REMOVING STRUCTURES AND OBSTRUCTIONS

The last paragraph of Subsection 202.08, Basis of Payment is revised by the addition of the following:

| <u>Pay Item</u> |  | <u>Pay Unit</u> |
|-----------------|--|-----------------|
| 202.18          | Remove Existing Bituminous Pavement (Including Membrane) | LS              |

**SPECIAL PROVISION**  
**SECTION 202**  
**REMOVING STRUCTURES AND OBSTRUCTIONS**  
(Shoulder Rumble Strip)

Description This work shall consist of milling a pattern onto highway shoulders at the spacing, offset, width, and depth shown on the plans. Rumble strips shall not be placed across ramp openings or bridges. Rumble strips shall not be ground until pavement line striping has been completed.

**CONSTRUCTION REQUIREMENTS**

Removing Material The bituminous material shall be removed by a cold milling machine capable of removing the pavement to the required depth and width. The machine must be adjustable to grind or plane on various cross-slopes. Salvage and disposal of bituminous material shall be in accordance with Section 203.

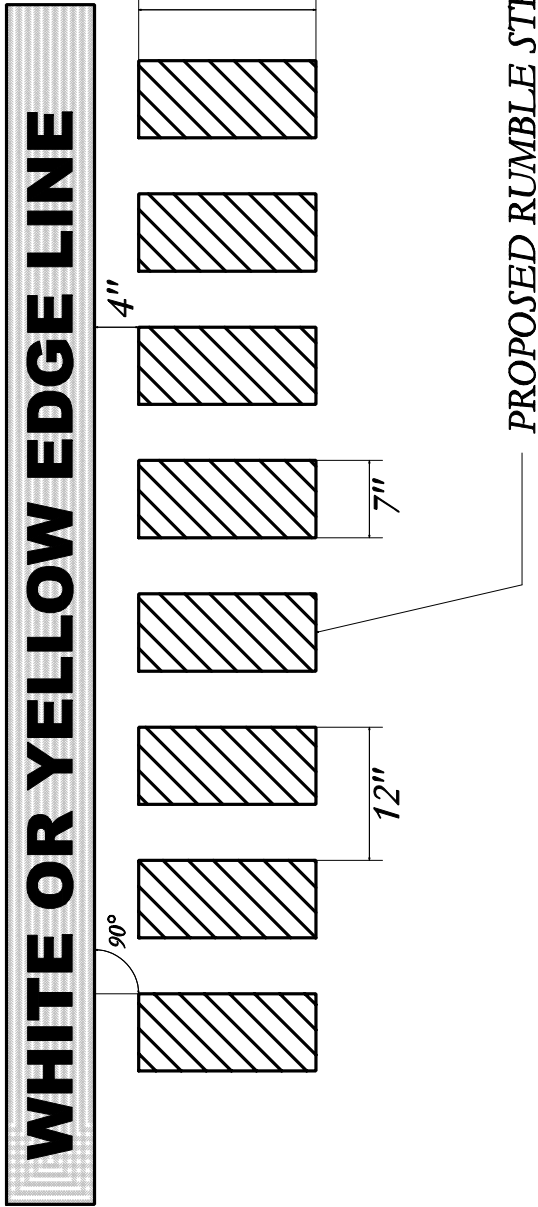
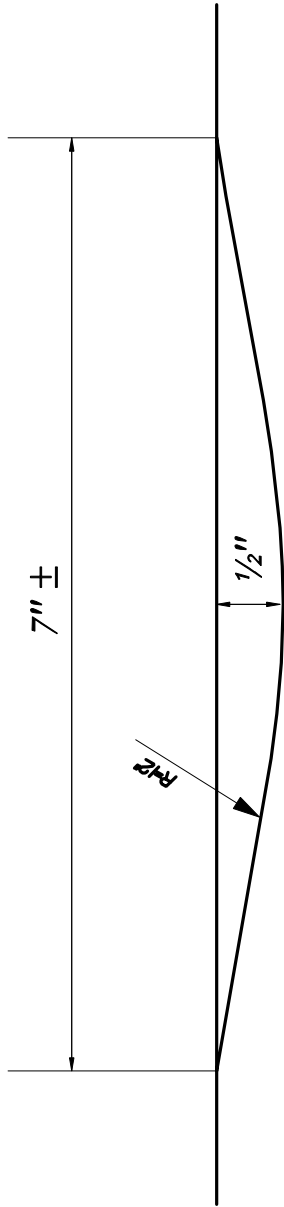
Equipment The equipment shall be a cold milling machine or a cold planing machine specially manufactured for rumble strips. This machine shall be capable of cutting 1200 rumble strips per hour of operation. The Contractor will perform a test section prior to rumble strip installation and at any time as directed by the Resident. The test section will be done to ensure that the machine is capable of milling the rumble strips in accordance with these specifications and the plans.

Method of Measurement Rumble strips will be measured by the meter [foot] longitudinally along the edge of the travelway.

Basis of Payment The accepted quantity of rumble strips will be paid for at the unit price bid per meter [foot] which price will be full compensation for removing and salvaging the bituminous material and for any labor, equipment, and incidentals needed to complete this work.

Payment will be made under:

| <u>Pay Item</u>               | <u>Pay Unit</u> |
|-------------------------------|-----------------|
| 202.205 Rumble Strip Shoulder | Meter [Foot]    |



**NOTE:**  
**SHOULDER RUMBLE STRIPS SHALL BE PLACED ON THE MEDIAN AND OUTSIDE SHOULDER AS SHOWN ON THE ABOVE PLAN. THE WHITE OR YELLOW EDGE LINE SHALL BE PLACED PRIOR TO MILLING RUMBLE STRIPS.**

State of Maine  
 Dept. of Transportation

*SHOULDER RUMBLE STRIP DETAIL*  
 (ITEM 202.205)

SHOULDER RUMBLE STRIP  
 DETAIL

**SPECIAL PROVISION**  
**SECTION 203**  
EXCAVATION AND EMBANKMENT  
(Dirty Borrow)

Description: This work shall consist of furnishing and placing dirty borrow for seeding, in reasonably close conformity with the thicknesses called for on the plans or as authorized by the Resident.

Materials: Materials shall conform to the requirements specified in the following Sections of Division 700 – Materials:

|               |        |
|---------------|--------|
| Common Borrow | 703.18 |
| Humus         | 717.09 |

Dirty Borrow shall meet the requirements of Section 703.18 Common Borrow with the following addition and deletions: 703.18 Second sentence, delete the word peat.

Dirty Borrow shall contain no particles or fragments with a maximum dimension in excess of the compacted thickness of the layer being placed.

The granular material must have at least 20 percent, but not more than 50 percent, of the minus 1 in material passing the No. 200 mesh sieve.

The Dirty Borrow must have an organic humus content of 3% to 8% as determined by ignition test.

The Contractor may elect to manufacture Dirty Borrow from a combination of project materials that the contractor is entitled to use, combined with other suitable materials furnished by the Contractor.

**CONSTRUCTION REQUIREMENTS**

Application of Dirty Borrow: Dirty Borrow shall be spread evenly and uniformly on prepared areas in a thickness as shown on the plans.

Method of Measurement: Dirty Borrow will be placed to the required depth as shown on the plans or directed by the Resident.

Basis of Payment: The accepted quantities of dirty borrow will be paid for under pay item 510.301 Expressway Median Crossovers.

Payment shall be full compensation for furnishing and placing the Dirty Borrow in a manner satisfactory to the Resident.

SPECIAL PROVISION  
DIVISION 400  
PAVEMENTS

SECTION 401 - HOT MIX ASPHALT PAVEMENT

401.01 Description The Contractor shall furnish and place one or more courses of Hot Mix Asphalt Pavement (HMA) 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.

401.02 Materials Materials shall meet the requirements specified in Section 700 - Materials:

|                             |        |
|-----------------------------|--------|
| Asphalt Cement              | 702.01 |
| Aggregates for HMA Pavement | 703.07 |
| HMA Mixture Composition     | 703.09 |

401.021 Recycled Asphalt Materials Recycled Asphalt Pavement (RAP) may be introduced into the mixture at percentages approved by the Department. If approved by the Department, the Contractor shall provide documentation stating the source, test results for average residual asphalt content, and stockpile gradations showing RAP materials have been sized to meet the maximum aggregate size requirements of each mix designation. The Department will obtain samples for verification and approval prior to its use.

For specification purposes, RAP will be categorized as follows:

Classified RAP – RAP consisting of processed millings from federal, state or municipal roadways that is free of materials not generally considered to be asphalt pavement. Millings from other sources that have been fractionated or otherwise processed so as to improve the consistency of the RAP may be considered Classified RAP if approved by the Department.

Unclassified RAP – RAP from unknown sources, from excavated or reclaimed pavements, millings from repaired areas or other sources.

In the event that RAP source or properties change, the Contractor shall notify the Department of the change and submit new documentation stating the new source or properties a minimum of 72 hours prior to the change to allow for obtaining new samples and approval.

401.03 Composition of Mixtures The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. HMA shall be designed and tested according to AASHTO R35 and the volumetric criteria in Table 1. 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). The Contractor may use a maximum of 20 percent Classified RAP in any base, binder, surface, or shim course. For Unclassified RAP stockpiles no more than 15 percent shall be used. The Contractor may be allowed to use more than 20 percent Classified RAP, up to a maximum of 25 percent Classified RAP, in a base, binder, or shim course provided that PG 58-34 asphalt binder is used in the mixture. A PG 52-34 may be used when approved by the Department.

The Contractor shall submit for Department approval a JMF to the Central Laboratory in Bangor for each mixture to be supplied. The Department may approve 1 active design per nominal maximum size, per traffic level, per plant, plus a 9.5mm “fine” mix for shimming and where required, a non-RAP design for bridge decks. The Department shall then have 15 calendar days in which to process a new design before approval. The JMF shall establish a single percentage of aggregate passing each sieve size within the limits shown in section 703.09. The mixture shall be designed and produced, including all production tolerances, to comply with the allowable control points for the particular type of mixture as outlined in 703.09. The JMF shall state the original source, gradation, and percentage to be used of each portion of the aggregate including RAP when utilized, and mineral filler if required. It shall also state the proposed PGAB content, the name and location of the refiner, the supplier, the source of PGAB submitted for approval, the type of PGAB modification if applicable, and the location of the terminal if applicable.

In addition, the Contractor shall provide the following information with the proposed JMF:

- Properly completed JMF indicating all mix properties (Gmm, VMA, VFB, etc.)
- Stockpile Gradation Summary
- Design Aggregate Structure Consensus Property Summary
- Design Aggregate Structure Trial Blend Gradation Plots (0.45 power chart)
- Trial Blend Test Results for at least three different asphalt contents
- Design Aggregate Structure for at least three trial blends
- Test results for the selected aggregate blend at a minimum of three binder contents
- Specific Gravity and temperature/viscosity charts for the PGAB to be used
- Recommended mixing and compaction temperatures from the PGAB supplier
- Material Safety Data Sheets (MSDS) For PGAB
- Asphalt Content vs. Air Voids trial blend curve
- Test report for Contractor’s Verification sample
- Summary of RAP test results (if used), including count, average and standard deviation of binder content and gradation

At the time of JMF submittal, the Contractor shall identify and make available the stockpiles of all proposed aggregates at the plant site. There must be a minimum of 150 Mg [150 ton] for stone stockpiles, 75 Mg [75 ton] for sand stockpiles, and 50 Mg [50 ton] of blend sand before the Department will sample. The Department shall obtain samples for laboratory testing. The Contractor shall also make available to the Department the PGAB proposed for use in the mix in sufficient quantity to test the properties of the asphalt and to produce samples for testing of the mixture. Before the start of paving, the Contractor and the Department shall split a production sample for evaluation. The Contractor shall test its split of the sample and determine if the results meet the requirements of the Department’s written policy for mix design verification (See Maine DOT Policies and Procedures for HMA Sampling and Testing available at the Central Laboratory in Bangor). If the results are found to be acceptable, the Contractor will forward their results to the Department’s Lab, which will test the Department’s split of the sample. The results of the two split samples will be compared and shared between the Department and the Contractor. If the Department finds the mixture acceptable, an approved JMF will be forwarded to the Contractor and paving may commence. The first day’s production shall be monitored, and the approval may be withdrawn if the mixture exhibits undesirable characteristics such as checking, shoving or displacement. The Contractor shall be allowed to submit aim changes within 24 hours of receipt of the first Acceptance test result. Adjustments will be allowed of up to 2% on the percent passing the 2.36 mm sieve through the 0.075 mm and 3% on the percent passing the 4.75 mm or larger sieves. Adjustments will be allowed on the %PGAB of up to 0.2%. Adjustments will be allowed on GMM of up to 0.010.

The Contractor shall submit a new JMF for approval each time a change in material source or materials properties is proposed. The same approval process shall be followed. The cold feed percentage of any aggregate may be adjusted up to 10 percentage points from the amount listed on the JMF, however no aggregate listed on the JMF shall be eliminated. The cold feed percentage for RAP may be adjusted up to 5

percentage points from the amount listed on the JMF but shall not exceed the maximum allowable percentage for RAP for the specific application.

TABLE 1: VOLUMETRIC DESIGN CRITERIA

| Design ESAL's (Millions) | Required Density (Percent of G <sub>mm</sub> ) |                     |                  | Voids in the Mineral Aggregate (VMA)(Minimum Percent) |      |      |      |      | Voids Filled with Binder (VFB) (Minimum %) | Fines/Eff. Binder Ratio |
|--------------------------|--|---------------------|------------------|---|------|------|------|------|--|-------------------------|
|                          |  |                     |                  | Nominal Maximum Aggregate Size (mm)                   |      |      |      |      |  |                         |
|                          | N <sub>initial</sub>                           | N <sub>design</sub> | N <sub>max</sub> | 25  | 19   | 12.5 | 9.5  | 4.75 |  |                         |
| <0.3                     | <91.5  | 96.0                | ≤98.0            | 13.0  | 14.0 | 15.0 | 16.0 | 16.0 | 70-80                                      | 0.6-1.2**               |
| 0.3 to <3                | ≤90.5  |                     |                  |   |      |      |      |      | 65-80                                      |                         |
| 3 to <10                 | ≤89.0  |                     |                  |   |      |      |      |      | 65-80*                                     |                         |
| 10 to <30                |  |                     |                  |   |      |      |      |      |  |                         |
| ≥ 30                     |  |                     |                  |   |      |      |      |      |  |                         |

\*For 9.5 mm nominal maximum aggregate size mixtures, the maximum VFB is 82.

\*For 4.75 mm nominal maximum aggregate size mixtures, the maximum VFB is 84.

\*\*For 4.75 mm nominal maximum aggregate size mixtures, the Fines/Effective Binder Ratio is 0.6-1.4.

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

- In the truck at the mixing plant – allowable range 135° to 163°C [275 to 325°F]
- At the Paver – allowable range 135° to 163°C [275 to 325°F]

The JMF and the mix subsequently produced shall meet the requirements of Tables 1 and Section 703.07.

401.05 Performance Graded Asphalt Binder Unless otherwise noted in Special Provision 403 - Hot Mix Asphalt Pavement, the PGAB shall be 64-28, except that for mixtures containing greater than 20 percent but no more than 25 percent RAP the PGAB shall be PG 58-34 (or PG 52-34 when approved by the Department). 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 Certifying Suppliers of PGAB.

The Contractor shall request approval from the Department for a change in PGAB supplier or source by submitting documentation stating the new supplier or source a minimum of 24 hours prior to the change. In the event that the PGAB supplier or source is changed, the Contractor shall make efforts to minimize the occurrence of PGAB co-mingling.

401.06 Weather and Seasonal Limitations The State is divided into two paving zones as follows:

- a. Zone 1 Areas north of US Route 2 from Gilead to Bangor and north of Route 9 from Bangor to Calais.
- b. Zone 2 Areas south of Zone 1 including the US Route 2 and Route 9 boundaries.

The Contractor may place Hot Mix Asphalt Pavement for use other than a traveled way wearing course in either Zone between the dates of April 15<sup>th</sup> and November 15<sup>th</sup>, provided that the air temperature as determined by an approved thermometer (placed in the shade at the paving location) is 4°C [40°F] or higher and the area to be paved is not frozen. The Contractor may place Hot Mix Asphalt Pavement as traveled way wearing course in Zone 1 between the dates of May 1st and the Saturday following October 1st and in Zone 2 between the dates of April 15<sup>th</sup> and the Saturday following October 15<sup>th</sup>, provided the air temperature determined as above is 10°C [50°F] or higher. For the purposes of this Section, the traveled way includes truck lanes, ramps, approach roads and auxiliary lanes. The atmospheric temperature for all courses on bridge decks shall be 10°C [50°F] or higher.

Hot Mix Asphalt Pavement used for curb, driveways, sidewalks, islands, or other incidentals is not subject to seasonal limitations, except that conditions shall be satisfactory for proper handling and finishing of the mixture. All mixtures used for curb, driveways, sidewalks, islands, or other incidentals shall conform to section 401.04 - Temperature Requirements. Unless otherwise specified, the Contractor shall not place Hot Mix Asphalt Pavement on a wet or frozen surface and the air temperature shall be 4°C [40°F] or higher.

On all sections of overlay with wearing courses less than 25 mm [1 in] thick, the wearing course for the travelway and adjacent shoulders shall be placed between the dates of May 15<sup>th</sup> and the Saturday following September 15<sup>th</sup>.

On all sections of overlay with wearing courses less than 1 inch thick, the wearing course for the travelway and adjacent shoulders shall be placed between the dates of June 1<sup>st</sup> and the Saturday following September 1<sup>st</sup> if the work is to be performed, either by contract requirement, or Contractor option, during conditions defined as “night work”.

#### 401.07 Hot Mix Asphalt Plant

401.071 General Requirements HMA plants shall conform to AASHTO M156.

a. Truck Scales When the hot mix asphalt is to be weighed on scales meeting the requirements of Section 108 - Payment, the scales shall be inspected and sealed by the State Sealer as often as the Department deems necessary to verify their accuracy.

Plant scales shall be checked prior to the start of the paving season, and each time a plant is moved to a new location. Subsequent checks will be made as determined by the Resident. The Contractor will have at least ten 20 Kg [50 pound] masses for scale testing.

401.072 Automation of Batching Batch plants shall be automated for weighing, recycling, and monitoring the system. In the case of a malfunction of the printing system, the requirements of Section 401.074 c. of this specification will apply.

The batch plant shall accurately proportion the various materials in the proper order by weight. The entire batching and mixing cycle shall be continuous and shall not require any manual operations. The batch plant shall use auxiliary interlock circuits to trigger an audible alarm whenever an error exceeding the acceptable tolerance occurs. Along with the alarm, the printer shall print an asterisk on the delivery slip in the same row containing the out-of-tolerance weight. The automatic proportioning system shall be capable of consistently delivering material within the full range of batch sizes. When RAP is being used, the plant must be capable of automatically compensating for the moisture content of the RAP.

All plants shall be equipped with an approved digital recording device. The delivery slip load ticket shall contain information required under Section 108.1.3 - Provisions Relating to Certain Measurements, Mass and paragraphs a, b, and c of Section 401.073

401.073 Automatic Ticket Printer System on Automatic HMA Plant An approved automatic ticket printer system shall be used with all approved automatic HMA plants. The requirements for delivery slips for payment of materials measured by weight, as given in the following Sections, shall be waived: 108.1.3 a., 108.1.3 b., 108.1.3 c., and 108.1.3 d. The automatic printed ticket will be considered as the Weight Certificate.

The requirements of Section 108.1.3 f. - Delivery Slips, shall be met by the weigh slip or ticket, printed by the automatic system, which accompanies each truckload, except for the following changes:

- a. The quantity information required shall be individual weights of each batch or total net weight of each truckload.
- b. Signatures (legible initials acceptable) of Weighmaster (required only in the event of a malfunction as described in 401.074 c.).
- c. The MDOT designation for the JMF.

401.074 Weight Checks on Automatic HMA Plant At least twice during each 5 days of production either of the following checks will be performed:

a. A loaded truck may be intercepted and weighed on a platform scale that has been sealed by the State Sealer of Weights and Measures within the past 12 months. Whenever the discrepancy in net weights is greater than 1.0%, but does not exceed 1.5%, the plant inspector will notify the producer to take corrective action; payment will still be governed by the printed ticket.

The producer will be allowed a period of two days to make any needed repairs to the plant and/or platform scales so that the discrepancy in net weights between the two is less than 1.0%. If the discrepancy exceeds 1.5%, the plant will be allowed to operate as long as payment is determined by truck platform scale net weight. Effective corrective action shall be taken within two working days.

b. Where platform scales are not readily available, a check will be made to verify the accuracy and sensitivity of each scale within the normal weighing range and to assure that the interlocking devices and automatic printer system are functioning properly.

c. In the event of a malfunction of the automatic printer system, production may be continued without the use of platform truck scales for a period not to exceed the next two working days, providing total weights of each batch are recorded on weight tickets and certified by a Licensed Public Weighmaster.

401.08 Hauling Equipment Trucks for hauling Hot Mix Asphalt Pavement shall have tight, clean, and smooth metal dump bodies, which have been thinly coated with a small amount of approved release agent to prevent the mixture from adhering to the bodies. Solvent based agents developed to strip asphalts from aggregates will not be allowed as release agents.

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

All truck bodies shall have an opening on both sides, which will accommodate a thermometer stem. The opening shall be located near the midpoint of the body, at least 300 mm [12 in] above the bed.

401.09 Pavers Pavers shall be self-contained, self-propelled units with an activated screed (heated if necessary) capable of placing courses of Hot Mix Asphalt Pavement in full lane widths specified in the contract on the main line, shoulder, or similar construction.

On projects with no price adjustment for smoothness, pavers shall be of sufficient class and size to place Hot Mix Asphalt Pavement over the full width of the mainline travel way with a 3 m [10 ft] minimum main screed with activated extensions.

The Contractor shall place Hot Mix Asphalt Pavement on the main line with a paver using an automatic grade and slope controlled screed, unless otherwise authorized by the Department. The controls shall automatically adjust the screed and increase or decrease the layer thickness to compensate for irregularities in the preceding course. The controls shall maintain the proper transverse slope and be readily adjustable so that transitions and superelevated curves can be properly paved. The controls shall operate from a fixed or moving reference such as a grade wire or ski type device (floating beam) with a minimum length of 10 m [30 ft], a non-contact grade control with a minimum span of 7.3 m [24 ft], except that a 12 m [40 ft] reference shall be used on Expressway projects.

The Contractor shall operate the paver in such a manner as to produce a visually uniform surface texture and a thickness within the requirements of Section 401.101 - Surface Tolerances. The paver shall have a receiving hopper with sufficient capacity for a uniform spreading operation and a distribution system to place the mixture uniformly, without segregation in front of the screed. The screed assembly shall produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. Pavers with extendible screeds shall have auger extensions and tunnel extenders as per the manufacturer's recommendations, a copy of which shall be available if requested.

The Contractor shall have the paver at the project site sufficiently before the start of paving operations to be inspected and approved by the Department. The Contractor shall repair or replace any paver found worn or defective, either before or during placement, to the satisfaction of the Department. Pavers that produce an unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA on MaineDOT projects.

On a daily basis, the Contractor shall perform nuclear density testing across the mat being placed, prior to being compacted by equipment., at 300 mm [12 in] intervals, If the density values vary by more than 2.0% from the mean, the Contractor shall make adjustments to the screed until the inconsistencies are remedied.

Failure to replace or repair defective placement equipment may result in a letter of suspension of work and notification of a quality control violation resulting in possible monetary penalties as governed by Section 106 - Quality

401.10 Rollers Rollers shall be static steel, pneumatic tire, or approved vibrator type. Rollers shall be in good mechanical condition, capable of starting and stopping smoothly, and be free from backlash when reversing direction. Rollers shall be equipped and operated in such a way as to prevent the picking up of hot mixed material by the roller surface. The use of rollers, which result in crushing of the aggregate or in displacement of the HMA will not be permitted. Any Hot Mix Asphalt Pavement that becomes loose, broken, contaminated, shows an excess or deficiency of Performance Graded Asphalt Binder, or is in any other way defective shall be removed and replaced at no additional cost with fresh Hot Mix Asphalt Pavement, which shall be immediately compacted to conform to the adjacent area.

The Contractor shall repair or replace any roller found to be worn or defective, either before or during placement, to the satisfaction of the Department. Rollers that produce grooved, unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA on MaineDOT projects.

The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor's option, provided specification densities are attained and with the following requirements:

- a. On variable-depth courses, the first lift of pavement over gravel, reclaimed pavement, an irregular surface, or on bridges, at least one roller shall be 14.5 Mg [16 ton] pneumatic-tired. Unless otherwise allowed by the Resident, pneumatic-tired rollers shall be equipped with skirting to minimize the pickup of

HMA materials from the paved surface. When required by the Resident, the roller shall be ballasted to 18.1 Mg [20 ton].

b. Compaction with a vibratory or steel wheel roller shall precede pneumatic-tired rolling, unless otherwise authorized by the Department.

c. Vibratory rollers shall not be operated in the vibratory mode when checking or cracking of the mat occurs, or on bridge decks.

d. Any method, which results in cracking or checking of the mat, will be discontinued and corrective action taken.

The maximum operating speed for a steel wheel or pneumatic roller shall not exceed the manufacturer's recommendations, a copy of which shall be available if requested.

401.101 Surface Tolerances The Department will check surface tolerance utilizing the following methods :

- a.) A 5 m [16 ft] straightedge or string line placed directly on the surface, parallel to the centerline of pavement.
- b.) A 3 m [10 ft] straightedge or string line placed directly on the surface, transverse to the centerline of pavement.

The Contractor shall correct variations exceeding 6 mm [ $\frac{1}{4}$  in] by removing defective work and replacing it with new material as directed by the Department. The Contractor shall furnish a 10 foot straightedge for the Departments use.

401.11 Preparation of Existing Surface The Contractor shall thoroughly clean the surface upon which Hot Mix Asphalt Pavement is to be placed of all objectionable material. When the surface of the existing base or pavement is irregular, the Contractor shall bring it to uniform grade and cross section. All surfaces shall have a tack coat applied prior to placing any new HMA course. Tack coat shall conform to the requirements of Section 409 – Bituminous Tack Coat, Section 702 – Bituminous Material, and all applicable sections of the contract.

401.12 Hot Mix Asphalt Documentation The Contractor and the Department shall agree on the amount of Hot Mix Asphalt Pavement that has been placed each day.

401.13 Preparation of Aggregates The Contractor shall dry and heat the aggregates for the HMA to the required temperature. The Contractor shall properly adjust flames to avoid physical damage to the aggregate and to avoid depositing soot on the aggregate.

401.14 Mixing The Contractor shall combine the dried aggregate in the mixer in the amount of each fraction of aggregate required to meet the JMF. The Contractor shall measure the amount of PGAB and introduce it into the mixer in the amount specified by the JMF.

The Contractor shall produce the HMA at the temperature established by the JMF.

The Contractor shall dry the aggregate sufficiently so that the HMA will not flush, foam excessively, or displace excessively under the action of the rollers. The Contractor shall introduce the aggregate into the mixer at a temperature of not more than 14°C [25°F] above the temperature at which the viscosity of the PGAB being used is 0.150 Pa·s.

The Contractor shall store and introduce into the mixer the Performance Graded Asphalt Binder at a uniformly maintained temperature at which the viscosity of the PGAB is between 0.150 Pa·s and 0.300 Pa·s. The aggregate shall be coated completely and uniformly with a thorough distribution of the PGAB. The Contractor shall determine the wet mixing time for each plant and for each type of aggregate used.

401.15 Spreading and Finishing 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 HMA with hand tools to provide the required compacted thickness. Solvent based agents developed to strip asphalts from aggregates will not be allowed as release agents.

On roadways with adjoining lanes carrying 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.

401.16 Compaction Immediately after the Hot Mix Asphalt Pavement has been spread, struck off, and any surface irregularities adjusted, the Contractor shall thoroughly and uniformly compact the HMA 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 HMA to the rollers or vibrating compactors without the use of fuel oil or other petroleum based release agents. Solvents designed to strip asphalt binders from aggregates will not be permitted as release agents on equipment, tools, or pavement surfaces.

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 other than placement of variable depth shim course 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 HMA 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.

Any HMA 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 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 maintain a uniform head of HMA during transverse and longitudinal joint construction.

The HMA shall be free of segregation and meet temperature requirements outlined in section 401.04. 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. The Department may allow feathered or "lap" joints on lower base courses or when matching existing base type pavements.

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

The Contractor shall apply a coating of emulsified asphalt immediately before paving all joints to the vertical face and 75 mm [3 in] of the adjacent portion of any pavement being overlaid except those formed by pavers operating in echelon. 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 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.

401.18 Quality Control Method A, B & C The Contractor shall operate in accordance with the approved Quality Control Plan (QCP) to assure a product meeting the contract requirements. The QCP shall meet the requirements of Section 106.6 - Acceptance and this Section. The Contractor shall not begin paving operations until the Department approves the QCP in writing.

Prior to placing any mix, the Department and the Contractor shall hold a Pre-paving conference to discuss the paving schedule, source of mix, type and amount of equipment to be used, sequence of paving pattern, rate of mix supply, random sampling, project lots and sublots and traffic control. A copy of the QC random numbers to be used on the project shall be provided to The Resident. The Departments' random numbers for Acceptance testing shall be generated and on file with the Resident and the Project Manager. All field and plant supervisors including the responsible onsite paving supervisor shall attend this meeting.

The QCP shall address any items that affect the quality of the Hot Mix Asphalt Pavement including, but not limited to, the following:

- a. JMF(s)
- b. Hot mix asphalt plant details
- c. Stockpile Management (to include provisions for a minimum 2 day stockpile)
- d. Make and type of paver(s)
- e. Make and type of rollers including weight, weight per inch of steel wheels, and average contact pressure for pneumatic tired rollers
- f. Name of QCP Administrator, and certification number
- g. Name of Process Control Technician(s) and certification number(s)
- h. Name of Quality Control Technicians(s) and certification number(s)
- i. Mixing & transportation including process for ensuring that truck bodies are clean and free of debris or contamination that could adversely affect the finished pavement
- j. Testing Plan
- k. Laydown operations including longitudinal joint construction, procedures for avoiding paving in inclement weather, type of release agent to be used on trucks tools and rollers, compaction of shoulders, tacking of all joints, methods to ensure that segregation is minimized, procedures to determine the maximum rolling and paving speeds based on best engineering practices as well as past experience in achieving the best possible smoothness of the pavement. Solvent based agents developed to strip asphalts from aggregates will not be allowed as release agents.
- l. Examples of Quality Control forms including a daily plant report and a daily paving report

- m. Silo management and details (can show storage for use on project of up to 36 hours)
- n. Provisions for varying mix temperature due to extraordinary conditions.
- o. Name and responsibilities of the Responsible onsite Paving Supervisor.
- p. Method for calibration/verification of Density Gauge
- q. A note that all testing will be done in accordance with AASHTO and the Maine DOT Policies and Procedures for HMA Sampling and Testing.
- r. A detailed description of RAP processing, stockpiling and introduction into the plant as well as a note detailing conditions under which the percent of RAP will vary from that specified on the JMF.
- s. A detailed procedure outlining when production will be halted due to QC or Acceptance testing results.
- t. A plan to address the change in PGAB source or supplier and the potential co-mingling of differing PGAB's.
- u. A procedure to take immediate possession of acceptance samples once released by MaineDOT and deliver said samples to the designated acceptance laboratory.

The QCP shall include the following technicians together with following minimum requirements:

- a. QCP Administrator - A qualified individual shall administer the QCP. The QCP Administrator must be a full-time employee of or a consultant engaged by the Contractor or paving subcontractor. The QCP Administrator shall have full authority to institute any and all actions necessary for the successful operation of the QCP. The QCP Administrator (or its designee in the QCP Administrator's absence) shall be available to communicate with the Department at all times. The QCP Administrator shall be certified as a Quality Assurance Technologist certified by the New England Transportation Technician Certification Program (NETTCP).
- b. Process Control Technician(s) (PCT) shall utilize test results and other quality control practices to assure the quality of aggregates and other mix components and control proportioning to meet the JMF(s). The PCT shall inspect all equipment used in mixing to assure it is operating properly and that mixing conforms to the mix design(s) and other Contract requirements. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one PCT is required. The Plan shall include the criteria to be utilized by the PCT to correct or reject unsatisfactory materials. The PCT shall be certified as a Plant Technician by the NETTCP.
- c. Quality Control Technician(s) (QCT) shall perform and utilize quality control tests at the job site to assure that delivered materials meet the requirements of the JMF(s). The QCT shall inspect all equipment utilized in transporting, laydown, and compacting to assure it is operating properly and that all laydown and compaction conform to the Contract requirements. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one QCT is required. The QCP shall include the criteria utilized by the QCT to correct or reject unsatisfactory materials. The QCT shall be certified as a Paving Inspector by the NETTCP.

The QCP shall detail the coordination of the activities of the Plan Administrator, the PCT and the QCT. The Project Superintendent shall be named in the QCP, and the responsibilities for successful implementation of the QCP shall be outlined.

The Contractor shall sample, test, and evaluate Hot Mix Asphalt Pavement in accordance with the following minimum frequencies:

TABLE 2 : MINIMUM QUALITY CONTROL FREQUENCIES

| Test or Action                                | Frequency                                       | Test Method            |
|---|---|------------------------|
| Temperature of mix                            | 6 per day at street and plant                   | -                      |
| Temperature of mat                            | 4 per day                                       | -                      |
| %TMD (Surface)                                | 1 per 125 Mg [125 ton]<br>(As noted in QC Plan) | ASTM D2950             |
| %TMD (Base)                                   | 1 per 250 Mg [250 ton]<br>(As noted in QC Plan) | AASHTO T269            |
| Fines / Effective Binder                      | 1 per 500 Mg [500 ton]                          | AASHTO T 312*          |
| Gradation                                     | 1 per 500 Mg [500 ton]                          | AASHTO T30             |
| PGAB content                                  | 1 per 500 Mg [500 ton]                          | AASHTO T164 or<br>T308 |
| Voids at $N_{design}$                         | 1 per 500 Mg [500 ton]                          | AASHTO T 312*          |
| Voids in Mineral Aggregate at<br>$N_{design}$ | 1 per 500 Mg [500 ton]                          | AASHTO T 312*          |
| Rice Specific Gravity                         | 1 per 500 Mg [500 ton]                          | AASHTO T209            |
| Coarse Aggregate Angularity                   | 1 per 5000 Mg [5000 ton]                        | ASTM D5821             |
| Flat and Elongated Particles                  | 1 Per 5000 Mg [5000 ton]                        | ASTM D4791             |
| Fine Aggregate Angularity                     | 1 Per 5000 Mg [5000 ton]                        | AASHTO T304            |

\*Method A and B only

The Contractor may utilize innovative equipment or techniques not addressed by the Contract documents to produce or monitor the production of the mix, subject to approval by the Department.

The Contractor shall submit all Hot Mix Asphalt Pavement plant test reports, inspection reports and updated pay factors in writing, signed by the appropriate technician and present them to the Department by 1:00 P.M. on the next working day, except when otherwise noted in the QCP due to local restrictions. The Contractor shall also retain splits of the previous 5 QC tests, with QC results enclosed for random selection and testing by The Department during QA inspections of the HMA production facility. Test results of splits that do not meet the Dispute Resolution Variance Limits in Table 10 shall trigger an investigation by the MDOT Independent Assurance Unit, and may result in that lab losing NETTCP certification and the ability to request a dispute [Section 401.223 - Process for Dispute Resolution (Methods A , B and C only)].

The Contractor shall make density test results, including randomly sampled densities, available to the Department onsite. Summaries of each day's results, including a daily paving report, shall be recorded and signed by the QCT and presented to the Department by 1:00 p.m. the next working day.

The Contractor shall have a testing lab at the plant site, equipped with all testing equipment necessary to complete the tests in Table 2. The Contractor shall locate an approved Gyratory Compactor at the plant testing lab or within 30 minutes of the plant site.

The Contractor shall fill all holes in the pavement resulting from cutting cores by the Contractor or the Department with a properly compacted, acceptable mixture no later than the following working day. Before filling, the Contractor shall carefully clean the holes and apply a coating of emulsified asphalt. On surface courses, cores shall not be cut except for Verification of the Nuclear Density Gauge, at a rate not to exceed 3 per day or 2 per 1000 Mg [1000 ton] placed.

The 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 UCL and LCL, shall not exceed the allowable control points for the particular type of mixture as outlined in Table 1 of section 703.09

TABLE 3: Control Limits

| Property                          | UCL and LCL       |
|-----------------------------------|-------------------|
| Passing 4.75 mm and larger sieves | Target +/-4.0     |
| Passing 2.36 mm sieve             | Target +/-2.5     |
| Passing .075 mm sieve             | Target +/-1.2     |
| PGAB Content*                     | Target +/-0.3     |
| Voids in the Mineral Aggregate    | LCL = LSL + 0.2   |
| % Voids at $N_{design}$           | JMF Target +/-1.3 |

\*Based on AASHTO T 308

The Contractor shall cease paving operations whenever one of the following occurs on a lot in progress:

- a. Method A: The Pay Factor for VMA, Voids @  $N_d$ , Percent PGAB, composite gradation, VFB, fines to effective binder or density using all Acceptance or all Quality Control tests for the current lot is less than 0.85.
- b. Method B: The Pay Factor for VMA, Voids @  $N_d$ , Percent PGAB, composite gradation, VFB, fines to effective binder or density using all Acceptance or all Quality Control tests for the current lot is less than 0.90.
- c. Method C: The Pay Factor for VMA, Voids @  $N_d$ , Percent PGAB, percent passing the nominal maximum sieve, percent passing 2.36 mm sieve, percent passing 0.300 mm sieve, percent passing 0.075 mm sieve or density using all Acceptance or all available Quality Control tests for the current lot is less than 0.85.
- d. The Coarse Aggregate Angularity or Fine Aggregate Angularity value falls below the requirements of Table 3: Aggregate Consensus Properties Criteria in Section 703.07 for the design traffic level.
- e. Each of the first 2 control tests for a Method A or B lot fall outside the upper or lower limits for VMA, Voids @  $N_d$ , or Percent PGAB; or under Method C, each of the first 2 control tests for the lot fall outside the upper or lower limits for the nominal maximum, 2.36 mm, 0.300 mm or 0.075 mm sieves, or percent PGAB.
- f. The Flat and Elongated Particles value exceeds 10% by ASTM D4791.
- g. There is any visible damage to the aggregate due to over-densification other than on variable depth shim courses.
- h. The Contractor fails to follow the approved QCP.

The Contractor shall notify the Resident in writing as to the reason for shutdown, as well as the proposed corrective action, by the end of the work day. Failure to do so will be treated as a second incident under 106.4.6 QCP Non-compliance. The Department will consider corrective action acceptable if the pay factor for the failing property increases, based on samples already in transit, or a verification sample is tested and the property falls within the specification limits.

In cases where the corrective action can be accomplished immediately, such as batch weight or cold feed changes, the Contractor may elect to resume production once the corrective action is completed. Additional QC testing shall be performed to verify the effectiveness of the corrective action. Subsequent occurrences of shutdown for the same property in a Lot in progress will require paving operations to cease. Paving operations shall not resume until the Contractor and the Department determines that material meeting the Contract requirements will be produced. The Department may allow the Contractor to resume production based upon a passing QC sample, with a split of the sample being sent to the Department for verification testing. If the submitted verification sample test results fall outside the specification limits, the Contractor shall cease production until a verification sample is submitted to the Department has been tested by the Department and found to be within specification limits.

If the Contractor's control chart shows the process to be out of control (defined as a single point outside of the control limits on the running average of three chart) on any property listed in Table 3: Control Limits, the Contractor shall notify the Resident in writing of any proposed corrective action by 1:00 PM the next working day.

The Department retains the exclusive right, with the exception of the first day's production of a new JMF, to determine whether the resumption of production involves a significant change to the production process. If the Department so determines, then the current lot will be terminated, a pay factor established, and a new lot will begin.

401.19 Quality Control Method D For Items covered under Method D, the Contractor shall submit a modified QC Plan detailing, how the mix is to be placed, what equipment is to be used, and what HMA plant is to be used. All mix designs (JMF) shall be approved and verified by MDOT prior to use. Certified QC personnel shall not be required. The Contractor shall certify the mix and the test results for each item by a Certificate of Compliance.

401.20 Acceptance Method A, B & C These methods utilizes Quality Level Analysis and pay factor specifications.

For Hot Mix Asphalt Pavement designated for acceptance under Quality Assurance provisions, the Department will sample once per subplot on a statistically random basis, test, and evaluate in accordance with the following Acceptance Criteria:

TABLE 4: ACCEPTANCE CRITERIA

| PROPERTIES                | POINT OF SAMPLING      | TEST METHOD  |
|---------------------------|------------------------|--------------|
| Gradation                 | Paver Hopper           | AASHTO T30   |
| PGAB Content              | Paver Hopper           | AASHTO T308  |
| %TMD (Surface)            | Mat behind all Rollers | AASHTO T269  |
| %TMD (Base or Binder)     | Mat behind all Rollers | AASHTO T269  |
| Air Voids at $N_d$        | Paver Hopper           | AASHTO T 312 |
| %VMA at $N_d$             | Paver Hopper           | AASHTO T 312 |
| Fines to Effective Binder | Paver Hopper           | AASHTO T 312 |
| %VFB                      | Paver Hopper           | AASHTO T 312 |

In the event the Department terminates a Lot prematurely but fails to obtain the required number of acceptance samples to calculate the volumetric property pay factor under the test method specified in the contract, the pay factor shall be calculated using the number of samples actually obtained from the contract. Should the number of acceptance samples taken total less than three, the resulting pay factor shall be 1.0 for volumetric properties. A minimum of three cores will be used for a density pay factor, if applicable, for quantities placed to date.

Should the Contractor request a termination of the Lot in progress prior to three acceptance samples being obtained, and the Department agrees to terminate the Lot, then the pay factor for mixture properties shall be 0.80. A minimum of three cores will be used to determine a density pay factor, if applicable, for quantities placed to date.

Lot Size For purposes of evaluating all acceptance test properties, a lot shall consist of the total quantity represented by each item listed under the lot size heading.

Sublot size - Refer to section 401.201, 401.202, and 401.203 for minimum size and number of sublots. The quantity represented by each sample will constitute a sublot.

If there is less than one-half of a sublot remaining at the end, then it shall be combined with the previous sublot. If there is more than one-half sublot remaining at the end, then it shall constitute the last sublot and shall be represented by test results. If it becomes apparent partway through a Lot that, due to an underrun, there will be insufficient mix quantity to obtain the minimum number of sublots needed, the Resident may adjust the size of the remaining sublots and select new sample locations based on the estimated quantity of material remaining in the Lot.

Acceptance Testing The Department will obtain samples of Hot Mix Asphalt Pavement in conformance with AASHTO T168 Sampling Bituminous Paving Mixtures, and the Maine DOT Policies and Procedures for HMA Sampling and Testing, which will then be transported by the Contractor to the designated MDOT Laboratory within 48 hours (except when otherwise noted in the project specific QCP due to local restrictions), as directed by MDOT in approved transport containers to be provided by the Department, unless otherwise directed by the Resident. Failure to deliver an acceptance sample to the designated acceptance laboratory will be considered the second incident under 106.4.6–QCP Non-Compliance.

The Department will take the sample randomly within each sublot. Target values shall be as specified in the JMF. The Department will use Table 5 for calculating pay factors for gradation, PGAB Content, Air Voids at  $N_{design}$ , VMA, Fines to Effective Binder and VFB. The Department will withhold reporting of the test results for the Acceptance sample until 7:00 AM, on the second working day of receipt of the sample, or after receipt of the Contractors results of the Acceptance sample split. Upon conclusion of each lot, where there is a minimum of four sublots, results shall be examined for statistical outliers, as stated in Section 106.7.2 - Statistical Outliers.

Isolated Areas During the course of inspection, should it appear that there is an isolated area that is not representative of the lot based on a lack of observed compactive effort, excessive segregation or any other questionable practice, that area may be isolated and tested separately. An area so isolated that has a calculated pay factor below 0.80, based on three random tests shall be removed and replaced at the expense of the Contractor for the full lane width and a length not to be less than 50 m [150 ft].

Pavement Density The Department will measure pavement density using core samples tested according to AASHTO T-166. The Department will randomly determine core locations. The Contractor shall cut 6 inch 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. Cores for Acceptance testing shall be cut such that the nearest edge is never within 0.225 m (9 inches) of any joint. 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 Contractor in the Department's presence onsite, or in an MDOT Lab by The Department, 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.

On all sections of overlay with wearing courses designed to be 19 mm [3/4 in] or less in thickness, there shall be no pay adjustment for density otherwise noted in Section 403 - Hot Bituminous Pavement. For overlays designed to be 19 mm [3/4 in] or less in thickness, density shall be obtained by the same rolling train and methods as used on mainline travelway surface courses with a pay adjustments for density, unless otherwise directed by the Department.

There shall be no pay adjustment for density on shoulders unless otherwise noted in Section 403 - Hot Bituminous Pavement. Density for shoulders shall be obtained by the same rolling train and methods as used on mainline travelway, unless otherwise directed by the Department. Efforts to obtain optimum compaction will not be waived by the Department unless it is apparent during construction that local conditions make densification to this point detrimental to the finished pavement surface course.

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 4500 Mg [4500 tons], with unanticipated over-runs of up to 1500 Mg [1500 ton] rolled into the last lot. Sublot sizes shall be 750 Mg [750 ton] for mixture properties, 500 Mg [500 ton] for base or binder densities and 250 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                         | 4.0% +/-1.5%   |
| Fines to Effective Binder         | 0.6 to 1.2   |
| Voids in the Mineral Aggregate    | LSL Only from Table 1                                      |
| Voids Filled with Binder          | Table 1 values plus a 4% production tolerance for USL only |
| % TMD (In place density)          | 95.0% +/- 2.5%   |

\*\*For 4.75 mm nominal maximum aggregate size mixtures, the Fines/Effective Binder Ratio is 0.6-1.4.

401.202 Method B Lot Size will be the entire production per JMF for the project and shall be divided into 3 equal sublots for Mixture Properties and 3 equal sublots for density.

TABLE 6: METHOD B ACCEPTANCE LIMITS

| Property                                  | USL and LSL                                    |
|---|--|
| Percent Passing 4.75 mm and larger sieves | Target +/-7                                    |
| Percent Passing 2.36 mm to 1.18 mm sieves | Target +/-5                                    |
| Percent Passing 0.60 mm                   | Target +/-4                                    |
| Percent Passing 0.30 mm to 0.075 mm sieve | Target +/-3                                    |
| PGAB Content                              | Target +/-0.5                                  |
| Air Voids                                 | 4.0% +/-2.0                                    |
| Fines to Effective Binder                 | 0.6 to 1.4                                     |
| Voids in the Mineral Aggregate            | LSL from Table 1                               |
| Voids Filled with Binder                  | Table1 plus a 4% production tolerance for USL. |
| % TMD (In-place Density)                  | 95.0% +/- 2.5%                                 |

401.203 Testing Method C 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 4500 Mg [4500 tons], with unanticipated over-runs of up to 1500 Mg [1500 ton] rolled into the last lot. Sublot sizes shall be 750 Mg [750 ton] for mixture properties, 500 Mg [500 ton] for base or binder densities and 250 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: METHOD C 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 +/-5%   |
| Passing 0.60 mm                   | Target +/-4%   |
| Passing 0.30 mm to 0.075 mm sieve | Target +/-2%   |
| PGAB Content                      | Target +/-0.4%   |
| Air Voids                         | 4.0% +/-1.5%   |
| Fines to Effective Binder         | 0.6 to 1.2   |
| Voids in the Mineral Aggregate    | LSL Only from Table 1                                      |
| Voids Filled with Binder          | Table 1 values plus a 4% production tolerance for USL only |
| % TMD (In place density)          | 95.0% +/- 2.5%   |

\*\*For 4.75 mm nominal maximum aggregate size mixtures, the Fines/Effective Binder Ratio is 0.6-1.4.

401.204 Testing Method D For hot mix asphalt items designated as Method D in Section 403 - Hot Bituminous Pavement, one sample will be taken from the paver hopper or the truck body per 250 Mg [250 ton] per pay item. The mix will be tested for gradation and PGAB content. Disputes will not be allowed. If the mix is within the tolerances listed in Table 8: Method D Acceptance Limits, the Department will pay the contract unit price. If the test results for each 250 Mg [250 ton] increment are outside these limits, the following deductions (Table 8b) shall apply to the HMA quantity represented by the test.

TABLE 8: METHOD D ACCEPTANCE LIMITS

| Property                                  | USL and LSL    |
|---|----------------|
| Percent Passing 4.75 mm and larger sieves | Target +/-7    |
| Percent Passing 2.36 mm to 1.18 mm sieves | Target +/-5    |
| Percent Passing 0.60 mm                   | Target +/-4    |
| Percent Passing 0.30 mm to 0.075 mm sieve | Target +/-3    |
| PGAB Content                              | Target +/-0.5  |
| % TMD (In-place Density)                  | 95.0% +/- 2.5% |

TABLE 8b Method "D" Price Adjustments

|                |       |
|----------------|-------|
| PGAB Content   | -5%   |
| 2.36 mm sieve  | -2%   |
| 0.30 mm sieve  | -1%   |
| 0.075 mm sieve | -2%   |
| Density        | -10%* |

\*Only applies when called for in Section 403 - Hot Bituminous Pavement. Contractor shall cut two 150 mm [6 in] cores, which shall be tested for percent TMD per AASHTO T-269. If the average for the two tests falls below 92.5% the disincentive shall apply.

401.21 Method of Measurement The Department will measure Hot Mix Asphalt Pavement by the Mg [ton] in accordance with Section 108.1 - Measurement of Quantities for Payment.

401.22 Basis of Payment The Department will pay for the work, in place and accepted, in accordance with the applicable sections of this Section, for each type of HMA specified.

The Department will pay for the work specified in Section 401.11, for the HMA used, except that cleaning objectionable material from the pavement and furnishing and applying bituminous material to joints and contact surfaces is incidental.

Payment for this work under the appropriate pay items shall be full compensation for all labor, equipment, materials, and incidentals necessary to meet all related contract requirements, including design of the JMF, implementation of the QCP, obtaining core samples, transporting cores and samples, filling core holes, applying emulsified asphalt to joints, and providing testing facilities and equipment.

The Department will make a pay adjustment for quality as specified below.

401.221 Pay Adjustment The Department will sample, test, and evaluate Hot Mix Asphalt Pavement in accordance with Section 106 - Quality and Section 401.20 - Acceptance, of this Specification.

401.222 Pay Factor (PF) 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 for Method A or C or 0.86 for Method B, all of the cores will be randomly re-cut 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 for Method A or C or below 0.86 for Method B, 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.

Gradation For HMA evaluated under Acceptance Method A or B, the Department will determine a composite pay factor (CPF) using applicable price adjustment factors "f" from Table 9: Table of Gradation Composite "f" Factors, and Acceptance limits from Table 5: Method A Acceptance Limits, for Method A or Table 6: Method B Acceptance Limits, for Method B. The Department will not make price adjustments for gradation on Methods A and B, but will monitor them as shutdown criteria.

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 Acceptance Method C, the Department will determine a pay factor using acceptance limits from Table 7: Method C 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 Method A

The Department will use the following criteria for pay adjustment: density, Performance Graded Asphalt Binder content, voids @N<sub>d</sub>, VMA, VFB, F/B<sub>eff</sub>, and the screen sizes listed in Table 9 for the type of HMA represented in the JMF. If any single pay factor for PGAB Content, VMA, or Air Voids falls below 0.80, then the composite pay factor for PGAB Content, VMA, and Air Voids shall be 0.55.

Density: For mixes having a density requirement, the Department will determine a pay factor using Table 5: Method A Acceptance Limits:

$$PA = (\text{density PF} - 1.0)(Q)(P)x0.50$$

PGAB Content, VMA and Air Voids: The Department will determine a pay adjustment using Table 5: Method A Acceptance Limits as follows:

$$PA = (\text{voids @ } N_d \text{ PF} - 1.0)(Q)(P)x0.20 + (\text{VMA @ } N_d \text{ PF} - 1.0)(Q)(P)x0.20 + (\text{PGAB PF} - 1.0)(Q)(P)x0.10$$

VFB and Fines to Effective Binder The Department will determine a pay factor (PF) using Table 5: Method A Acceptance Limits. The Department will not make price adjustments for VFB or Fines to Effective Binder, but will monitor them as shutdown criteria.

#### Pay Adjustment Method B

The Department will use the following criteria for pay adjustment: density, Performance Graded Asphalt Binder content, voids @N<sub>d</sub>, VMA, VFB, F/B<sub>eff</sub>, and the screen sizes listed in Table 9 for the type of HMA represented in the JMF. If any single pay factor for PGAB Content, VMA, or Air Voids falls below 0.86, then the composite pay factor for PGAB Content, VMA, and Air Voids shall be 0.70.

Density: For mixes having a density requirement, the Department will determine a pay factor using Table 6: Method B Acceptance Limits:

$$PA = (\text{density PF} - 1.0)(Q)(P)x0.50$$

PGAB Content, VMA and Air Voids: The Department will determine a pay adjustment using Table 6: Method B Acceptance Limits as follows:

$$PA = (\text{voids @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{VMA @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{PGAB PF} - 1.0)(Q)(P) \times 0.10$$

VFB and Fines to Effective Binder The Department will determine a pay factor (PF) using Table 6: Method B Acceptance Limits. The Department will not make price adjustments for VFB or Fines to Effective Binder, but will monitor them as shutdown criteria.

#### Pay Adjustment Method C

The Department will use density, Performance Graded Asphalt Binder content, and the percent passing the nominal maximum, 2.36 mm, 0.300 mm and 0.075 mm sieves for the type of HMA represented in the JMF. If the PGAB content falls below 0.80, then the PGAB pay factor shall be 0.55.

Density: For mixes having a density requirement, the Department will determine a pay factor using Table 7: Method C 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: Method C 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: Method C 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.

#### Pay Adjustment Method D

The Department will use density, Performance Graded Asphalt Binder content, and the screen sizes listed in Table 8b for the type of HMA represented in the JMF. If test results do not meet the Table 8 requirements, deducts as shown in Table 8b shall be applied to the quantity of mix represented by the test.

#### 401.223 Process for Dispute Resolution (Methods A B & C only)

a. Dispute Resolution sampling At the time of Hot-Mix Asphalt sampling, the Department will obtain a split sample of each Acceptance test random sample for possible dispute resolution testing. The Contractor shall also obtain a split sample of the HMA at this same time. If the Contractor wishes to retain the option of requesting dispute testing of the initial Acceptance sample, the Contractor will test their split of the

Acceptance sample and shall report their results to the Resident, with a copy to the QA Engineer at the Central Laboratory in Bangor by 7:00 AM, on the second working day from time of QA sampling, otherwise dispute resolution will not be initiated. The Department's dispute resolution split sample will be properly labeled and stored for a period of not more than two weeks, or until the sample is tested.

**b. Disputing Acceptance results** The Contractor may dispute the Department's Acceptance results and request (Methods A, B, & C) that the dispute resolution split sample be tested by notifying the Department's Resident and the QA Engineer at the Central Laboratory in Bangor in writing within two working days after receiving the results of the Acceptance test. The following shall be provided in the request:

- Acceptance sample reference number
- The specific test result(s) or property(ies) being disputed, and
- The complete, signed report of the Contractor's testing (In a lab certified by the NETTCP and MDOT) of their split of the Acceptance sample indicating that the variances in Table 10: Dispute Resolution Variance Limits, for the specific test result(s) or property(ies) were exceeded.

**c. Disputable items** The Contractor may dispute any or all of the following Method A or B test results when the difference between the Department's value and the Contractor's value for that test equals or exceeds the corresponding allowable variation in Table 10: Dispute Resolution Variance Limits, PGAB content,  $G_{mb}$ , and  $G_{mm}$ . In addition, if the allowable variation for these tests is not met or exceeded, the Contractor may dispute either or both of the following material properties provided the difference between results for them equals or exceeds the corresponding allowable variation in Table 10: Voids at  $N_{design}$ , and VMA.

For Method C only: The results for PGAB content and the screen sizes used for pay adjustment may be disputed.

**d. Outcome** The value of any disputed result or property reported for the initial Acceptance sample shall stand if the value reported for the dispute resolution sample is not closer to the value the Contractor reported for their split sample than to the value reported for the initial Acceptance sample. If the value reported for the dispute resolution falls precisely half-way between the other two values the value reported for the dispute resolution will replace the original acceptance value. Otherwise, the value reported for the dispute resolution sample will replace the value reported for the initial Acceptance sample, and will be used to re-calculate any other affected results or properties.

TABLE 10: DISPUTE RESOLUTION VARIANCE LIMITS

|                                   |           |
|-----------------------------------|-----------|
| PGAB Content                      | +/-0.4%   |
| $G_{mb}$                          | +/-0.030  |
| $G_{mm}$                          | +/-0.020  |
| Voids @ $N_d$                     | +/-0.8%   |
| VMA                               | +/-0.8%   |
| Passing 4.75 mm and larger sieves | +/- 4.0%  |
| Passing 2.36 mm to 0.60 mm sieves | +/- 3.0%  |
| Passing 0.30 mm to 0.15           | +/- 2.0 % |
| 0.075 mm sieve                    | +/- 1.0%  |

## SECTION 402 - PAVEMENT SMOOTHNESS

**402.00 Smoothness Projects** Projects to have their pavement smoothness analyzed in accordance with this Specification will be so noted in Special Provision 403 - Bituminous Box

**402.01 Pavement Smoothness** The final pavement surface shall be evaluated for smoothness using a Class I or Class II profiler as defined by ASTM E950 (94). Smoothness measurements will be expressed in terms of the International Roughness Index (IRI) as defined by the World Bank, in units of inches/mile.

402.02 Lot Size Lot size for smoothness will be 1000 lane-meters [3000 lane-feet]. A subplot will consist of 20 lane-meters [50 lane-feet]. Partial lots will be included in the previous lot if less than one-half the size of a normal lot. If equal to or greater than one-half the normal lot size, it will be tested as a separate lot.

402.03 Acceptance Testing The Department will conduct Acceptance testing following completion of the surface course. Sections to be excluded from testing include the following:

- Bridge decks and joints (no smoothness measurements will be taken within 30 m [100 ft] of bridge joints)
  - Acceleration and deceleration lanes
  - Shoulders and ramps
  - Side streets and roads
  - Within 30 m [100 ft] of transverse joints at the beginning and end of the project
  - Within 30 m [100 ft] of railroad crossings
  - Urban areas with speed limits of 50 kph [30 mph] or lower
- Each lot shall have 2 measurements made in each wheel path. The average of the 4 measurements will determine the smoothness for that lot.

The smoothness measurements will be statistically evaluated for pay factors as described in Subsection 106.7 - Quality Level Analysis, using the specification limits shown below.

| ACCEPTANCE LIMITS |                        |
|-------------------|------------------------|
| Level             | USL                    |
| I                 | 0.95 m/km [60 in/mile] |
| II                | 1.10 m/km [70 in/mile] |
| III               | 1.25 m/km [80 in/mile] |

Computation of Smoothness Pay Adjustment:

$$PA = (PF-1.0)(Q)(P)$$

where:

Q = Quantity of surface course in the Lot (excluding shoulders, side streets, bridge decks, ramps, acceleration and deceleration lanes)

PF = smoothness pay factor for the Lot

P = Contract unit price for surface pavement

PA = pay adjustment

402.04 Unacceptable Work In the event that any Lot is found to have a pay factor less than 0.80, the Contractor shall take whatever remedial action is required to correct the pavement surface in that Lot at no additional expense to the Department. Such remedial action may include but is not limited to removal and replacement of the unacceptable pavement. In the event remedial action is necessary, the Contractor shall submit a written plan to the Resident outlining the scope of the remedial work. The Resident must approve this plan before the remedial work can begin. Following remedial work, the Lot shall be retested, and will be subject to the specification limits listed above. The resulting pay factor, if within the acceptable range, will be used in the final pay adjustment. The Contractor shall pay the cost of retesting the pavement following corrective action.

Localized surface tolerance defects will be subject to the provisions outlined in Section 401.101 Surface Tolerances.

Payment will be made under:

| <u>Pay Item</u>                                     | <u>Pay Unit</u> |
|---|-----------------|
| 402.10 Incentive/Disincentive - Pavement Smoothness | Lump Sum        |

### SECTION 403 - HOT BITUMINOUS PAVEMENT

403.01 Description This work shall consist of constructing one or more courses of bituminous pavement on an approved base in accordance with these specifications, and in reasonably close conformity with the lines, grades, thickness and typical cross sections shown on the plans or established.

The bituminous pavement shall be composed of a mixture of aggregate, filler if required, and bituminous material.

403.02 General The materials and their use shall conform to the requirements of Section 401 - Hot Mix Asphalt Pavement.

403.03 Construction The construction requirements shall be as specified in Section 401 - Hot Mix Asphalt Pavement.

In addition, hot bituminous pavement placed on bridges shall also conform to the following requirements.

- a. The mixture shall be composed of aggregate, PGAB and mineral filler but no recycled asphalt pavement and placed in courses as specified in the Special Provisions.
- b. The bottom course shall be placed with an approved rubber mounted bituminous paver of such type and operated in such a manner that the membrane waterproofing will not be damaged in any way.
- c. The top course shall not be placed until the bottom course has cooled sufficiently to provide stability.
- d. The Contractor will not be required to cut sample cores from the compacted pavement on the bridge deck.
- e. After the top course has been placed, the shoulder areas shall be sealed 1 meter [3 ft] wide with two applications of an emulsified bituminous sealer meeting the requirements of Section 702.12 - Emulsified Bituminous Sealing Compound. The first application shall be pre-mixed with fine, sharp sand, similar to mortar sand, as needed to fill all voids in the mix in the area being sealed. The second application may be applied without sand. The sealer shall be carried to the curb at the gutter line in sufficient quantity to leave a bead or fillet of material at the face of the curb. The area to be sealed shall be clean, dry and the surface shall be at ambient temperature.
- f. The furnishing and applying of the required quantity of sealer for the bridge shoulder areas shall be incidental to placing the hot bituminous pavement.
- g. The atmospheric temperature for all courses on bridge decks shall be 10°C [50°F] or higher.

403.04 Method of Measurement Hot bituminous pavement will be measured as specified in Section 401.21-Method of Measurement.

403.05 Basis of Payment The accepted quantities of hot bituminous pavement will be paid for at the contract unit price per Megagram [ton] for the bituminous mixtures, including bituminous material complete in place.

Method A, Method B, Method C and Method D shall be used for acceptance as specified in Section 401 - Hot Mix Asphalt Pavements. (See Complementary Notes, Section 403 - Hot Bituminous Pavement, for Method location).

Payment will be made under:

| <u>Pay Item</u>  | <u>Pay Unit</u> |
|--|-----------------|
| 403.102 Hot Mix Asphalt Pavement for Special Areas   | MG [Ton]        |
| 403.206 Hot Mix Asphalt, 25 mm Nominal Maximum Size  | MG [Ton]        |
| 403.207 Hot Mix Asphalt, 19.0 mm Nominal Maximum Size  | MG [Ton]        |
| 403.2071 Hot Mix Asphalt , 19.0 mm Nominal Maximum Size  | MG [Ton]        |
| 403.2072 Asphalt Rich Hot Mix Asphalt, 19.0 mm Nominal Maximum Size<br>(Asphalt Rich Base and Intermediate course) | MG [Ton]        |
| 403.208 Hot Mix Asphalt, 12.5 mm Nominal Maximum Size  | MG [Ton]        |
| 403.2081 Hot Mix Asphalt - 12.5 mm Nominal Maximum Size (PG 70-28)   | MG [Ton]        |
| 403.209 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size<br>(sidewalks, drives, islands & incidentals)                 | MG [Ton]        |
| 403.210 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size   | MG [Ton]        |
| 403.2101 Hot Mix Asphalt - 9.5 mm Nominal Maximum Size (PG 70-28)  | MG [Ton]        |
| 403.2102 Asphalt Rich Hot Mix Asphalt, 9.5 mm Nominal Maximum Size<br>(Asphalt Rich Intermediate course)           | MG [Ton]        |
| 403.211 Hot Mix Asphalt (shimming)   | MG [Ton]        |
| 403.212 Hot Mix Asphalt, 4.75 mm Nominal Maximum Size  | MG [Ton]        |
| 403.2131 Hot Mix Asphalt, 12.5 mm Nominal Maximum Size, (PG 70-28)<br>(Base and Intermediate Base course)          | MG [Ton]        |
| 403.2132 Asphalt Rich Hot Mix Asphalt, 12.5 mm Nominal Maximum Size<br>(Base and Intermediate Base course)         | MG [Ton]        |

Fairfield - Benton  
16686.00, 16700, 17814.00  
North and Southbound I-95  
Bridge Deck Replacement with Crossovers  
June 24, 2011

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

| Desc. Of Course   | Grad Design. | Item Number | Bit Cont. % of Mix | Total Thick | No. Of Layers | Comp. Notes |
|---|--------------|-------------|--------------------|-------------|---------------|-------------|
| <b><u>C.A. Clauson and MCRR Bridge Decks</u></b>                            |              |             |                    |             |               |             |
| Wearing   | 12.5 mm      | 403.208     | N/A                | 1.5 in      | 1             | 1,2,6,8,12  |
| Base  | 12.5 mm      | 403.213     | N/A                | 1.5 in      | 1             | 1,2,6,8,12  |
| <b><u>Northern Crossover – Full Construction</u></b>                        |              |             |                    |             |               |             |
| Wearing   | 12.5 mm      | 403.208     | N/A                | 2.0 in      | 1             | 4,8,12      |
| Base  | 12.5 mm      | 403.213     | N/A                | 2.0 in      | 1             | 4,8         |
| <b><u>Southern Crossover – Overlay</u></b>                                  |              |             |                    |             |               |             |
| Wearing   | 12.5 mm      | 403.208     | N/A                | 1.5 in      | 1             | 4,8,12      |
| Base  | 12.5 mm      | 403.213     | N/A                | 1.5 in      | 1             | 4,8         |
| Shim  | 9.5 mm       | 403.211     | N/A                | Varies      | 1/more        | 2,4,10,11   |
| <b><u>Emergency Crossover – Full Construction</u></b>                       |              |             |                    |             |               |             |
| Wearing   | 12.5 mm      | 403.208     | N/A                | 2.0 in      | 1             | 4,8,12      |
| Base  | 12.5 mm      | 403.213     | N/A                | 2.0 in      | 1             | 4,8         |
| <b><u>Travel Way, Shoulder &amp; Approach Areas – Full Construction</u></b> |              |             |                    |             |               |             |
| Wearing   | 12.5 mm      | 403.208     | N/A                | 2.0 in      | 1             | 4,8,12      |
| Base  | 12.5 mm      | 403.213     | N/A                | 2.0 in      | 1             | 4,8         |
| Shim  | 9.5 mm       | 403.211     | N/A                | Varies      | 1/more        | 2,4,10,11   |
| <b><u>Travel Way, Shoulder &amp; Approach Areas – Overlay</u></b>           |              |             |                    |             |               |             |
| Wearing   | 12.5 mm      | 403.208     | N/A                | 2.0 in      | 1             | 4,8,12      |
| Shim  | 9.5 mm       | 403.211     | N/A                | Varies      | 1/more        | 2,4,10,11   |

**COMPLEMENTARY NOTES**

1. The use of Recycled Asphalt Pavement (RAP) will not be permitted.
2. The density requirements are waived. In addition, the use of an oscillating steel roller shall be required to compact all HMA pavements placed on bridge decks.
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**.
6. The design traffic level for mix placed shall be 10 to <30 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**.
8. Section 106.6 Acceptance, (2) Method B.
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.
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.

**Fairfield - Benton**  
**16686.00, 16700, 17814.00**  
**North and Southbound I-95**  
**Bridge Deck Replacement with Crossovers**  
**June 24, 2011**

The Contractor must profile approaches every 10 ft out to a match point at a minimum 50 feet from the bridge joint to determine the approach pavement taper. Pavement taper profile and length must be approved by the Resident.

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 gal/yd<sup>2</sup>, and on milled pavement approximately 0.05 gal/yd<sup>2</sup>, 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 gal/yd<sup>2</sup>.

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**  
(Precast Deck Panels)

Description This work shall consist of casting, furnishing, and erecting prestressed structural concrete deck panels (hereafter called “precast deck panels”) and all related materials as an optional stay-in-place forming system in accordance with the contract plans and specifications.

Construction Precast Deck Panels shall comply with Section 535 – Precast, Prestressed Concrete Superstructure.

Precast deck panels shall be manufactured in conformity with the following tolerances:

|   |  |
|---|--|
| Depth of slab                           | - 3 mm, + 6 mm [-1/8 in, + 1/4 in]                         |
| Width of slab                           | -0, + 6 mm [-0, + 1/4 in]                                  |
| Length of slab                          | ± 6 mm [± 1/4 in]  |
| Horizontal alignment                    | 6 mm [1/4 in] (deviation from line parallel to centerline) |
| Squareness                              | 13 mm [1/2 in] max.<br>Difference in diagonal meas.        |
| Vertical Position of Strand group       | +0, - 6 mm [+0, -1/4 in]<br>Meas. from bottom of slab      |
| Vertical position of individual strands | ± 6 mm [± 1/4 in]  |
| Horizontal strand position              | ± 13 mm [± 1/2 in]   |
| Strand Projection                       | -6mm, +19 mm [- 1/4 in, + 3/4 in]                          |
| Bowing                                  | ± 6 mm [± 1/4 in]  |
| Threaded jack inserts                   | ± 6 mm [± 1/4 in] longitudinally and transversely          |

Basis of Payment All work will be considered incidental to and included in Pay Item 502.26 Structural Concrete Roadway and Sidewalk Slab on Steel Bridges. Payment shall include full compensation for all materials wholly or partly in the precast deck panels and related materials or work required for the panel erected as shown on the plans. Related materials and work will include, but not limited to furnishing and installing temporary supports, including adhesive and grout bedding, reinforcing steel, welded wire fabric and cast-in-place concrete.

SPECIAL PROVISION  
**SECTION 502**  
 STRUCTURAL CONCRETE  
 (QC/QA Acceptance Methods)

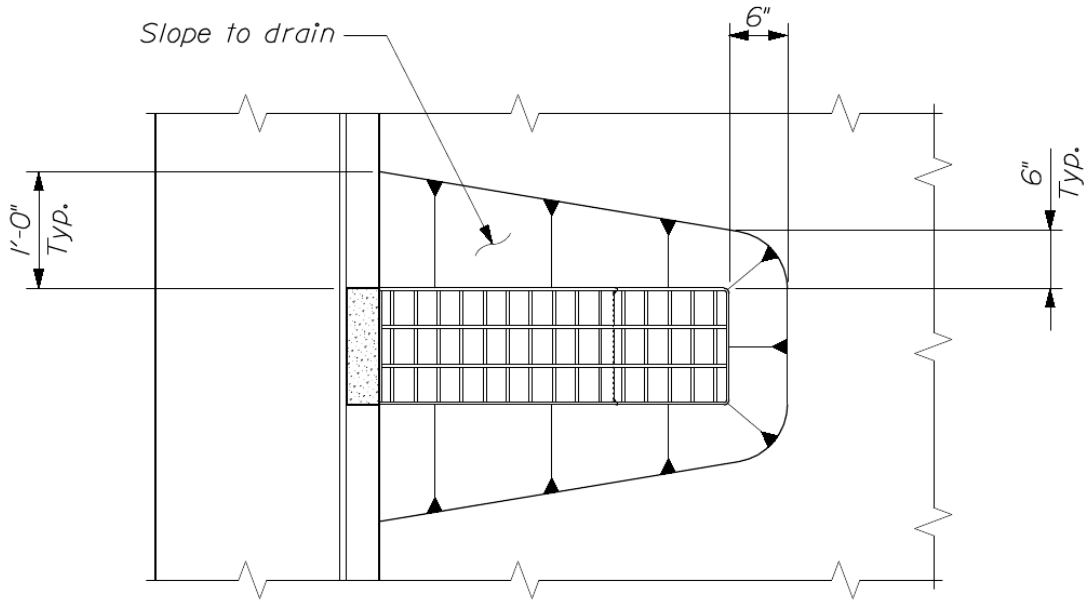
| CLASS OF CONCRETE | ITEM NUMBER | DESCRIPTION                                | P      | METHOD |
|-------------------|-------------|--|--------|--------|
| A                 | 502.219     | Structural Concrete Abut & Ret Walls       | 400.00 | A      |
| A                 | 502.23      | Structural Concrete Piers                  | 400.00 | A      |
| A                 | 502.26      | Structural Concrete Rdwy & Sidewalk Slab   | 400.00 | A      |
| LP                | 502.49      | Structural Concrete Curbs and Sidewalk     | 450.00 | A      |
| A                 | 518.50      | Repair of Upward Facing Surfaces to Reinf. | ----   | C      |
| A                 | 518.51      | Repair of Upward Facing Surf. below Reinf. | ----   | C      |
| A                 | 518.60      | Repair of Vertical Surfaces < 7.9 in       | ----   | C      |
| A                 | 518.61      | Repair of Vertical Surfaces ≥ 7.9 in       | ----   | C      |
| LP                | 526.34      | Permanent Concrete Transition Barrier      | 450.00 | A      |
| LP                | 526.3401    | Perm. Concrete Transition Barrier-Modified | 450.00 | A      |
|                   |             |  |        |        |
|                   |             |  |        |        |

SPECIAL PROVISION  
SECTION 502  
STRUCTURAL CONCRETE  
(Bridge Drains)

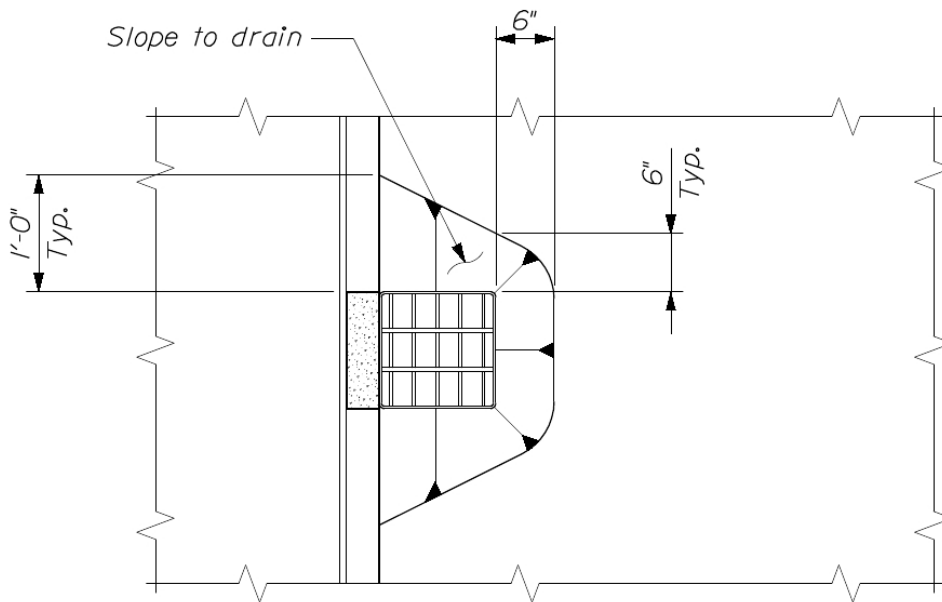
**Description:**

Replace Standard Details 502(05) and 502(06), revision of December 2002, and Standard Details 502(07), 502(07A), and 502(10), revision of August 2008, with the Supplemental Standard Details below.

All costs for labor, equipment, materials, and incidentals necessary to install and attach bridge drains to the existing steel girders shall be incidental to Pay Item 502.26.



~ BRIDGE DRAIN TYPE "1" PLAN ~

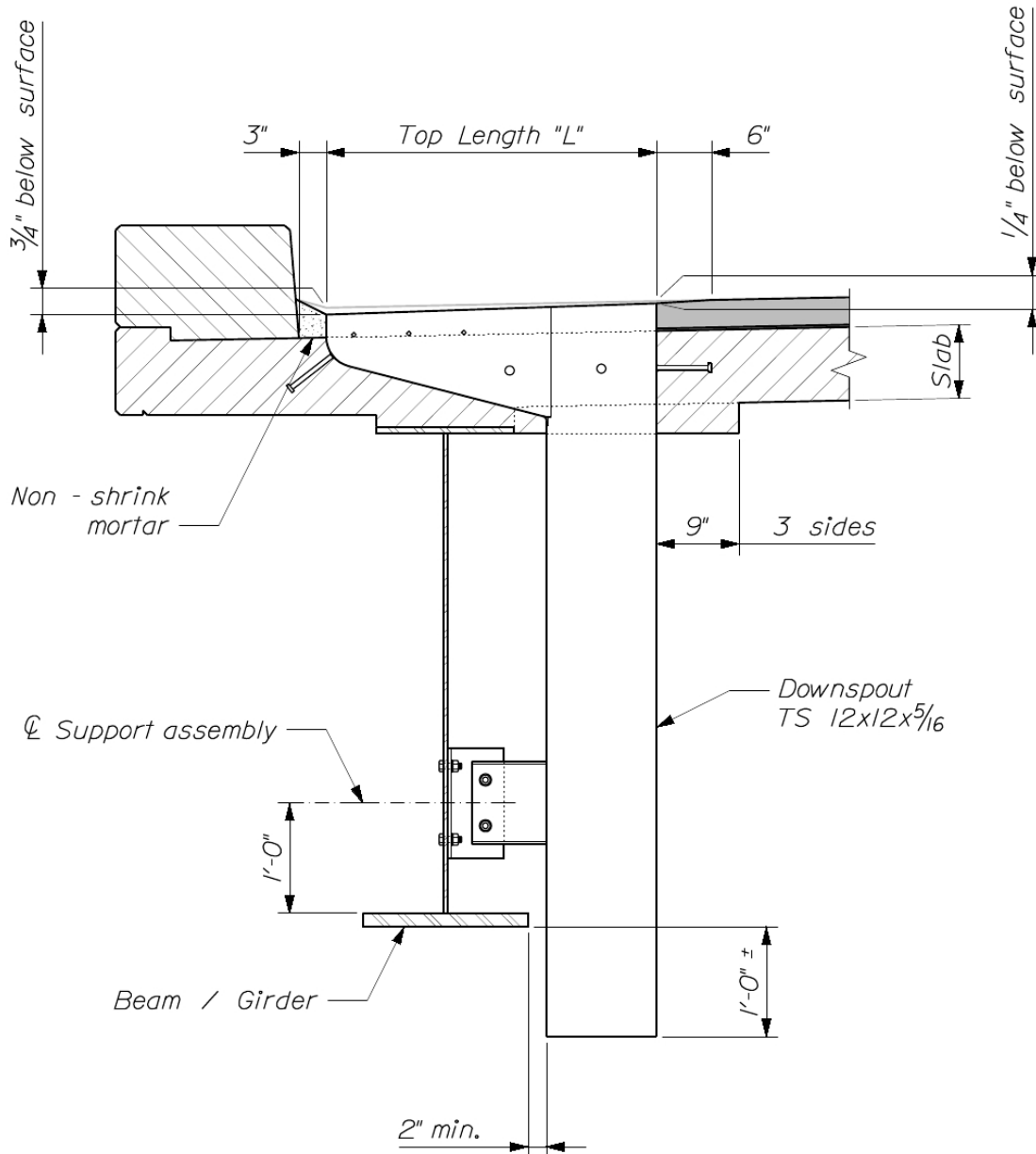


~ BRIDGE DRAIN TYPE "2" PLAN ~

Supplemental  
Standard Detail

**BRIDGE DRAINS**  
502(05)

DATE

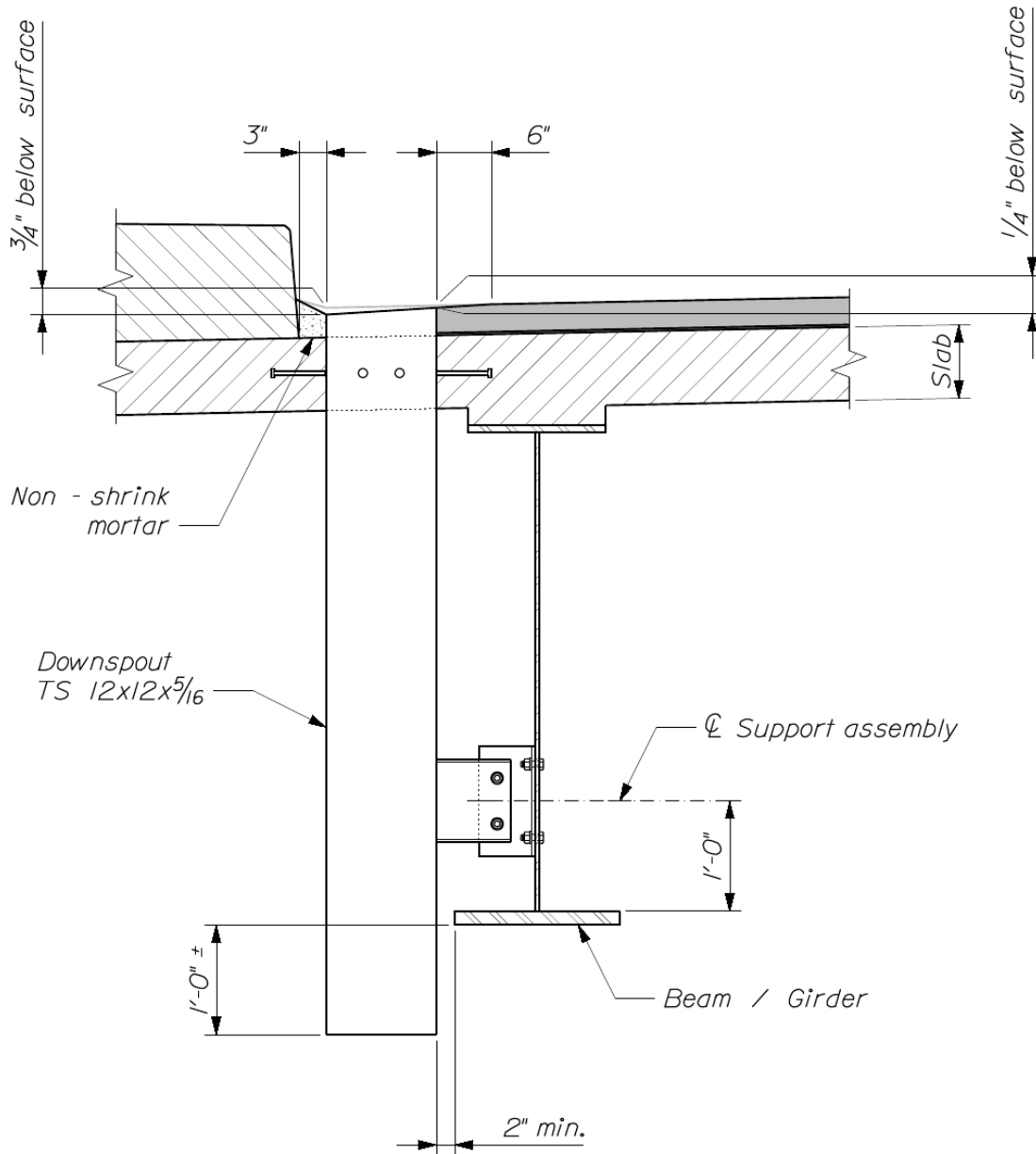


~ BRIDGE DRAIN TYPE "I" ELEVATION ~

Supplemental  
 Standard Detail

**BRIDGE DRAINS**  
 502(05A)

DATE

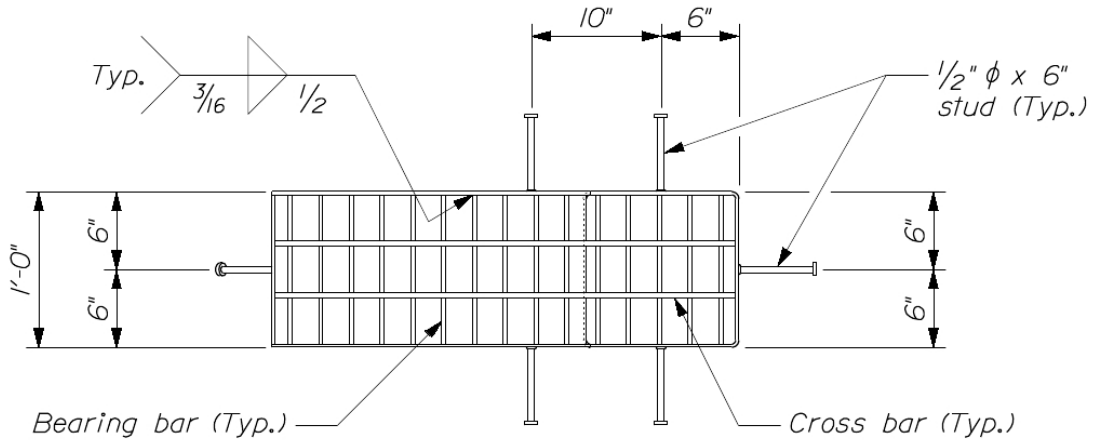


~ BRIDGE DRAIN TYPE "2" ELEVATION ~

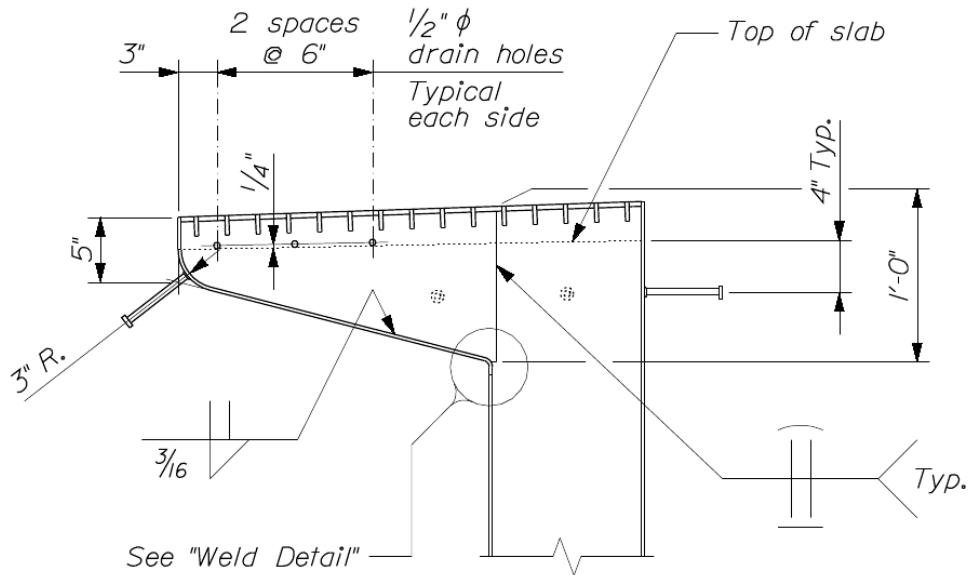
Supplemental  
Standard Detail

**BRIDGE DRAINS**  
502(05B)

DATE



~ DRAIN TYPE "I" TOP VIEW ~

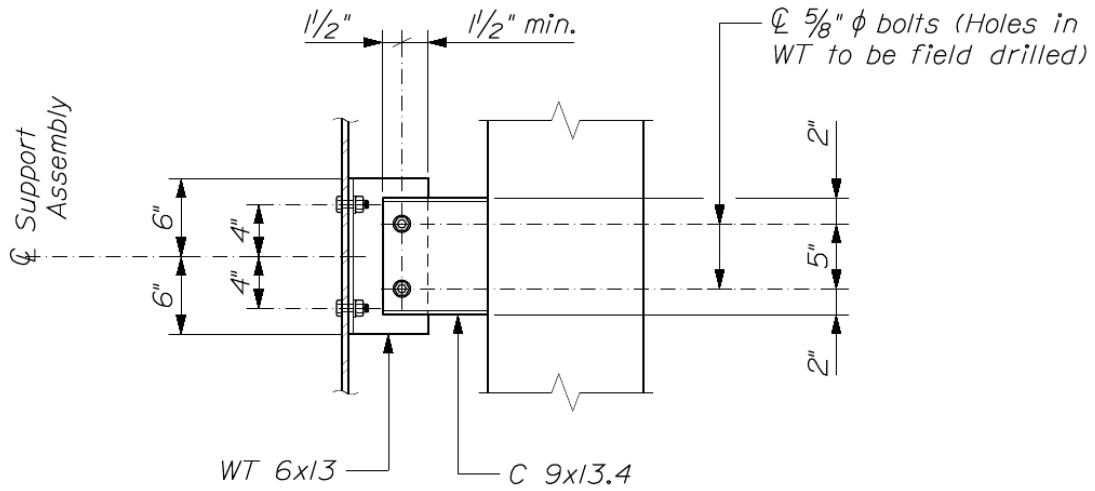


~ DRAIN TYPE "I" SECTION ~

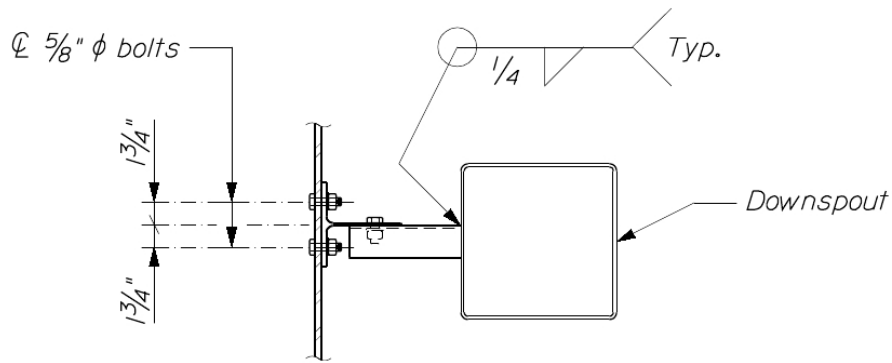
Supplemental  
 Standard Detail

**BRIDGE DRAINS**  
 502(05C)

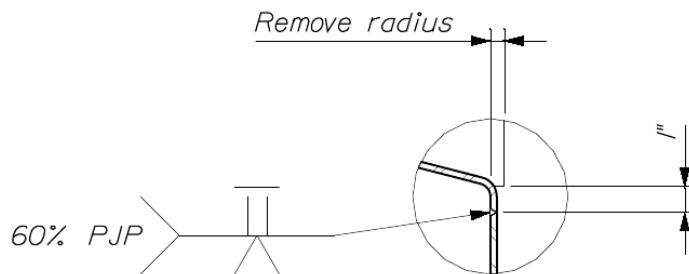
DATE



~ SUPPORT ASSEMBLY DETAIL ~



~ SUPPORT ASSEMBLY TOP VIEW ~

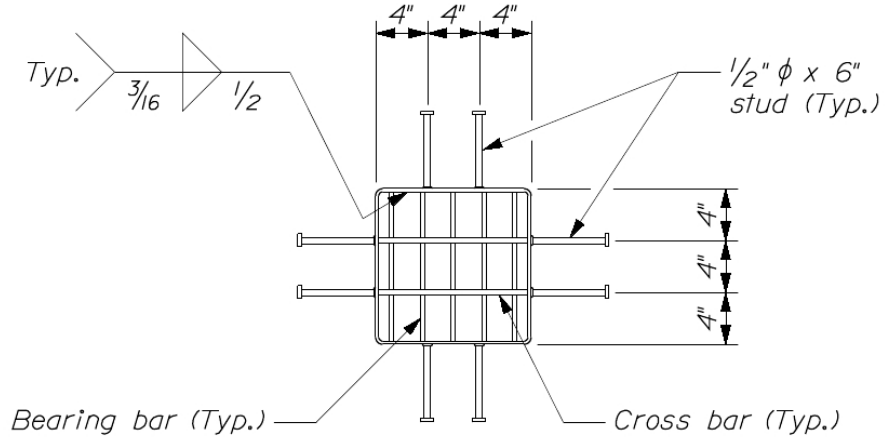


~ WELD DETAIL ~

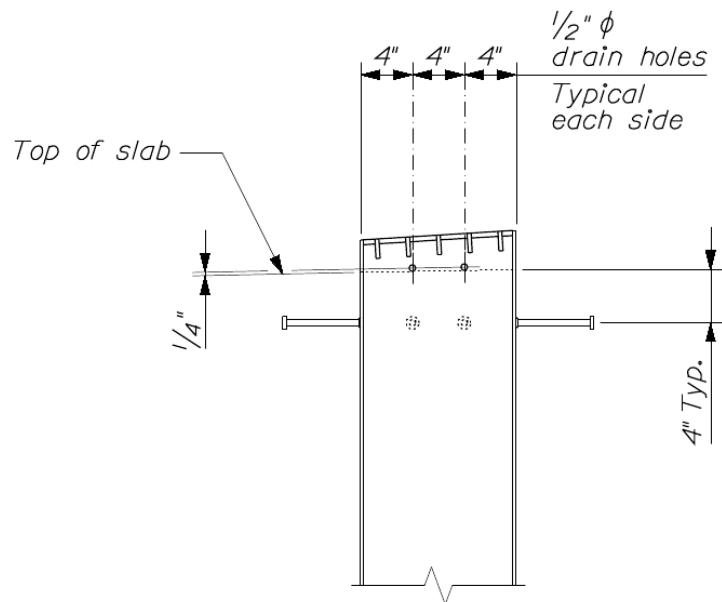
Supplemental  
 Standard Detail

**BRIDGE DRAINS**  
 502(05D)

August 2010



~ DRAIN TYPE "2" TOP VIEW ~

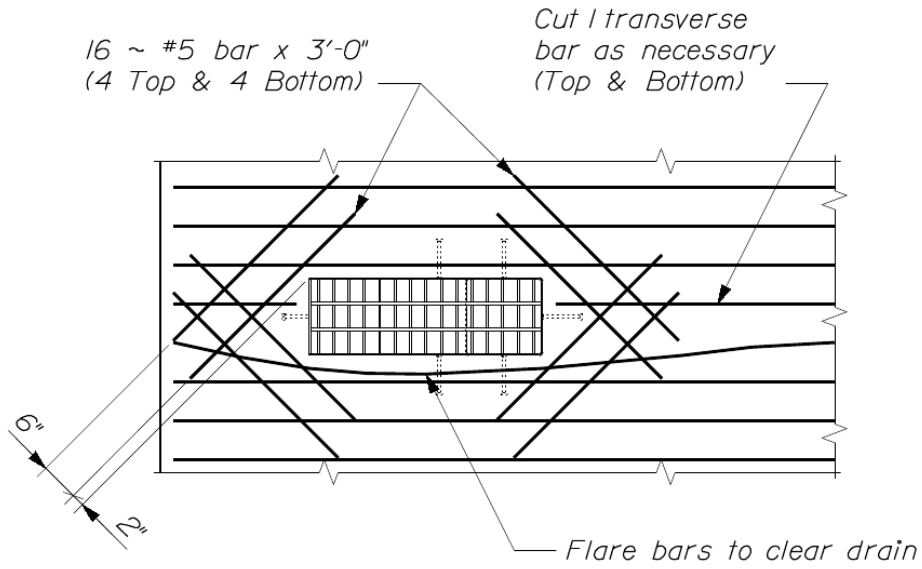


~ DRAIN TYPE "2" SECTION ~

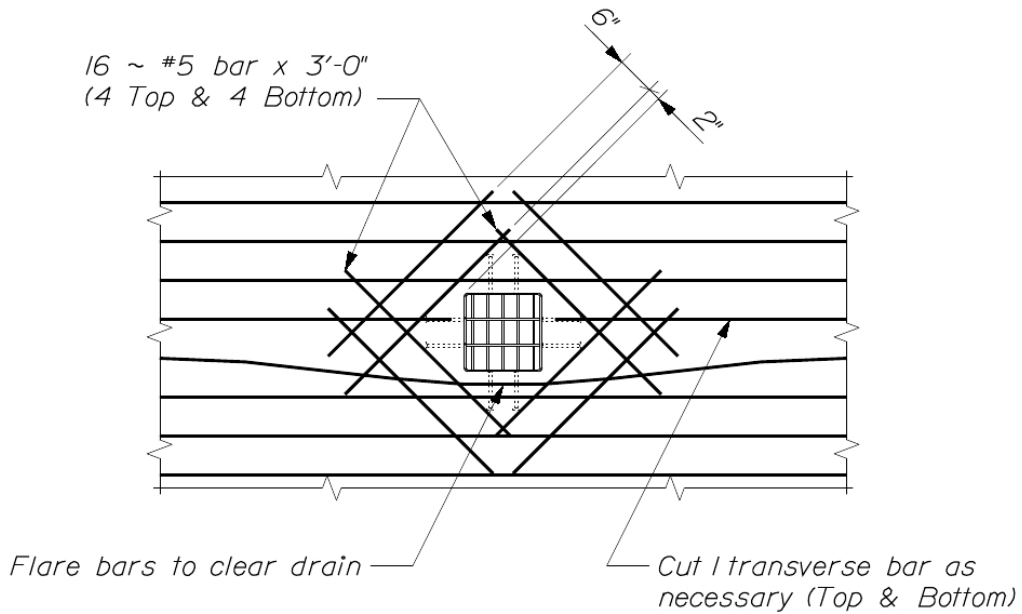
Supplemental  
 Standard Detail

**BRIDGE DRAINS**  
 502(05E)

DATE



~ SLAB REINFORCING PLAN - DRAIN TYPE 1 ~



~ SLAB REINFORCING PLAN - DRAIN TYPE 2 ~

Supplemental  
 Standard Detail

**BRIDGE DRAINS**  
 502(05F)

DATE

NOTES

1. Top length "L" shall be determined by the fabricator. Where beam / girder flange widths and /or slab overhang widths vary over the length of the bridge, the longest top length "L" required may be used for all drains on each side of the bridge.
2. All plates shall be  $\frac{1}{4}$  inch thick.
3. The grating shall be a commercial heavy - duty grating with  $1\frac{1}{2}$ " x  $\frac{5}{16}$ " bearing bars spaced at  $2\frac{3}{8}$  inches and  $\frac{3}{8}$ "  $\phi$  cross bars spaced at 4 inches. The grating shall be centered in the drain top.
4. The  $\frac{1}{2}$ "  $\phi$  drain holes are not required with concrete wearing surfaces.
5. Drains, including C 9x13.4, shall be blast cleaned to the requirements of SSPC-SP6/NACE 3 and galvanized in accordance with ASTM A 123.
6. For structural steel beams / girders, the WT 6x13 and associated bolts shall meet the material and protective coating requirements of the structural steel.
7. For structural concrete beams / girders, the WT 6x13 shall be galvanized in accordance with ASTM A 123 and A 153 or B 695. Concrete anchors shall be selected from the MaineDOT Qualified Products List.
8. Shear connectors welded to the top flange of steel beams / girders may require adjustment to clear the bridge drains.
9. If the minimum thickness of concrete below the drain pan is 2 inches or less, the concrete haunch shall be extended as shown.
10. Payment for bridge drains will be as specified under Subsection 502.19 of the Standard Specifications.
11. Payment for adjusting and for providing the additional reinforcing steel at bridge drains will be considered incidental to Contract items.
12. If there is a conflict between these Standard Details and the Design Drawings, the requirements of the Design Drawings shall be followed.

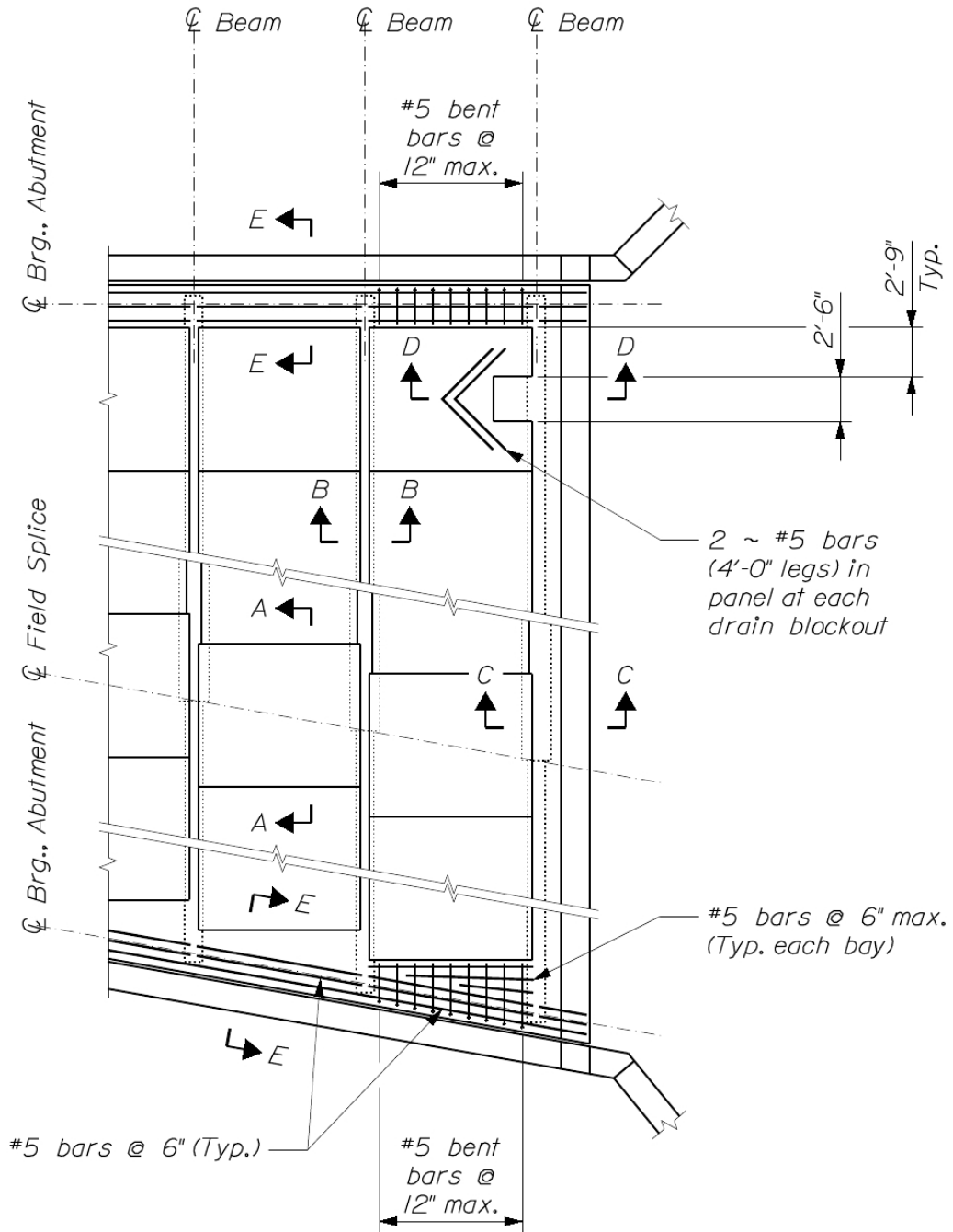
MATERIALS

Downspout ..... ASTM A 500, Grade B.  
Shapes & plates ..... AASHTO M 270M/M 270, Grade 50  
Bolts and nuts ..... AASHTO A 307, Grade C

Supplemental  
Standard Detail

**BRIDGE DRAINS**  
502(06)

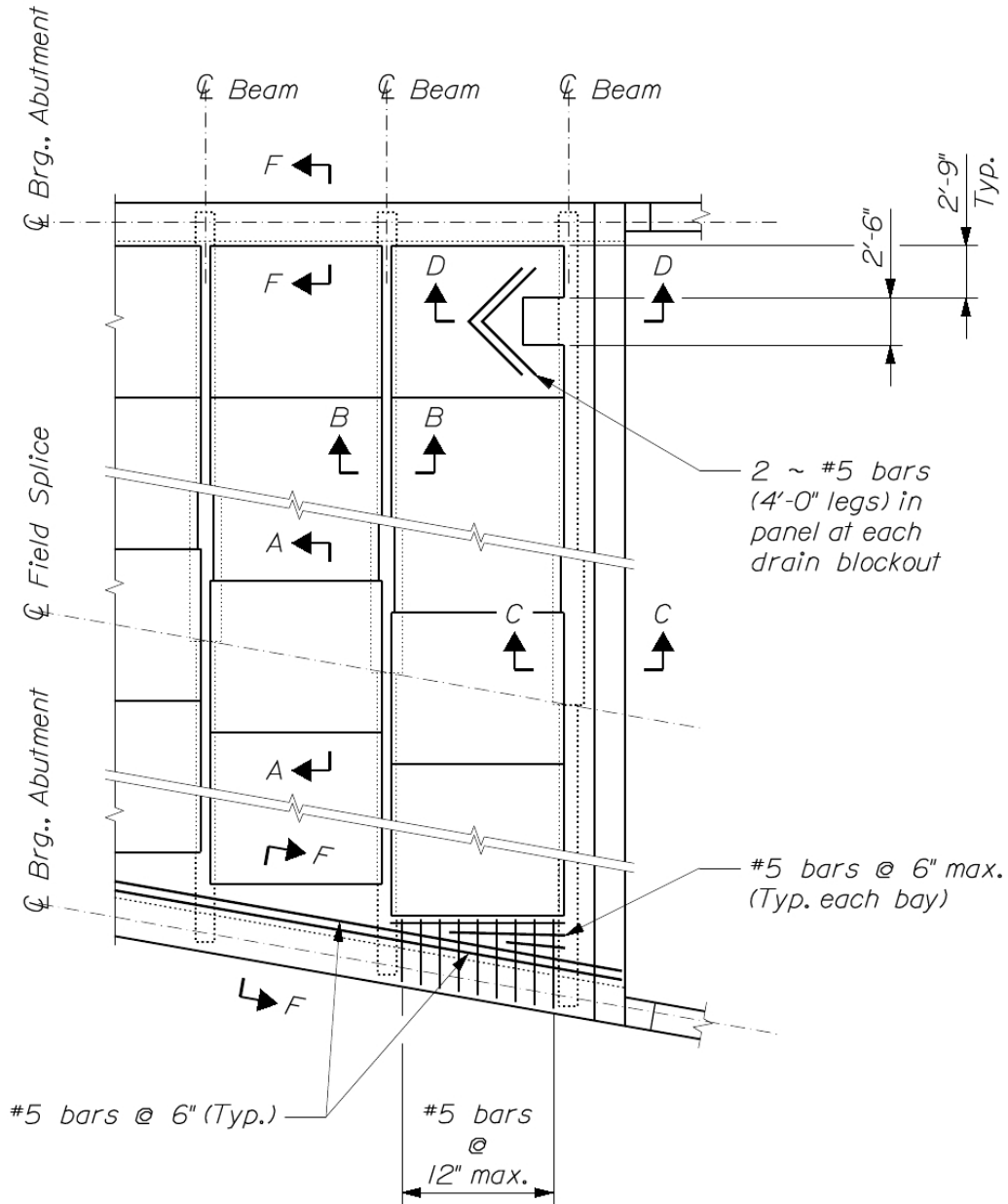
DATE



~ LAYOUT PLAN (Cantilevered Abutments) ~

Suppl. **PRECAST CONCRETE DECK PANELS**  
 Standard Detail 502(07)

DATE

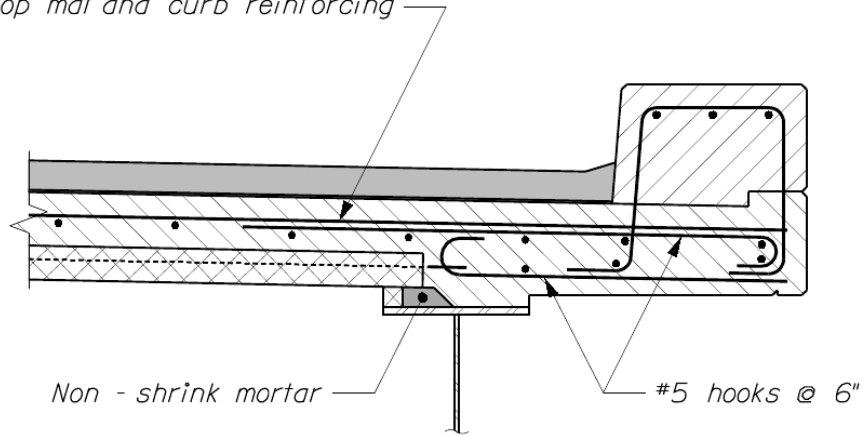


~ LAYOUT PLAN (Integral Abutments) ~

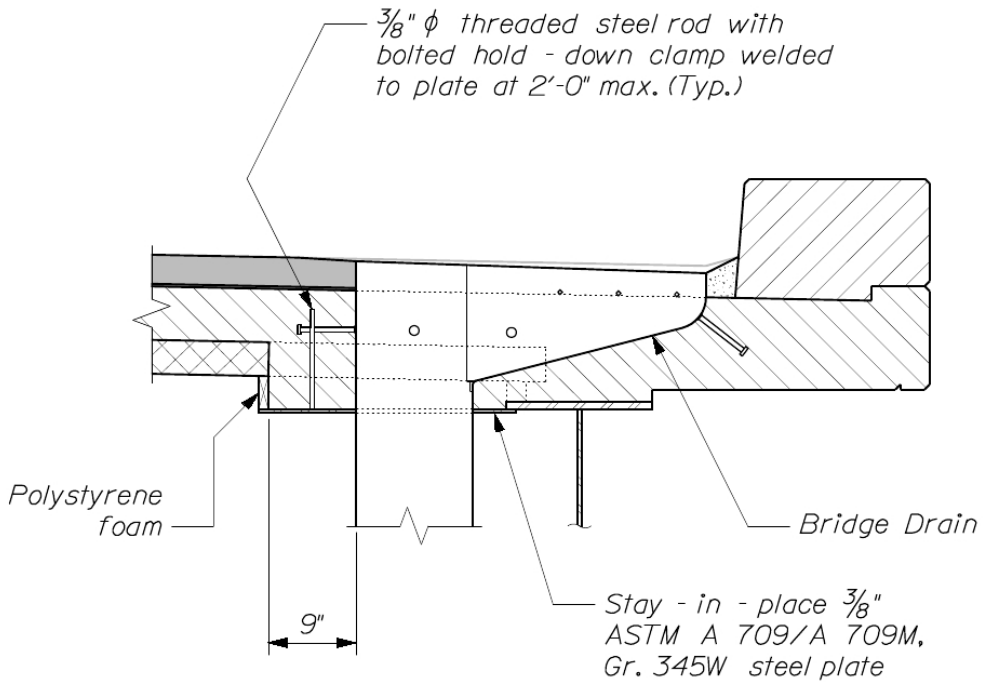
Suppl. **PRECAST CONCRETE DECK PANELS**  
 Standard Detail 502(07A)

DATE

See Design Drawings for  
 top mat and curb reinforcing



~ SECTION C-C ~



~ SECTION D-D ~

Suppl. **PRECAST CONCRETE DECK PANELS**  
 Standard Detail 502(10)

DATE

SPECIAL PROVISION  
**SECTION 502**  
 STRUCTURAL CONCRETE  
 (Quality Level Analysis)

502.01 Description In second sentence, replace "...METHOD B Small Quantity Product Verification..." with "...METHOD B Statistical Acceptance..."

502.05 Composition and Proportioning Delete Table 1 and replace with the following;

TABLE 1- Methods A and B

| Concrete CLASS | Compressive Strength (PSI) |       | Permeability (COULOMBS) |       | Entrained Air (%) |     | Notes     |
|----------------|----------------------------|-------|-------------------------|-------|-------------------|-----|-----------|
|                | LSL                        | USL   | LSL                     | USL   | LSL               | USL |           |
| S              | 2,900                      | N/A   | N/A                     | N/A   | 6.0               | 8.5 | 1, 5      |
| A              | 4,350                      | ----- | -----                   | 2,400 | 6.0               | 8.5 | 1,2,5,6   |
| P              | -----                      | ----- | -----                   | ----- | 4                 | 6   | 1,2,3,4,5 |
| LP             | 5,075                      | ----- | -----                   | 2,000 | 6.0               | 8.5 | 1,2,5,6   |
| Fill           | 2,900                      | N/A   | N/A                     | N/A   | N/A               | N/A | 6         |

502.503 Delete and replace with the following;

“502.0503 Quality Assurance METHOD B The Department will determine the acceptability of the concrete through a quality assurance program.

The Department will take Quality Assurance samples a minimum of once per subplot on a statistically random basis. Quality Assurance tests will include compressive strength, air content and permeability.

Concrete sampling for quality assurance tests will be taken at the discharge point, with pumped concrete sampling taken at the discharge end of the pump line.

Lot Size A lot size shall consist of the total quantity represented by each class of concrete in the Contract, except in the case when the same class of concrete is paid for under both lump sum items and unit price items in the Contract; in this case, the lump sum item quantities shall comprise 1 lot and the unit price item quantities shall comprise a separate lot. A lot shall consist of a minimum of 3 and a maximum of 10 sublots. If a lot is comprised of more than 10 sublots, sized in accordance with Table #3, then this quantity shall be divided equally into 2, or more, lots such that there is a minimum of 3 and a maximum of 10 sublots per lot. If there is insufficient quantity in a lot to meet the recommended minimum subplot size, then the lot shall be divided into 3 equal sublots.

Sublot Size, General The size of each sublot shall be determined in accordance with Table #3. The Resident may vary sublot sizes based on placement sizes and sequence.

Sublot Size, Unit Price Items Sublot sizes will initially be determined from estimated quantities. When the actual final quantity of concrete is determined: If there is less than one-half the estimated sublot quantity in the remaining quantity, then this quantity shall be combined with the previous sublot, and no further Acceptance testing will be performed; if there is more than one-half the estimated sublot quantity in the remaining quantity, then this quantity shall constitute the last sublot and shall be represented by Acceptance test results. If it becomes apparent part way through a lot that, due to an underrun in quantity, there will be an insufficient quantity of concrete to comprise three sublots, then the Resident may adjust the sizes of the remaining sublots and select new sample locations based on the revised estimated quantity of concrete remaining in the lot.

Sublot Size, Lump Sum Items Each lot shall be divided into sublots of equal size, based on the estimated quantity of concrete.

TABLE 3

| Quantity m <sup>3</sup> [cy] | Recommended Sublot Size m <sup>3</sup> [cy] |
|------------------------------|---|
| 0-400 [0-500]                | 40 [50]                                     |
| 401-800 [501-1000]           | 60 [75]                                     |
| 801-1600 [1001-2000]         | 80 [100]                                    |
| 1601 [2001] or greater       | 200 [250]                                   |

Determination of the concrete cover over reinforcing steel for structural concrete shall be made prior to concrete being placed in the forms. Bar supports, chairs, slab bolsters, and side form spacers shall meet the requirements of Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice, Chapter 3 Section 2.5 Class 1, Section 2.6 Class 1A, or Section 4. All supports shall meet the requirements for type and spacing as stated in the CRSI Manual of Standard Practice, Chapter 3. Concrete will not be placed until the placing of the reinforcing steel and supports have been approved by the Resident. If the Contractor fails to secure Department approval prior to placement, the Contractor's failure shall be cause for removal and replacement at the Contractor's expense. The Contractor shall notify the Resident, at least 48 hours prior to the placement, when the reinforcing steel will be ready for checking. Sufficient time must be allowed for the checking process and any needed repairs.

Evaluation of materials will be made using the specification limits in Table 1.

Compressive strength tests will be completed by the Department in accordance with AASHTO-T22 at  $\geq 28$  days, except that no slump will be taken. The average of two concrete cylinders per sublot will constitute a test result and this average will be used to determine the compressive strength for pay adjustment computations.

Testing for Entrained Air in concrete, at the rate of one test per subplot, shall be in accordance with AASHTO T152.

Rapid Chloride Permeability test specimens will be completed by the Resident in accordance with AASHTO T-277 at an age  $\geq 56$  days. Two 100 mm x 200 mm [4 in x 8 in] cylinders will be taken per subplot placed.

Surface Tolerance, Alignment and Trueness, Plumb and Batter, and Finish will be measured as described in Section 502.0502.

Rejection by Resident For an individual subplot with a calculated pay factor of less than 0.80, the Department will, at its sole discretion:

A. Require the Contractor to remove and replace the entire affected placement with concrete meeting the Contract requirements at no additional expense to the Department, or

B. Accept the material, at a reduced payment as determined by the Department. (See also Section 502.191)

For a lot in progress, the Contractor shall discontinue operations whenever one or more of the following occurs:

A. The pay factor for any property drops below 1.00 and the Contractor is taking no corrective action

B. The pay factor for any property is less than 0.90

C. The Contractor fails to follow the QC Plan”

502.18 Method of Measurement Under Section E. make the following change from “...Method A, and under Section 502.19...” to “...Method A, Section 502.0503- Quality Assurance Method B, and under Section 502.19...”

502.19 Basis of Payment Modify the first sentence of the seventh paragraph from “...accepted under Method A.” to “...accepted under Method A and Method B.”

502.191 Pay Adjustment for Compressive Strength Add the following as the second sentence to the first paragraph; “Pay factors (PF) for pay adjustments for compressive strength will be determined using the Quality Level Analysis as specified in Section 106.”

502.192 Pay Adjustment for Chloride Permeability Delete and replace with the following;

“Pay factors (PF) for pay adjustments for Chloride Permeability will be determined using the Quality Level Analysis as specified in Section 106.

Values greater than 4000 coulombs shall be subject to rejection and replacement at no additional cost to the Department.”

502.193 Pay Adjustment for Air Content Delete and replace with the following;

“Pay factors (PF) for pay adjustments for air content will be determined using the Quality Level Analysis as specified in Section 106.”

Add the following Section;

“502.195 Pay Adjustments for Compressive Strength, Chloride Permeability and Air Content The Composite Pay Factor (CPF) for each lot of concrete shall be computed as follows:

$$\text{CPF} = [(\text{Compressive Strength PF}-1)(0.20)] + [(\text{Air Content PF}-1)(0.40)] \\ + [(\text{Chloride Permeability PF}-1)(0.40)]$$

The pay adjustment for each lot of concrete shall be computed as follows:

$$\text{Lot Pay Adjustment} = P \times \text{CPF} \times \text{Lot Size}$$

There will be no positive pay adjustments for Method B Concrete.”

**SPECIAL PROVISION**  
**SECTION 504**

**MISCELLANEOUS STRUCTURAL STEEL REPAIRS**

Description. This Special Provision is in addition to Section 504 and is limited to the removal, repair or replacement of existing structural steel members or components of such members. Work covered under this Special Provision includes the following:

- 504.8101 Removal of Structural Steel
- 504.811 Structural Steel Repair

This work shall be done in conformance with the MaineDOT Standard Specifications, Section 504 - Structural Steel except as modified by the Contract Documents. It is the intent and purpose of this special provision to cover and include all tools, equipment, materials, supplies, and labor necessary to complete the work described herein. Any incidental equipment, materials, supplies, or labor, such as the erection of false work to gain access to a removal/repair location, not specifically mentioned herein, which may be found necessary to complete the work in a substantial manner, shall be incidental to the respective payment item.

The work shall also include, but not limited to providing, placing, maintaining, and removing staging, scaffolding, or other means of access required to complete the work at locations as described in the contract documents and/or as directed by the Resident.

Submittals.

- A. All the requirements of the Standard Specifications, Section 504 - Structural Steel shall be met, except as modified by these Contract Documents.
- B. Shop drawings for new bolts will not be required; however, material certification requirements of the Standard Specifications, Division 700, shall be met.

Materials and Workmanship.

- A. Materials shall meet the requirements specified in the following Sections of the Standard Specifications, Division 700 - Materials, except where modified by these Contract Documents:
  - 713.01 Structural Steel
  - 713.02 High Strength Bolts
  - Existing structural steel will be considered an approved base metal in addition to AWS D1.5, 1.2.2 listed base metals
- B. Additional material requirements are as specified on the Contract Drawings and in the Special Provision 506 - Lead Abatement and Coating Application.

Construction Requirements.

- A. All the requirements of the Standard Specifications, Section 504 - Structural Steel shall be met, except as modified by these Contract Documents.
- B. The installation of new structural steel and reinforcement of existing structural steel shall be accomplished such that the structural integrity of the existing structure shall be maintained at all times.
- C. The Contractor shall field verify all dimensions necessary to insure the accurate detailing and fabrication of material specified under this special provision.
- D. The Contractor shall take suitable measures to protect vehicles and pedestrians from injury and/or damage from falling objects. The Contractor is solely responsible for injury and damage.
- E. The Contractor is notified that it is unacceptable for any dust to escape the work area in a visible cloud or plume. All debris and dust shall be contained by draping the work area or other approved means and shall be collected and removed from the work area. If such escape of dust or grit occurs during the work the Resident shall order the Contractor to stop work until corrective measures are implemented.
- F. The Contractor shall perform surface preparation, painting, containment and disposal on new and existing steel in conformance with the applicable sections of Special Provision 506 - Lead Abatement and Coating Application except as modified herein. Payment shall be made under the lump sum payment items below:
- 506.18 Containment and Pollution Control Measures
  - 506.191 Disposal of Special Waste or Hazardous Waste
  - 506.30 Shop Coating of Structural Steel
- G. The Contractor is advised that the existing paint system on the bridge is lead bearing paint (LBP) and contains hazardous concentrations of lead. The Contractor shall perform surface preparations involving components with LBP for the removal, modification or installation of existing and new structural steel in conformance with OSHA Regulations (Standards – 29 CFR) Part 1926.62, and all local, state and federal regulations.
- H. All paint removal, containment and disposal shall be performed by SSPC QP1 & QP2 certified contractors who shall retain such certification throughout the duration of this project.
- I. Prior to the removal, modification or installation of any existing structural steel, all LBP shall be removed to practical bare metal in areas immediately affected by flame cutting, air-carbon arc gouging, chipping or grinding as well as contact surfaces where new steel is bolted or welded to existing steel. Removal shall be performed in accordance with SSPC SP-15, Commercial Grade Power Tool Cleaning or in accordance with SSPC SP-6, Commercial

Blast Cleaning. Paint containment shall be performed in conformance with SSPC Guide 6, Guide for Containing Debris Generated during Paint Removal Operations and SSPC Guide 7, Guide for the Disposal of Lead-Bearing Contaminated Surface Preparation Debris.

- J. Material removed under this Special Provision is designated to become the property of the Contractor and shall be entirely removed and disposed of beyond the limits of the project. The Contractor's operation shall be conducted so that all material is contained at all times. All debris material shall be disposed of at an approved dump or other approved location in conformance with all local, state and federal regulations. The Contractor shall submit a plan for approval by the Resident for the handling of all regulated waste.
- K. Extreme care shall be taken during removal to avoid damaging the existing structure to remain. Any portion of the existing structure damaged by the Contractor shall be repaired as directed by the Resident at no additional cost.

### **ITEM SPECIFIC REQUIREMENTS**

#### **Removal of Structural Steel**

##### **A. General:**

Work under this item includes the removal of beams and diaphragms at locations as shown on the contract drawings, and/or at other locations as directed by the Resident during construction.

- B. Existing Structural Steel shall be removed to the limits shown on the plans.

##### **C. Method of Measurement:**

The quantity for which payment will be made under this item will be the number of POUNDS of structural steel, removed as indicated on the contract drawings or as directed by the Resident. Weight shall be determined by computing nominal unit bolt weights-per-foot using plan dimensions and sizes without deducting for bolt holes. Individual members will be computed to the nearest pound.

#### **Structural Steel Repair**

##### **A. General:**

Work under this item includes the removal and replacement of corrosion damaged cross frame members and connection plates at locations as shown on the contract drawings, and/or at other locations as directed by the Resident during construction and the installation of cover plates on the bottom flange at locations as shown on the plans. The work shall include all labor, equipment, and materials required for detailing, fabricating, furnishing, and installing bolted and/or welded structural steel cover plates as shown on the plans and in accordance with all applicable provisions of the Standard Specifications and Special Provisions.

- B. Unless otherwise noted in the contract documents, all bolts shall be 7/8" diameter.
- C. Existing Structural Steel shall be removed to the limits shown on the plans.
- D. Method of Measurement:

The quantity for which payment will be made under this item will be the number of POUNDS of structural steel, installed as indicated on the contract drawings or as directed by the Resident. New high strength bolts shall not be weighed or otherwise measured for payment, but shall be considered incidental to the work required under this Item.

Basis of Payment.

The price bid shall include removal of any structural steel described in the plans or as directed by the Resident, as well as furnishing, fabricating, delivery and erection of replacement and/or new structural steel, including the supply of all tools, labor, equipment, scaffolding, materials, transportation and incidentals necessary for the satisfactory completion of the work at locations as described in the contract documents and/or as directed by the Resident. Payment will be under the following payment items:

| <u>Pay Item</u> | <u>Description</u>          | <u>Pay Unit</u> |
|-----------------|-----------------------------|-----------------|
| 504.8101        | Removal of Structural Steel | LB              |
| 504.811         | Structural Steel Repair     | LB              |

**SPECIAL PROVISION**  
**SECTION 506**

Lead Abatement and Field Coating Application

**506.01 Description.** All requirements of this Specification are the responsibility of the Contractor unless otherwise specifically stated herein. This work shall consist of localized cleaning and coating of existing and new structural steel at repair and cover plate areas. Provide all tools, equipment, materials, miscellaneous items and containment necessary for satisfactory completion of the work. Assume existing paint contains lead (BLSC). Areas requiring touch-up, as indentified by the Resident, shall conform to the requirements of this Special Provision.

**506.02 Materials.** Provide a coating system from the following list:

|                         |  |
|-------------------------|--|
| Carboline –             | Primer Carboguard 954 5 mils DFT<br>Intermediate Carboguard 954 3 mils DFT<br>Top Coat Carbocoat 30R 2 mils DFT.   |
| Wasser -                | Primer MC-Mozinc 4 mils DFT<br>Intermediate MC-Momastic 4 mils DFT<br>Top Coat MC-Ferrox 3 mils DFT  |
| Sherwin-Williams–Primer | Corothane Galvapak Zinc Moisture Cure Urethane 1K 3 mils DFT<br>Intermediate Corothane Ironox 1B 3 mils DFT<br>Top Coat Corothane 1 HS Moisture Cure Urethane 2.5 mils DFT |

Provide the manufacturer's product data sheet and MSDS for each coat to the Resident for review prior to beginning coating. Provide coating in the smallest kit sizes or containers available from the coating manufacturer.

**506.03 Contractor Qualification.** Have a current SSPC-QP1 and QP2 certification. Provide a surface preparation, coating application, containment and waste management plan for review by the Resident. The plan shall be stamped by a Professional Engineer licensed in the State of Maine. Have a pre-job meeting with the Resident, the Department's hazardous waste representatives, and the Contractor's hazardous waste transporter to discuss containment, removal, coating and waste disposal. Do not perform any work until the plan is reviewed by the Department.

**506.04 Quality Control.** Provide a Quality Control Inspector that has successfully completed NACE Coating Inspector Training, Session One, SSPC BCI training or has other inspection experience acceptable to the Resident.

The Quality Control Inspector shall:

- Inspect surface preparation.
- Record coating lot numbers and manufacture date.

- Witness the mixing of the coating.
- Measure and record the environmental conditions in the immediate vicinity of the coating operation.
- Measure and record dry film thickness of each coat.
- Record all Quality Control activity in a format acceptable to the Resident.
- Provide the Department with a copy of all test results and measurements.
- Reject unacceptable work and cause it to be re-done.

**506.05 Containment.** Meet the requirements of SSPC Guide 6, Table P-Power Tool Cleaning and all state and Federal requirements for the removal and containment of hazardous materials at locations of coating removal.

**506.06 Waste Management.** The Contractor shall collect, store and dispose of lead paint and related waste in compliance with all Federal, State and local laws and requirements. The procedures used for disposal shall conform to the latest requirements of Steel Structures Painting Council Guide 7, Guide for the Disposal of Lead-Contaminated Surface Preparation Debris. The Contractor shall have a copy of this guide available on site at all times. The Contractor shall also have a copy of the Maine Department of Environmental Protection's (MDEP's) Handbook for Hazardous Waste Generators and a copy of the State of Maine Hazardous Waste Management Rules, 06-096 CMR Chapters 850-857, on site at all times. Thirty days prior to generating any waste, the Contractor shall submit their Waste Management Plan which shall include the Spill Prevention Control and Countermeasure (SPCC) Plan to the Department for review and comment. Emergency procedures to be taken in the event of a release of hazardous/special waste or hazardous matter to the environment shall be part of the SPCC Plan. Work shall not proceed until the Department has formally accepted the Waste Management Plan as being complete.

The Department has "Small Quantity Generator-Plus (SQG-Plus)" hazardous waste status for the hazardous waste activities associated with this Contract, as defined by MDEP in the Handbook for Hazardous Waste Generators. Except for a generation rate and site specific identification number, all requirements associated with SQG-Plus status apply. Given the temporary nature of the work, MDEP has excluded the SQG-Plus generation rate restriction and permanent identification number for these bridge maintenance efforts as long as all other SQG-Plus requirements are fully complied with.

All hazardous waste shall be stored in USDOT approved drums. The waste drums shall be placed in an approved locking structure which has a firm, impervious, floor surface and secondary containment that is either 110% of the largest container or 20% of all containers, whichever is larger. All waste containers must be labeled with the words "Hazardous Waste", the hazard (e.g., Toxic, Flammable, etc.), the start date, full date, site location and generator information. The lockable container must be labeled "Danger-Unauthorized Personnel Keep Out" and shall be locked at all times when not being accessed. No more than 1,320 pounds and no more than three 55-gallon drums of hazardous waste may be stored at the site at any time.

The waste storage locker must be inspected each operating day in accordance with MDEP regulations. The written log shall detail the findings of the daily inspections and it must be maintained by the Contractor and provided to the Department at the end of the project. The Contractor shall store all hazardous waste, in conformance with all other MDEP and Federal Rules, including Chapter 851, Section 13, Part C(7)(i) and 40 CFR 2674.14. Hazardous wastes are limited to an on-site storage time of 180 days following the filling of a drum.

Hazardous/special paint debris and other waste shall not be placed or accumulated on unprotected ground or released to waters of the State. Work areas shall be adequately shielded at all times to prevent dispersion of debris by wind or rain. All of the Contractor's equipment and storage areas used for the handling and storage of hazardous waste, special wastes and hazardous materials shall have impervious tarps placed under them. Any evidence of improper storage and handling shall be cause for immediate suspension of work in progress and work will not be allowed until corrective actions are taken.

All paint-related waste material generated as part of this initiative must be managed as a hazardous waste. Management of the remaining waste materials will depend on the results of laboratory testing. The Contractor may assume these wastes are hazardous or may test the debris (including personal protective equipment, gray water, etc.) to determine the appropriate disposal options. The Department must be notified at least one week in advance of the date of sampling activities and provided the proposed protocol for sample collection. The Department shall witness the sampling. Chain-of-custody must be adhered to for sample removal. Certified laboratory test results shall be provided to the Department upon receipt by the Contractor.

The Contractor shall inform the Department at least three days in advance of planned date(s) for removal of hazardous waste from the job site. The Department shall obtain a provisional Environmental Protection Agency Identification Number prior to shipping any hazardous waste for disposal. This provisional number must be used by the Contractor to ship hazardous waste off site. The Contractor shall secure a MaineDOT approved transporter (e.g., Enpro Services, Inc., or Environmental Products, Inc.) licensed by MDEP for transportation of hazardous waste. Preparation of all necessary forms is the responsibility of the Contractor. The Hazardous Waste Manifest must be approved and signed by the Department. A multi-part, pre-numbered Uniform Hazardous Waste Manifest (EPA Form 8700-22) shall be prepared when shipping hazardous waste. The appropriate original sheets of the multi-part hazardous waste manifest must be provided to the Department and must be sent to the Department's Supervisor of Groundwater and Hazardous Waste Management, Environmental Office, State House Station #16, Augusta, Maine, 04330.

Failure of the Contractor to comply with this section shall result in the following:

- First finding of non-conformity shall be a written warning which will include deadline for compliance.

- Second finding of non-conformity shall be documented in writing, and all operations by the Contractor, except those needed to restore compliance, will be immediately suspended, until full compliance has been restored.
- Third and subsequent findings of non-conformity will be documented in writing and all operations shall be immediately suspended, except those needed to restore compliance, until full compliance has been fully restored, and the Contractor assessed a penalty of \$10,000.00 per incident. If the Contractor fails to restore the Project into compliance, additional fines shall be assessed.

All penalties assessed shall be in addition to any fines assessed by MDEP/EPA for failing to comply with the Federal, State, or local regulations. The Contractor shall not be granted additional time for suspensions of work due to noncompliance.

**506.07 Surface Preparation.** After welding and/or bolting, prepare the surfaces to a minimum of SSPC-SP 11-Power Tool Cleaning to Bare Metal. Develop an anchor profile that corresponds with the requirements of the primer coat manufacturer's product data sheet. For repair areas, clean the steel six to twelve inches in all directions from the weldment or as directed by the Resident. For areas to be cover plated, clean the edges and outside three inches of the bottom flange or as directed by the Resident. Clean the full width of the flange at the end row of cover plate bolts. Use SSPC VIS 3-Visual Standard for Power-and Hand-Tool Cleaning to evaluate the cleanliness of the steel. Measure the anchor profile using ASTM D 4417 Method C (replica tape). Measure the anchor profile on each plane to be coated. If the results are consistent the Resident may require a reduced level of measurement, however, not less than one measurement at each end of a repair piece.

The faying surface between the existing flange and the cover plate shall meet Class B requirements. The coating for faying surfaces of slip critical connections shall be an organic zinc-rich primer. The primer shall meet Class B (0.5 or greater) slip coefficient requirements of the Research Council on Structural Connections' Specification for Structural Joints Using ASTM A325 or A490 Bolts. The slip coefficient shall be verified by testing according to the Testing Method to Determine the Slip Coefficient of Coatings Used in Bolted Connections' Specification for Structural Joints Using ASTM A325 or A490 Bolts, Appendix A. Prior to coating, the contractor fabricator shall furnish the Engineer with the certification of testing showing that the primer meets Class B slip coefficient.

**506.08 Application.** Apply the coating using brushes, rollers or other methods acceptable to the Resident. Do not spray the coating in the field, only shop applied coating may be sprayed. Single component coatings may be opened and re-sealed as long as the remaining coating has not begun to degrade or cure in the container.

Two-component kits may be split if the components are measured in the proper proportions by mass using a calibrated scale and the measuring and mixing are witnessed by the Resident and

Quality Control Inspector. The proportions shall be provided on a company letterhead by the coating manufacturer.

Apply the coating after the Quality Control Inspector has measured and recorded the environmental conditions in the immediate vicinity of the work and has given permission to begin coating.

Cure the coating for the maximum amount of time specified for the minimum temperature encountered during the cure cycle. The environmental conditions recorded at the nearest airport may be used to settle disputes between the Department and the Contractor.

Advise the Resident when dry film thicknesses are measured in order that the Resident may witness the measurements. Do not remove the access to the work area until the Work has been completed and accepted by the Quality Control Inspector.

**506.09 Touch-up and Repairs** Repair damaged or unacceptable shop coating before the piece is removed from the paint area in the shop. Damaged areas shall be prepared in accordance with the manufacturer's published instructions. Damaged or unacceptable coatings shall be repaired using the same coating system. Environmental conditions, cure times and DFTs shall be in accordance with manufacturer's published data sheets. Repairs to topcoat shall result in a uniform gloss and color match. The Fabrication Engineer shall have final authority concerning acceptable appearance.

Touch-up and repairs of damaged coating at the bridge site shall be done in accordance with the manufacturer's published instructions. Prepare areas to be touched-up/repared in a manner that assures the proper adhesion of each coat. Each existing coat shall be feathered back to assure that each touch-up/repair coat is continuous with each corresponding existing coat. The topcoat shall be smooth and uniform in appearance.

Payment for all touch-up and repairs shall be incidental to the Work.

**506.10 Method of Measurement.**

Surface Preparation of Existing and New Structural Steel shall be measured for payment as one lump sum, complete and accepted.

Field Painting of Existing and New Structural Steel shall be measured for payment as one lump sum, complete and accepted.

Containment and Pollution Control Measures shall be measured for payment as one lump sum, complete and accepted.

Disposal of Special Waste or Hazardous Waste materials shall be measured for payment as one lump sum.

**506.11 Basis of Payment.**

The accepted quantity of Surface Preparation of Existing and New Structural Steel will be paid at the respective Contract lump sum price, which shall be full compensation for furnishing all materials, labor, tools, equipment, scaffolding, QC inspections, and any other incidentals necessary for the satisfactory performance of the work.

The accepted quantity of Field Painting of Existing and New Structural Steel will be paid at the Contract lump sum price, which shall be full compensation for furnishing all material, labor, equipment, scaffolding and incidentals necessary for the satisfactory performance of the work.

Containment and pollution control will be paid for at the Contract lump sum price, which price shall be compensation for furnishing all materials, labor, equipment, and incidentals necessary for the satisfactory performance of the work.

Disposal of Special Waste or Hazardous Waste materials will be paid at the Contract lump sum price, which price shall be full compensation for all permits, tests, transportation, tipping fees and incidentals necessary for the satisfactory performance of the work.

Payment will be made under:

| <b><u>Pay Item</u></b>   | <b><u>Pay Unit</u></b> |
|--|------------------------|
| 506.142      Field Painting of Existing Structural Steel               | LS                     |
| 506.144      Field Painting of New and Existing Structural Steel       | LS                     |
| 506.17        Surface Preparation of New and Existing Structural Steel | LS                     |
| 506.18        Containment and Pollution Control Measures               | LS                     |
| 506.191      Disposal of Special Waste or Hazardous Waste Material     | LS                     |
| 506.30        Shop Coating of Structural Steel                         | LS                     |

**SPECIAL PROVISION  
SECTION 510  
SPECIAL DETOURS  
(Expressway Median Crossovers)**

“510.01 Description This work shall consist of the construction of crossovers and approaches required in the Interstate 95 median in the vicinity of the bridges for the satisfactory maintenance of vehicular traffic in conformity to the Stage Construction Plans and the approved Traffic Control Plans. The work shall include construction of a permanent emergency median crossover as shown on the plans, installation of temporary concrete barrier to divide traffic, and reconstruction of the modified approaches and drainage structures to match the existing facilities in composition and grade at the completion of Stage Number 1 and Stage Number 2. The new emergency crossover shall be constructed and open for use prior to activation of the median crossovers. The existing emergency crossover shall remain in place. Existing emergency crossover use shall not be permitted when the temporary crossover has been activated. One of the emergency crossovers must be available for use at all times.

The Contractor will construct crossovers of the median both to the south and to the north of the bridges for Stage Number 1 and Stage Number 2. The crossovers shall meet all requirements of the Section 652 Maintenance of Traffic special provision and the Traffic Control Plan. The design and details of the crossovers at Stage Number 1 and Stage Number 2 are shown on the Traffic Control Plans. The crossover details reflect the design speed of 40 mph.

Temporary drainage structures shall provide for drainage of all roadway surfaces. Any pavement for this work, temporary or permanent, shall be graded to provide proper drainage. Drain grids, such as grid openings for catch basins, must be kept completely open.

All work for the crossovers will be contained within the State of Maine’s Right of Way for Interstate 95.

510.02 Materials Materials used for the crossovers and approaches shall conform to the detailed plans and specifications. Materials and labor for temporary drainage structures, removal, and reconstruction of permanent drainage structures shall be considered incidental to Pay Item 510.301, Expressway Median Crossovers.

DESIGN

510.032 Geometric Design The geometric design of the Special Detour(s), except as otherwise shown on the plans or as noted herein, shall be constructed in accordance with the

current AASHTO Specification "A Policy on Geometric Design of Highways and Streets" and the Maine Department of Transportation "Highway Design Guide" (as Amended).

a. Horizontal Alignment: The horizontal alignment shall be as shown on the Plans or as directed by the Resident.

b. Vertical Alignment: The grade transitions will be provide a smooth ride meeting AASHTO requirements for a design speed of 40 mph.

510.06 Expressway Median Crossover Construction The Expressway Median Crossovers, both for Stage Number 1 and Number 2, including temporary drainage structures and approaches, shall be constructed in accordance with the plans. Barricades, warning signs, temporary concrete barrier, and other traffic control devices shall be provided in accordance with the Contract and the approved Traffic Control Plan.

Erosion control shall be accomplished in accordance with Section 656 - Temporary Soil Erosion and Water Pollution Control.

Upon completion of construction and opening of Interstate 95 to two (2) lanes of travel in both the northbound and southbound directions; the Hot Mix Asphalt pavement on the northern crossover(s) shall be covered with nine (9) inches of dirty borrow, seeded in accordance with MDOT Method 2, and Mulched.

510.07 Contractor's Responsibility The Expressway Median Crossover(s) travel surface shall be constructed and maintained in an acceptably smooth condition, as determined by the Resident. Immediate corrective action shall be taken by the Contractor to remedy objectionable roughness of the crossover riding surface.

The Contractor shall be responsible for maintaining the crossovers for each stage of the construction.

The Maine Department of Transportation will be responsible for snow removal and surface treatment on pavement open to traffic.

510.08 Method of Measurement Crossovers will be paid by the lump sum.

510.09 Basis of Payment: The accepted Expressway Median Crossovers will be paid for at the Contract lump sum price which shall be full compensation for the respective items, as called for in the Contract, construction, maintenance, reconstruction, rehabilitation and permanent stabilization including dirty borrow, seeding and mulching. All gravel or borrow material and excavation needed to accommodate changes in elevation between the Northbound and Southbound roadways shall be incidental to this item. Payment will be made as follows: 60 percent of the lump sum price will be paid when the crossovers are

**Fairfield - Benton**  
**C.A. Clauson Bridges**  
**M C RR Bridge**  
**PIN 016686.00, 016700.00, & 017814.00**  
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acceptable and open to traffic; another 20 percent of the lump sum price will be paid when the crossovers are no longer needed and have been closed to traffic; the final 20 percent of the lump sum price will be paid when the southern median and northern median is reconstructed and the areas encompassing the crossovers have been acceptably restored.

The crossovers and emergency crossover shall include all common excavation, ledge excavation, common borrow, dirty borrow, pavement, aggregate, drainage culverts, catch basins and structures, pavement markings, pavement marking removal, temporary concrete barrier and resetting of temporary concrete barrier, loam, seeding, mulch, stone ditch protection, screening fence, erosion control mix, erosion control geotextile and any other material, labor, equipment and incidentals required to complete the work in accordance with the plans and in a manner satisfactory to the resident.

| <u>Pay Item</u> |                              | <u>Unit</u> |
|-----------------|------------------------------|-------------|
| 510.301         | Expressway Median Crossovers | LS          |

SPECIAL PROVISION  
**SECTION 518**  
STRUCTURAL CONCRETE REPAIR  
CRACK REPAIR

**Description:**

The work under this item includes all labor, materials and equipment necessary to complete the work specified in this Section, complete in place, including but not limited to the following:

1. Injection grouting of structural cracked concrete.
2. Selective demolition, removal and disposal of materials and debris.

**Limits of Work:** Contract Drawings indicate typical repair details anticipated for this project. Approximate locations of the cracks are shown on the Drawings. The Resident and the Contractor will locate in the field the locations and limits of work to which the Drawing details and quantities will be applied.

**Materials:**

Crack Repair, epoxy injection of cracks, material shall conform to the following requirements:

1. Compressive Properties (ASTM D-695) at 28 days
  - a. Compressive Strength: ..... 10,000 psi min
  - b. Modulus of Elasticity: ..... 300,000 psi min
2. Tensile Properties (ASTM D-638) at 14 days
  - a. Tensile Strength: ..... 7000 psi min
  - b. Elongation at Break: ..... 3-5%
  - c. Modulus of Elasticity: ..... 340,000 psi min
3. Flexural Properties (ASTM D-790) at 14 days
  - a. Flexural Strength (Modulus of Rupture): ..... 12,000 psi min.
  - b. Tangent Modulus of Elasticity in Bending: ..... 300,000 psi min
4. Sheer Strength (ASTM D-732) at 14 days: 4500 psi min
5. Total Water Absorption (ASTM D-570) at 7 days: 1.5% max. (2 hour boil)
6. Bond Strength (ASTM C-882) Hardened Concrete to Hardened Concrete
  - a. 2 day (dry cure): ..... 2800 psi min
  - b. 14 day (moist cure): ..... 2000 psi min
7. Deflection Temperature (ASTM D-648) at 14 days:  
104F min (fiber stress loading = 264 psi)
8. The epoxy resin adhesive shall conform to ASTM C-881, and AASHTO M235-90.
9. The epoxy resin adhesive shall be approved by the United States Department of Agriculture.

**Submittals** Submit manufacturer's literature and certified test data from independent testing laboratories for all specified materials. Test data shall verify materials comply with referenced standards and physical and performance properties. Testing shall incorporate the material properties indicated on the Drawings for the existing concrete structure.

Submit samples when requested by the Resident.

Submit certificates of material compatibility as specified herein.

Compatibility: The epoxy injection material, corrosion inhibiting admixture, corrosion inhibiting impregnation coating, concrete protective coating, bonding material, if required, shall be compatible with each other. A letter of compatibility must be issued from the suppliers of the material.

Delivery, Storage and Handling Epoxy Injection of Cracks materials and accessories shall be in original unopened packages, clearly labeled with the manufacturer's identification and printed instructions. Store and handle in accordance with the recommendations of the manufacturer.

Environmental Conditions Refer to manufacturer's literature for any physical or environmental limitations.

**Construction Methods:**

1. The Resident shall locate in the field, locations and limits of concrete restoration as specified herein and as shown on the Drawings.
2. Repairs will be classified by the Resident, as vertical, overhead or horizontal for proper application purpose.
3. Provide safe access at all repair locations to the Resident.

Epoxy Injection of Cracks

1. Surface preparation and crack preparation: Surface must be clean and sound. Clean the cracks. Remove dust, dirt, debris, oil, laitance, grease, curing compound, impregnations, waxes and other bond inhibiting materials and materials which will prevent epoxy penetration.
2. Use injection equipment as recommended by the material manufacturer. Set appropriate injection ports based on system used. Seal ports and cracks with materials specified by the crack filler material manufacturer. Inject full depth of cracks in strict accordance with manufacturer's written instructions.
3. Mix materials in strict accordance with manufacturer's instructions.
4. Clean Up: Clean equipment and adjacent surfaces as recommended by material manufacturer.
5. Remove injection ports and sealing materials from surfaces of concrete as otherwise directed by the Resident. Grind surface smooth. Clean concrete surface to match adjacent concrete.

Manufacturer's Field Representative

The Contractor shall arrange with the materials manufacturer or distributor to have the services of a competent field representative at the work site prior to any mixing of components to instruct the work crews in the proper mixing and application procedures. He shall remain at the job site after work commences and continue to instruct until he and the Contractor, Inspector and/or Engineer are satisfied that the crew has mastered the technique of installing the system successfully. The representative shall make periodic visits to the project as the work progresses and shall confer on each visit with the Contractor, Inspector and/or Engineer.

The manufacturer's field representative must be fully qualified to perform the work and shall be subject to the approval of the Engineer.

The Contractor shall be completely responsible for the expense of the services of the required field representative and the bid contract price shall be full compensation for all costs in connection therewith.

**Method of Measurement:**

Crack Repair will be measured by the calculated Linear Foot of crack repairs complete in place.

1. Measurements and calculations of crack length will be made by the Resident in the field from one side of the surface only.

A crack may or may not propagate completely through the concrete element. The full depth of the crack shall be repaired. No differentiation will be made based on crack depth for measurement and payment purposes.

2. The Resident will measure the crack in an essentially linear fashion and will not consider short, jagged changes in crack direction.
3. The measurements and calculations made by the Resident will be used for payment purposes.
4. Additional repair materials used to repair defective work, waste materials and materials required because Contractor exceeds authorized repair limits will not be measured for payment.

**Basis of Payment:**

The accepted quantity of Crack Repair will be paid for at the Contract unit price per Linear Foot complete in place which price shall include all work associated with the repair including but not limited to removal and disposal of loose and deteriorated concrete and other debris, surface preparation, materials removal and disposal, injection ports, crack sealer, and removal of ports and surface sealer after repair work is completed and all materials, equipment, tools and labor incidental thereto.

Payment will be made under:

**Pay Item**

**Pay Unit**

518.80 Crack Repair

LF

SPECIAL PROVISION  
**SECTION 521**  
FINGER JOINTS AND FABRIC TROUGH/FABRIC CURTAIN

**Description** This work shall consist of installing finger joints as indicated on the plans and in accordance with the specifications or as directed by the Resident.

**Materials** The Finger Joints and Fabric Troughs, as required, shall be as indicated on the plans and shall meet the material, fabrication, and construction requirements of Section 521 – Finger Joints and Fabric Trough/Fabric Curtain.

**Construction Requirements** The Contractor shall construct the finger joints to the dimensions shown on the plans and as approved by the manufacturer.

The Contractor shall install the joint or joint system according to the manufacturer's recommendations.

The Contractor shall cut a neat line for the substrate blockout per the dimensions indicated on the plans and standard details. The contractor shall sand blast the substrate, blow it clean with dry oil-free compressed air, and thoroughly dry the substrate prior to placing joint material. Care shall be taken where reinforcing steel is uncovered not to damage the steel or its bond to the surrounding concrete. All existing reinforcing steel exposed by the joint and concrete removal shall be cleaned by sandblasting, or by other means approved by the Resident.

**Method of Measurement** Expansion Device – Finger Joint will be measured as one unit at each location, complete in place and accepted for the types identified on the plans.

Fabric Trough/Curtain for Finger Joint will be measured as one unit for each expansion joint so protected, as shown on the plans. Each Fabric Trough/Curtain consists of a set of several small units, or a single large unit, covering the exposed beam ends underneath the three new finger joints.

**Basis of Payment** The accepted quantities of Expansion Device Finger Joint will be paid for at the contract unit price each.

The accepted quantity of Fabric Trough for Finger Joint will be paid for at the contract unit price each.

Payment will be full compensation for all materials, labor, equipment, and incidentals necessary to complete the work, including removing and replacing structural concrete

and steel, adjusting and cleaning existing joint materials and reinforcing steel, and fabricating and installing new joint material and new troughs, as required.

Payment will be made under:

| <u>Pay Item</u>                              | <u>Pay Unit</u> |
|--|-----------------|
| 521.23 Expansion Device Finger Joint, Type B | Each            |
| 521.23 Expansion Device Finger Joint, Type D | Each            |
| 521.32 Fabric Trough for Finger Joint        | Each            |
| 521.33 Fabric Curtain for Finger Joint       | Each            |

**SPECIAL PROVISION  
SECTION 523  
BEARINGS  
(Bearing Installation)**

**Description:**

This work shall consist of all labor, equipment, and materials required for jacking the existing beams and girders, removing the existing bearings, including the bearings for the two beams to be removed from the Maine Central Railroad Bridge, minor renovations of the concrete bearing support pads if required, providing and installing bolts, and installing the replacement bearings as shown on the plans and in accordance with all applicable provisions of the Standard Specifications and Special Provisions. The Contractor shall carefully jack the existing beams and girders the minimum amount necessary to permit the required work without causing any damage or safety hazard. Temporary support of the beams and girders required to perform substructure repairs and cover plate installation as shown on the plans will be paid separately under Pay Item 524.32.

**Construction Requirements:**

Jacking methods and materials shall meet the requirements of Section 524, Temporary Structural Supports.

Where the existing bearing area is not altered or adjusted by the proposed substructure work, all bearing area dimensions shall be field-verified by the Contractor to determine any need to shim or adjust the bearing areas for proper fit to the replacement bearings. No more than  $\frac{1}{8}$  inch of relative displacement between the final beam or girder elevations of adjacent bearings will be allowed. No additional payment shall be made for additional work, materials, or bearings required to provide the proper fit of replacement bearings, regardless of any conflict among plan, field, and as-built dimensions.

Prior to the start of work, the Contractor shall submit plans to the Department for reference. The plans shall indicate the proposed methods, materials, and equipment for jacking the beams and girders, temporarily supporting the beams and girders, and resetting the beams and girders on the replaced bearings, including sizes and dimensions of material used, and connections and fasteners used. The jacking plan shall be designed and stamped by a Professional Engineer licensed in the State of Maine.

Jacks of sufficient capacity and number shall be used to raise the superstructure the minimum amount necessary to perform all work as indicated on the plans. For each bearing line, jacks

shall be provided at all beams and girders. Jacking displacements shall be simultaneous, or be staggered such that there is never more than ¼ inch difference in the vertical displacements of two adjacent bearings. The temporary support system must securely maintain the displacements at each bearing area, without measurable or noticeable changes under all dead and construction loads, until the superstructure loads are transferred to the replacement bearings. It shall be the Contractor's responsibility to prevent any damage to the structure from the support system. Should any damage occur as a result of this work, the Contractor shall make repairs at no cost to the Department. Any such repair work is subject to the approval of the Resident.

All bearing removal and installation shall be completed prior to obtaining elevations on the top flanges of the beams or girders to determine blocking distances, and prior to placing the superstructure concrete in any adjacent span.

**Method of Measurement:**

Bearing Installation will be measured for payment as one unit for each bearing to be installed, complete and accepted in place.

**Basis of Payment:**

The accepted quantities of bearing items furnished will be paid for at the contract unit price each. Removal of the existing bearings of the two beams to be removed from the Maine Central Railroad Bridge, shall be considered incidental to bearing installation. Payment for Bearing Installation will be made at the contract unit price each, and payment will be full compensation for design, plans, setting and adjusting, including all labor, equipment, materials, and incidentals necessary to complete the work in a manner satisfactory to the Resident.

| <b><u>Pay Item</u></b> |   | <b><u>Pay Unit</u></b> |
|------------------------|---|------------------------|
| 523.5301               | Steel Bearings, Fixed, Sliding Plate      | Each                   |
| 523.5302               | Steel Bearings, Expansion, Sliding Plate  | Each                   |
| 523.5401               | Laminated Elastomeric Bearings, Fixed     | Each                   |
| 523.5402               | Laminated Elastomeric Bearings, Expansion | Each                   |
| 523.52                 | Bearing Installation                      | Each                   |

**SPECIAL PROVISION**  
**SECTION 524**  
**TEMPORARY STRUCTURAL SUPPORTS**  
**(Lateral Bracing)**

**Description:**

This work shall consist of all labor, equipment, and materials required for detailing, fabricating, furnishing, installing, and removing temporary lateral bracing, and installing high strength bolts in the bolts holes of the girders, required to maintain stability of the existing girders for structural steel rehabilitation and bridge deck construction as shown on the plans and in accordance with all applicable provisions of the Standard Specifications and Special Provisions.

**Construction Requirements:**

This work shall be done in conformance with the requirements of MaineDOT Standard Specifications, Section 504 – Structural Steel.

Within each span, the temporary lateral bracing shall be installed prior to the removal of adjacent existing structural steel members to be rehabilitated, and prior to the construction of bridge deck formwork or any other applied load. Should precast concrete deck panels be used, the lateral bracing shall be installed prior to placing deck panels on the girders. The lateral bracing shall remain in place for seven days after placement of all bridge deck concrete in that span has been completed.

No temporary bracing may be left in place. Once the temporary bracing has been removed, all bolt holes shall be filled with  $\frac{7}{8}$  inch diameter high strength bolts conforming to ASTM A325 Type 1, galvanized. Bolt heads shall be located on the outside faces of exterior girders and the bottom sides of girder flanges.

It shall be the Contractor's responsibility to prevent any damage to the structure from the lateral bracing. Should any damage occur as a result of this work, the Contractor shall make repairs at no cost to the Department. Any such repair work, including paint touch-up, shall conform to the Standard Specifications and Special Provisions, and is subject to the approval of the Resident.

**Method of Measurement:**

Temporary Structural Supports – Lateral Bracing will be measured for payment as one lump sum.

**Basis of Payment:**

Payment for Temporary Structural Supports – Lateral Bracing shall be full compensation for all design, plans, installing and removing temporary bracing, and installing permanent high strength bolts to remain in the bolts holes, including all labor, equipment, materials, and incidentals necessary to complete the work.

**Pay Item**

**Pay Unit**

|         |                                     |          |
|---------|-------------------------------------|----------|
| 524.301 | Temporary Support – Lateral Bracing | Lump Sum |
|---------|-------------------------------------|----------|

**SPECIAL PROVISION**  
**SECTION 524**  
**TEMPORARY STRUCTURAL SUPPORTS**  
**(Beam and Girder Support)**

**Description:**

This work shall consist of all labor, equipment, and materials required for furnishing, installing, maintaining, and removing temporary beam and girder support required for all work associated with concrete repair and cover plate installation, as shown on the plans and in accordance with all applicable provisions of the Standard Specifications and Special Provisions. The temporary beam and girder support shall remain in place at each location until all work associated with the concrete repair, cover plate installation, and bearing installation is complete. Payment will not be made more than once at each location. This item is to be used only at the piers of the two C.A. Clauson Bridges. Bearing installation and jacking will be paid separately under Pay Item 523.52 for all bearings installed.

**Construction Requirements:**

Prior to the start of work, the Contractor shall submit plans to the Department for reference. The plans shall indicate the proposed methods, materials, and equipment for temporarily supporting the beams and girders, including sizes and dimensions of material used, and connections and fasteners used. The system may be supported directly from the ground, supported from the existing substructure, or other means approved by the Resident. The temporary support system shall be designed and stamped by a Professional Engineer licensed in the State of Maine.

Displacements shall be simultaneous, or be staggered such that there is never more than ¼ inch difference in the vertical displacements of two adjacent beams or girders along a bearing line. The temporary support system must securely maintain the displacements at each bearing area, without measureable or noticeable changes under all dead and construction loads, until the superstructure loads are transferred to the replacement bearings. It shall be the Contractor's responsibility to prevent any damage to the structure from the support system. Should any damage occur as a result of this work, the Contractor shall make repairs at no cost to the Department. Any such repair work is subject to the approval of the Resident.

All temporary beam and girder supports shall be removed prior to placing the superstructure concrete in any adjacent span.

**Method of Measurement:**

Temporary Beam and Girder Supports will be measured for payment as one unit for each bearing to be replaced, complete in place, maintained, accepted, and removed.

**Basis of Payment:**

Payment for Temporary Supports for Beams and Girders will be made at the contract unit price each, and payment will be full compensation for design, plans, setting and adjusting, including all labor, equipment, materials, and incidentals necessary to complete the work in a manner satisfactory to the Resident.

| <b><u>Pay Item</u></b>                            | <b><u>Pay Unit</u></b> |
|---|------------------------|
| 524.32      Temporary Support – Beams and Girders | Each                   |

SPECIAL PROVISION  
SECTION 524  
TEMPORARY STRUCTURAL SUPPORTS  
(Protective Shield)

**Description:**

This work shall consist of all labor, equipment, and materials required to protect the Maine Central Railroad from demolition work, forming, and placement of concrete and bearings during construction of this project. At a minimum, the protective shield shall be installed under each of the overhangs and between all beams of the center span of the I-95 bridge over the Maine Central Railroad.

**Construction Requirements:**

The protective shield shall be designed for safely supporting all construction and dead loads, but not less than 100 pounds per square foot. Protective shield shall be stiff enough to limit deflection to ½ inch under maximum loads and to be tightly sealed at all joints. The protective shield shall be placed on the tops of the bottom flanges of the steel beams, with edges and laps made tight to protect from dust, debris and falling objects. The protective shield shall be designed by a Professional Engineer licensed in the State of Maine. Prior to the start of work, the Contractor shall submit to the Resident a set of plans indicating the proposed method to protect traffic below, sizes and dimension of material used and indicating connections and fasteners used.

The Protective shield shall be designed to safely support all anticipated loads from small pieces of concrete falling from the existing deck during saw cutting or initial handling operations while the existing deck is being removed and to protect against small tools falling below.

**Protective Shield Erection and Removal:**

No portion of the protective shield installed over the Maine Central Railroad shall project below a plane connecting the bottoms of the bottom flanges of the steel stringers. During demolition operations, the protective shield shall be covered with sheet plastic made tight at edges and laps to prevent water used in the saw cutting operation from falling onto the facilities under the bridge.

The protective shield on existing and new structures shall extend horizontally three feet beyond the fascia lines and vertically to a point one foot minimum above the top of new bridge railing.

Shielding shall be approved and installed prior to the start of any demolition work and shall remain in position during all demolition work. Shielding shall also be approved and installed

prior to the start of any deck forming and shall remain in position during all deck work. The shielding shall be relocated or removed only as directed by the Resident.

Coordination with Maine Central Railroad will be required during the installation and removal of the Protective Shield over the Maine Central Railroad facilities. The Contractor shall develop and submit a plan to accomplish, message boards, signs, channelization devices and temporary pavement markings, prior to start of the Protective Shield work.

**Method of Measurement:**

The Protective Shield for all locations shall be measured for payment as one lump sum unit, complete in place and accepted.

**Basis of Payment:**

Payment shall include design, labor, and equipment, furnishing all material necessary to complete the work and maintain the shielding, which may require periodic removal of concrete rubble and other materials, as directed by the Resident as well as removal following construction. No separate payment shall be made for any removal and re-installation of protective shielding, but shall be considered incidental to this item.

**Pay Item**

**Pay Unit**

524.40      Protective Shield

Lump Sum

**SPECIAL PROVISION**  
**SECTION 526**  
CONCRETE BARRIER

The last paragraph of Subsection 526.05, Basis of Payment is revised by the addition of the following:

| <b><u>Pay Item</u></b> |  | <b><u>Pay Unit</u></b> |
|------------------------|--|------------------------|
| 526.3401               | Permanent Concrete Transition Barrier - Modified | EA                     |

SPECIAL PROVISION  
SECTION 526  
CONCRETE BARRIER  
(Temporary Concrete Barrier)

Materials

Temporary concrete barriers must be connected using a 1-1/8 inch diameter rod, with a washer and cotter pin on the bottom. The contractor has the option to use a nut and washer connection as shown on the Standard Detail 526(02) or the top of the rod may be hooked over the top connector. The connecting pin must be smooth and not deformed. Reinforcing bar will not be permitted.

SPECIAL PROVISION  
**SECTION 527**  
(WORK ZONE CRASH CUSHIONS)

527.05 Basis of Payment This subsection is modified by the addition of the following paragraph.

“Work Zone Crash Cushion payment will be limited to the maximum number of units used for the contract at one time, regardless of the duration of the project, except that additional payment will be made for units damaged and replaced.”

**SPECIAL PROVISION**  
**SECTION 606**  
**GUARDRAIL**  
(Removed and Stacked)

Description This work consists of removing, transporting to designated areas, and stacking guardrail, posts, and hardware.

**CONSTRUCTION REQUIREMENTS**

Removal and Transporting Guardrail, posts, and hardware designated to be removed shall be carefully removed from its present location, temporarily stored, if necessary, and transported to the following Maine DOT maintenance facility for stacking:

Maine Department of Transportation  
Fairfield Maintenance Lot  
10 Mountain Ave.  
Fairfield, ME

The Contractor shall contact the Maine DOT Region 2 office at (207) 624-8200 a minimum of 48 hours in advance of delivery. All bolts shall be removed. Posts shall be pulled. All beam type rails, posts, and terminal ends shall be completely disassembled and stacked.

Stacking The guardrail beams, posts, and hardware shall be carefully and neatly stacked on wooden planks.

Material not suitable for reuse or salvage shall not be stacked but shall become the property of the Contractor.

Method of Payment Guardrail, Removed and Stacked, will be measured by the linear foot of guardrail beam actually removed and stacked at the designated location.

Guardrail which is removed and deemed by the Resident as not suitable for stacking and future use shall not be included in the measurements for payment.

Basis of Payment The quantity of Guardrail, Removed and Stacked, will be paid for at the contract unit bid price per foot. Payment shall include compensation for removing the beams and posts, loading, transporting, unloading, and stacking, including wooden planks.

There will be no payment for guardrail removed and not stacked. Payment for guardrail removed and disposed shall be considered incidental to related contract pay items.

**Fairfield - Benton  
C.A. Clauson Bridges  
M C RR Bridge  
PIN 016686.00, 016700.00, & 017814.00  
June 15, 2011**

Payment will be made under:

Pay Item

Pay Unit

606.369 Guardrail, Removed and Stacked

Linear Foot

**SPECIAL PROVISION**  
**SECTION 606**  
**GUARDRAIL**

606.01 Description This work shall consist of furnishing and installing guardrail components in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans or as established. The types of guardrail are designated as follows:

Type 3-Galvanized steel "w" beam, wood posts or galvanized steel posts.

Type 3a-Galvanized steel "w" beam, wood posts, wood or composite offset blocks.

Type 3aa-Corrosion resistant steel "w" beam, wood posts, wood or composite offset blocks.

Type 3b-Galvanized steel "w" beam, galvanized steel posts, galvanized steel offset blocks.

Type 3c-Galvanized steel "w" beam, wood posts or galvanized steel posts, wood or composite offset blocks.

Type 3d-Galvanized steel "w" beam, galvanized steel posts, wood or composite offset blocks.

Thrie Beam-Galvanized steel thrie beam, wood posts or galvanized steel posts, wood or composite offset blocks.

Median barriers shall consist of two beams of the above types, mounted on single posts. Except for thrie beam, median barriers may include rub rails when called for.

Bridge mounted guardrail shall consist of furnishing all labor, materials, and equipment necessary to install guardrail as shown on the plans. This work shall also include drilling for and installation of offset blocks if specified, and incidental hardware necessary for satisfactory completion of the work.

Remove and Reset and Remove, Modify, and Reset guardrail shall consist of removing the existing designated guardrail and resetting in a new location as shown on the plans or directed by the Resident. Remove, Modify, and Reset guardrail and Modify guardrail include the following guardrail modifications: Removing plate washers at all posts, except at anchorage assemblies as noted on the Standard Details, Adding offset blocks, and other modifications as listed in the Construction Notes or General Notes. Modifications shall conform to the guardrail Standard Details.

Bridge Connection shall consist of the installation and attachment of beam guardrail to the existing bridge. This work shall consist of constructing a concrete end post or modifying an existing endpost as required, furnishing, and installing a terminal connector, necessary hardware, and incidentals required to complete the work as shown on the plans. Bridge Transition shall consist of a bridge connection and furnishing and installing guardrail components as shown in the Standard Details.

606.02 Materials Materials shall meet the requirements specified in the following Sections of Division 700 - Materials:

|                     |        |
|---------------------|--------|
| Timber Preservative | 708.05 |
| Metal Beam Rail     | 710.04 |
| Guardrail Posts     | 710.07 |
| Guardrail Hardware  | 710.08 |

Guardrail components shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report.

Posts for underdrain delineators shall be "U" channel steel, 2.44m [8 ft] long, 3.72 kg/m [2 ½ lb/ft] minimum and have 9.5 mm [3/8 in] round holes, 25 mm [1 in] center to center for a minimum distance of 610 mm [2 ft] from the top of the post.

Reflectorized Flexible Guardrail Markers shall be mounted on all guardrails. A marker shall be mounted onto guardrail posts at the flared end treatment's terminal and its tangent point, both at the leading and trailing ends of each run of guardrail. The marker's flexible posts shall be grey with either silver-white or yellow reflectors (to match the edge line striping) at the tangents, red at leading ends, and green at trailing ends. Whenever the end treatment is not flared, markers will only be required at the end treatment's terminal. These shall be red or green as appropriate. Markers shall be installed on the protected side of guardrail posts unless otherwise approved by the Resident. Reflectorized flexible guardrail markers shall be from the Maine DOT's Approved Product List of Guardrail Material. The marker shall be grey, flexible, durable, and of a non-discoloring material to which 75 mm [3 in] by 225 mm [9 in] reflectors shall be applied, and capable of recovering from repeated impacts. Reflective material shall meet the requirements of Section 719.01 for ASTM D 4956 Type III reflective sheeting. The marker shall be secured to the guardrail post with two fasteners, as shown in the Standard Details.

Reflectorized beam guardrail ("butterfly"-type) delineators shall be mounted on all "w"-beam guardrail. The delineators shall be mounted within the guardrail beam at guardrail posts. Delineators shall be fabricated from high-impact, ultraviolet & weather resistant thermoplastic. Reflectorized beam guardrail delineators shall be placed at approximately 20 m [62.5 ft] intervals or every tenth post on tangents and at approximately 10 m [31.25 ft] intervals or every fifth post on curves. Exact locations of the delineators shall be as directed by the Resident. On divided highways, the left hand delineators shall be yellow and the right hand delineators shall be silver/white. On two directional highways, the right hand side shall be silver/white and no reflectorized delineator used on the left. All reflectors shall have reflective sheeting applied to only one side of the delineator facing the direction of traffic as shown in the Standard Detail 606(07). Reflectorized sheeting for guardrail delineators shall meet the requirements of Section 719.01.

Single wood post shall be of cedar, white oak, or tamarack, well seasoned, straight, and sound and have been cut from live trees. The outer and inner bark shall be removed and all knots trimmed flush with the surface of the post. Posts shall be uniform taper and free of kinks and bends.

Single steel post shall conform to the requirements of Section 710.07 b.

Single steel pipe post shall be galvanized, seamless steel pipe conforming to the requirements of ASTM A120, Schedule No. 40, Standard Weight.

Acceptable multiple mailbox assemblies shall be listed on the Department's Approved Products List and shall be NCHRP 350 tested and approved.

The Guardrail 350 Flared Terminal shall be a terminal with a 1.2 m [4 ft] offset as shown in the Manufacturer's installation instructions.

Existing materials damaged or lost during adjusting, removing and resetting, or removing, modifying, and resetting, shall be replaced by the Contractor without additional compensation. Existing guardrail posts and guardrail beams found to be unfit for reuse shall be replaced when directed by the Resident.

606.03 Posts Posts for guardrail shall be set plumb in holes or they may be driven if suitable driving equipment is used to prevent battering and distorting the post. When posts are driven through pavement, the damaged area around the post shall be repaired with approved bituminous patching. Damage to lighting and signal conduit and conductors shall be repaired by the Contractor.

When set in holes, posts shall be on a stable foundation and the space around the posts, backfilled in layers with suitable material, thoroughly tamped.

The reflectorized flexible guardrail markers shall be set plumb with the reflective surface facing the oncoming traffic. Markers shall be installed on the protected side of guardrail posts. Markers, which become bent or otherwise damaged, shall be removed and replaced with new markers.

Single wood posts shall be set plumb in holes and backfilled in layers with suitable material, thoroughly tamped. The Resident will designate the elevation and shape of the top. The posts, that are not pressure treated, shall be painted two coats of good quality oil base exterior house paint.

Single steel posts shall be set plumb in holes as specified for single wood posts or they may be driven if suitable driving equipment is used to prevent battering and distorting the post.

Additional bolt holes required in existing posts shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.04 Rails Brackets and fittings shall be placed and fastened as shown on the plans. Rail beams shall be erected and aligned to provide a smooth, continuous barrier. Beams shall be lapped with the exposed end away from approaching traffic.

End assemblies shall be installed as shown on the plans and shall be securely attached to the rail section and end post.

All bolts shall be of sufficient length to extend beyond the nuts but not more than 13 mm [ $\frac{1}{2}$  in]. Nuts shall be drawn tight.

Additional bolt holes required in existing beams shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.045 Offset Blocks The same offset block material is to be provided for the entire project unless otherwise specified.

606.05 Shoulder Widening At designated locations the existing shoulder of the roadway shall be widened as shown on the plans. All grading, paving, seeding, and other necessary work shall be in accordance with the Specifications for the type work being done.

606.06 Mail Box Post Single wood post shall be installed at the designated location for the support of the mailbox. The multiple mailbox assemblies shall be installed at the designated location in accordance with the Standard Details and as recommended by the Manufacturer. Attachment of the mailbox to the post will be the responsibility of the home or business owner.

606.07 Abraded Surfaces All galvanized surfaces of new guardrail and posts, which have been abraded so that the base metal is exposed, and the threaded portions of all fittings and fasteners and cut ends of bolts shall be cleaned and painted with two coats of approved rust resistant paint.

606.08 Method of Measurement Guardrail will be measured by the meter [linear foot] from center to center of end posts along the gradient of the rail except where end connections are made to masonry or steel structures, in which case measurement will be as shown on the plans.

Terminal section, low volume end, NCHRP 350 end treatments, reflectorized flexible guardrail marker, terminal end, bridge transition, bridge connection, multiple mailbox post, and single post will be measured by each unit of the kind specified and installed.

Widened shoulder will be measured as a unit of grading within the limits shown on the plans.

Excavation in solid rock for placement of posts will be measured by the cubic meter [cubic yard] determined from the actual depth of the hole and a hypothetical circle diameter of 600 mm [2 ft].

606.09 Basis of Payment The accepted quantities of guardrail will be paid for at the contract unit price per meter [linear foot] for the type specified, complete in place. Reflectorized beam guardrail (“butterfly”-type) delineators will not be paid for directly, but will be considered incidental to guardrail items. Terminal section, buffer end, NCHRP 350 end treatment, bridge connection, single post and reflectorized flexible guardrail markers will be paid for at the contract unit price each for the kind specified complete in place.

NCHRP 350 end treatments and low volume guardrail ends will be paid for at the contract price each, complete in place which price shall be full payment for furnishing and installing all components including the terminal section, posts, offset blocks, "w" beam, cable foundation posts, plates and for all incidentals necessary to complete the installation within the limits as shown on the Standard Details or the Manufacturer’s installation instructions. Each end treatment will be clearly marked with the manufacturers name and model number to facilitate any future needed repair. Such payment shall also be full compensation for furnishing all material, excavating, backfilling holes, assembling, and all incidentals necessary to complete the work, except that for excavation for posts or anchorages in solid ledge rock, payment will be made under Pay Item 206.07. Type III Retroreflective Adhesive Sheeting

shall be applied to the approach buffer end sections and sized to substantially cover the end section. On all roadways, the ends shall be marked with alternating black and retroreflective yellow stripes. The stripes shall be 75 mm [3 in] wide and sloped down at an angle of 45 degrees toward the side on which traffic is to pass the end section. Guardrail 350 flared terminal shall also include a set of installation drawings supplied to the Resident.

Anchorage to bridge end posts will be part of the bridge work. Connections thereto will be considered included in the unit bid price for guardrail.

Guardrail to be placed on a radius of curvature of 45 m [150 ft] or less will be paid for under the designated radius pay item for the type guardrail being placed.

Widened shoulder will be paid for at the contract unit price each complete in place and will be full compensation for furnishing and placing, grading and compaction of aggregate subbase and any required fill material.

Adjust guardrail will be paid for at the contract unit price per meter and will be full compensation for adjusting to grade. Payment shall also include adjusting terminal end treatments where required.

Modify guardrail will be paid for at the contract unit price per meter and will be full compensation for furnishing and installing offset blocks, additional posts, and other specified modifications; removing, modifying, installing, and adjusting to grade existing posts and beams; removing plate washers and backup plates, and all incidentals necessary to complete the work. Payment shall also include removing and resetting terminal ends where required.

Remove and Reset guardrail will be paid for at the contract unit price per meter and will be full compensation for removing, transporting, storing, reassembling all parts, necessary cutting, furnishing new parts when necessary, reinstalling at the new location, and all other incidentals necessary to complete the work. Payment shall also include removing and resetting terminal ends when required. No payment will be made for guardrail removed, but not reset and all costs for such removal shall be considered incidental to the various contract pay items.

Remove, Modify, and Reset guardrail will be paid for at the contract unit price per meter and will be full compensation for the requirements listed in Modify guardrail and Remove and Reset guardrail.

Bridge Connections will be paid for at the contract unit price each. Payment shall include, attaching the connection to the endpost including furnishing and placing concrete and reinforcing steel necessary to construct new endposts if required, furnishing and installing the terminal connector, and all miscellaneous hardware, labor, equipment, and incidentals necessary to complete the work.

Bridge Transitions will be paid for at the contract unit price each. Payment shall include furnishing and installing the thrie beam or "w"-beam terminal connector, doubled beam section, and transition section, where called for, posts, hardware, precast concrete transition curb, and any other necessary materials and labor, including the bridge connection as stated in the previous paragraph.

Payment will be made under:

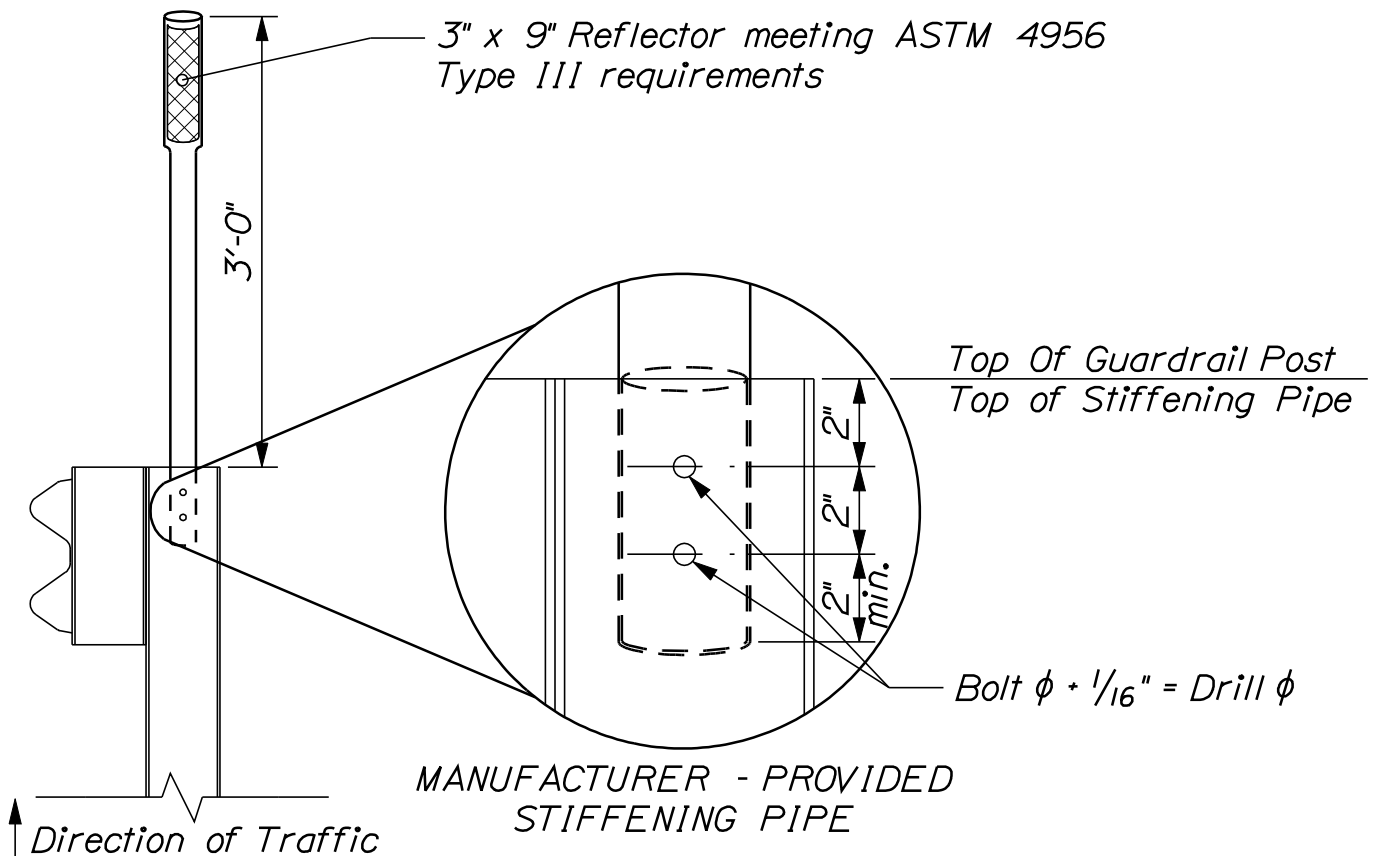
| <u>Pay Item</u> | <u>Pay Unit</u>  |                     |
|-----------------|--|---------------------|
| 606.15          | Guardrail Type 3a-Single Rail                            | meter [Linear Foot] |
| 606.151         | Guardrail Type 3aa-Single Rail                           | meter [Linear Foot] |
| 606.17          | Guardrail Type 3b-Single Rail                            | meter [Linear Foot] |
| 606.1721        | Bridge Transition - Type I                               | Each                |
| 606.1722        | Bridge Transition - Type II                              | Each                |
| 606.1731        | Bridge Connection - Type I                               | Each                |
| 606.1732        | Bridge Connection - Type II                              | Each                |
| 606.178         | Guardrail Beam   | meter [Linear foot] |
| 606.18          | Guardrail Type 3b - Double Rail                          | meter [Linear foot] |
| 606.19          | Guardrail Type 3a - 4.5 m [15 ft] radius and less        | meter [Linear Foot] |
| 606.191         | Guardrail Type 3aa - 4.5 m [15 ft] radius and less       | meter [Linear Foot] |
| 606.20          | Guardrail Type 3a - over 4.5 m [15 ft] radius            | meter [Linear Foot] |
| 606.201         | Guardrail Type 3aa - over 4.5 m [15 ft] radius           | meter [Linear Foot] |
| 606.21          | Guardrail Type 3b - 4.5 m [15 ft] radius and less        | meter [Linear Foot] |
| 606.22          | Guardrail Type 3b - over 4.5 m [15 ft] radius            | meter [Linear Foot] |
| 606.23          | Guardrail Type 3c - Single Rail                          | meter [Linear Foot] |
| 606.2301        | Guardrail Type 3c - Double Rail                          | meter [Linear Foot] |
| 606.231         | Guardrail Type 3c - 4.5 m [15 ft] radius and less        | meter [Linear Foot] |
| 606.232         | Guardrail Type 3c - over 4.5 m [15 ft] radius            | meter [Linear Foot] |
| 606.24          | Guardrail Type 3d - Single Rail                          | meter [Linear Foot] |
| 606.2401        | Guardrail Type 3d - Double Rail                          | meter [Linear Foot] |
| 606.241         | Guardrail Type 3d - 4.5 m [15 ft] radius and less        | meter [Linear Foot] |
| 606.242         | Guardrail Type 3d - over 4.5 m [15 feet] radius          | meter [Linear Foot] |
| 606.25          | Terminal Connector                                       | Each                |
| 606.257         | Terminal Connector - Thrie Beam                          | Each                |
| 606.265         | Terminal End-Single Rail - Galvanized Steel              | Each                |
| 606.266         | Terminal End-Single Rail - Corrosion Resistant Steel     | Each                |
| 606.275         | Terminal End-Double Rail - Galvanized Steel              | Each                |
| 606.276         | Terminal End-Double Rail - Corrosion Resistant Steel     | Each                |
| 606.353         | Reflectorized Flexible Guardrail Marker                  | Each                |
| 606.354         | Remove and Reset Reflectorized Flexible Guardrail Marker | Each                |
| 606.356         | Underdrain Delineator Post                               | Each                |
| 606.358         | Guardrail, Modify, Type 3b to 3c                         | meter [Linear Foot] |
| 606.3581        | Guardrail, Modify Existing to Type 3d                    | meter [Linear Foot] |
| 606.362         | Guardrail, Adjust  | meter [Linear Foot] |
| 606.365         | Guardrail, Remove, Modify, and Reset, Type 3b to 3c      | meter [Linear Foot] |
| 606.3651        | Guardrail, Remove, Modify, and Reset Existing to Type 3d | meter [Linear Foot] |
| 606.366         | Guardrail, Removed and Reset, Type 3c                    | meter [Linear Foot] |
| 606.367         | Replace Unusable Existing Guardrail Posts                | Each                |
| 606.47          | Single Wood Post   | Each                |
| 606.48          | Single Galvanized Steel Post                             | Each                |
| 606.50          | Single Steel Pipe Post                                   | Each                |

|         |  |                     |
|---------|--|---------------------|
| 606.51  | Multiple Mailbox Support                             | Each                |
| 606.55  | Guardrail Type 3 - Single Rail                       | meter [Linear Foot] |
| 606.551 | Guardrail Type 3 - Single Rail with Rub Rail         | meter [Linear Foot] |
| 606.56  | Guardrail Type 3 - Double Rail                       | meter [Linear Foot] |
| 606.561 | Guardrail Type 3 - Double Rail with Rub Rail         | meter [Linear Foot] |
| 606.568 | Guardrail, Modify Type 3c -Double Rail               | meter [Linear Foot] |
| 606.59  | Guardrail Type 3 - 4.5 m [15 ft] radius and less     | meter [Linear Foot] |
| 606.60  | Guardrail Type 3 - over 4.5 m [15 ft] radius         | meter [Linear Foot] |
| 606.63  | Thrie Beam Rail Beam                                 | meter [Linear Foot] |
| 606.64  | Guardrail Thrie Beam - Double Rail                   | meter [Linear Foot] |
| 606.65  | Guardrail Thrie Beam - Single Rail                   | meter [Linear Foot] |
| 606.66  | Terminal End Thrie Beam                              | Each                |
| 606.70  | Transition Section - Thrie Beam                      | Each                |
| 606.71  | Guardrail Thrie Beam - 4.5 m [15 ft] radius and less | meter [Linear Foot] |
| 606.72  | Guardrail Thrie Beam - over 4.5 m [15 ft] radius     | meter [Linear Foot] |
| 606.73  | Guardrail Thrie Beam - Single Rail Bridge Mounted    | meter [Linear Foot] |
| 606.74  | Guardrail Type 3 - Single Rail Bridge Mounted        | meter [Linear Foot] |
| 606.753 | Widen Shoulder for Low Volume Guardrail End - Type 3 | Each                |
| 606.754 | Widen Shoulder for Guardrail 350 Flared Terminal     | Each                |
| 606.78  | Low Volume Guardrail End - Type 3                    | Each                |
| 606.79  | Guardrail 350 Flared Terminal                        | Each                |

1. ReflectORIZED Flexible Guardrail Markers shall be from Maine DOT's Approved Product List of Guardrail Material.

2. Installation:

- a. Each bolt-hole diameter shall be the bolt diameter +  $1/16$ ".
- b. Wood post attachment - attach marker with 2,  $5/16$ " diameter zinc-coated lag bolts, having 2" of embedment into wood post.
- c. Steel post attachment - attach marker with 2,  $1/4$ " diameter zinc-coated bolt, washer and nut assemblies, having  $1/2$ " of bolt extension behind steel post.
- d. When provided by the marker manufacturer, a stiffening pipe shall be inserted into the base of the marker prior to drilling bolt holes and shall remain in-place.



## REFLECTORIZED FLEXIBLE GUARDRAIL MARKER DETAILS

606(34)

**SPECIAL PROVISION**

**SECTION 607**

FENCES

(Screening Fence)

**Description** This work shall consist of furnishing, installation, maintenance, and adjustment of 4 foot tall privacy screen located on top of the temporary concrete barrier used in the swerve areas of the median crossovers. The privacy screen shall be used on the temporary concrete barrier as shown on the plans. The purpose of the privacy screen is to block the headlight glare within the swerve sections of the median crossovers. The gap in the privacy screen at the joints between the temporary concrete barriers shall be kept to a minimum. The privacy screen shall have adequate strength and a solid connection to the temporary concrete barrier.

**Basis of Payment** Screening fence will be paid for under the pay item 510.301 Expressway Median Crossovers. Payment shall be full compensation for furnishing, installing, maintaining, adjusting, and all labor, equipment, materials and incidentals necessary to complete the work, in a manner satisfactory to the resident.

**SPECIAL PROVISION**  
**SECTION 607**  
**FENCES**  
**(Chain Link Snow Fence – 3 Foot)**

**Materials:**

Posts, rails, and braces shall be manufactured by one of the following methods with steel conforming to ASTM A1011 or ASTM A1008 and A1011/A1011M with minimum yield strength 50 ksi:

- Furnace butt welded, continuous welded
- Cold rolled and electric resistance welded
- Seamless

The Piping shall conform to the following dimensions:

| <b>Nominal<br/>Diameter In.</b> | <b>Outside<br/>Diameter In.</b> | <b>Minimum Wall<br/>Thickness In.</b> | <b>Mass<br/>Lb/Ft.</b> |
|---------------------------------|---------------------------------|---------------------------------------|------------------------|
| 1 ½                             | 1.900                           | .145                                  | 2.72                   |
| 2 ½                             | 2.875                           | .203                                  | 5.79                   |

Hardware shall be hot dipped galvanized in accordance with AASHTO M 232 (ASTM A153) or AASHTO M 298 Class 50 (ASTM B 695 Class 50).

Chain link fabric shall meet the requirements of Section 710.03 of the MaineDOT Standard Specifications.

**Method of Measurement:**

This work shall consist of the construction of a chain link fence installed on the bridge in accordance with these Specifications. Measurement will be center of post to center of post in reasonably close conformity with the details as shown on the Plans or as directed by the Resident.

**Basis of Payment**

This work shall be paid for at the contract unit price per Linear Foot, complete and accepted in place. Such price will be full compensation for furnishing all materials, labor, equipment, and incidentals to complete the work. Payment will be made under:

| <b><u>Pay Item</u></b>        | <b><u>Pay Unit</u></b> |
|-------------------------------|------------------------|
| 607.184 Chain Link Snow Fence | Linear Foot            |

SPECIAL PROVISION  
**SECTION 609**  
SPECIAL CURB (PLASTIC)

Description. This work consists of providing plastic curb with tubular delineator upright units.

CONSTRUCTION REQUIREMENTS

Plastic Curb System. The Special Curb (Plastic) system shall consist of interlocking polyethylene curb units that are resistant to ultraviolet light, ozone, and hydrocarbons. The Special Curb (Plastic) shall be NCHRP-350 compliant and it will be attached to the roadway using bolts connecting to threaded anchors in the pavement. The Special Curb (Plastic) shall be colored primarily yellow. The Special Curb (Plastic) shall be placed with gaps between the units of ½ inch to 1 inch in width to facilitate drainage through the system. The Special Curb (Plastic) shall support one (1) vertical tubular delineator upright per unit. Each delineator will have at least one standard reflector facing the oncoming direction of traffic (on I-95) that meets the requirements of Standard Specification 719.01.

Basis of Payment. The quantity of Special Curb (Plastic) will be paid for at the contract unit bid price per foot. Payment shall include compensation for the installation, materials, attachment bolts, and connection to the pavement surface.

Payment will be made under:

| <u>Pay Item</u>                | <u>Pay Unit</u> |
|--------------------------------|-----------------|
| 609.312 Special Curb (Plastic) | Linear Foot     |

**SPECIAL PROVISION**  
**SECTION 620**  
**GEOTEXTILES**  
(HDPE Geomembrane)

620.01 Description

The following sentence is added:

“This work shall include installation of sections of HDPE Geomembrane below the locations of the three new finger joints at the C.A. Clauson Memorial Bridges, as shown in the Contract Drawings, or as directed by the Resident. The work also includes the preparation of concrete surfaces and furnishing, placing, and shaping of grout bedding where called for.”

**MATERIALS**

620.02 Materials

The following two paragraphs are added:

“HDPE Geomembrane shall be HDPE Sure Grip Liner (High Density Polyethylene) as manufactured by Agru America, Inc., 500 Garrison Road, Georgetown, SC 29440, (843) 546-0600, Fax (843) 527-2738, or an approved equal.”

“Grout is required for the installation of the HDPE Geomembrane over existing sloped or flat surfaces, as shown in the Plans. The required grout shall be either a Cementitious Concrete or a Polymer-Modified Concrete on the Maine Department of Transportation Qualified Products List – Rapid-Set Concrete Patching Material for Portland Cement Concrete.”

**CONSTRUCTION REQUIREMENTS**

620.03 Placement

The following paragraphs are added:

“The Contractor shall take care not to damage the extruded anchors and place sheets such that the anchors are completely imbedded in new concrete or grouts. All installation of HDPE Geomembrane will be in strict conformity with the manufacturer’s recommendations. For vertical installations of HDPE Geomembrane, the anchors must face the inside of the formed volume.”

“For placement at existing surfaces that are sloped to drain, the surface must be cleaned and roughened in accordance with the Standard Specifications Subsection 518.05 Surface Preparation. Each piece of HDPE Geomembrane must be trimmed and ready for placement before the grout bedding is placed. The slope of the original surface must be retained by shaping the grout bedding as necessary. Each individual HDPE Geomembrane piece must be installed as soon as the bedding is shaped and while the grout is still plastic at location that HDPE Geomembrane is placed on a sloped surface. The edges of HDPE Geomembrane pieces placed on sloped sections shall project over downward vertical faces as shown on the plans.”

“HDPE Geomembrane deployment shall proceed only when ambient temperatures are between 32°F to 104°F. Geomembrane shall not be placed during precipitation or moisture of any type (e.g., fog, rain, dew), or in the presence of excessive winds, as determined by the Resident. Observation of temperature, humidity, precipitation, and wind should be noted to ensure that the weather conditions are acceptable prior to HDPE Geomembrane placement.”

#### 620.04 Overlap and Seams

The following paragraphs are added:

“Geomembrane panels must have finished minimum overlap of four inches for hot shoe fusion welding and three inches for extrusion welding.”

“Cleaning solvents may not be used unless the product is approved by the liner manufacturer.”

“Field test seams may be conducted on the liner in accordance with the manufacturer’s recommendation to verify that seaming conditions are satisfactory.”

#### 620.08 Method of Measurement

“The words, “and/or HDPE Geomembrane” shall be added after the word “geotextiles” in the first sentence of the first paragraph.”

#### 620.09 Basis of Payment

“The words, “and/or HDPE Geomembrane” shall be added after the word “Geotextiles” in the first sentence of the first paragraph.”

Payment will be made under:

| <u>Pay Item</u>                | <u>Pay Unit</u> |
|--------------------------------|-----------------|
| 620.6012      HDPE Geomembrane | Square Yard     |

**SPECIAL PROVISION**  
**SECTION 627**  
**PAVEMENT MARKINGS**

The last paragraph of Subsection 627.10, Basis of Payment is revised by the addition of the following:

| <u>Pay Item</u> |   | <u>Pay Unit</u> |
|-----------------|---|-----------------|
| 627.72          | 6" White Pavement Marking Line                    | LF              |
| 627.74          | 6" Yellow Pavement Marking Line                   | LF              |
| 627.781         | Temp 6" Paint Pavement Mark Line, White or Yellow | LF              |

**SPECIAL PROVISION**

**SECTION 644**

GLARE SCREEN

(Removed and Reset)

Description This work consists of removing and resetting the glare screen on top of three beam guardrail.

CONSTRUCTION REQUIREMENTS

Glare Screen System The glare screen system shall consist of a vertical blade attached to each guard rail post.

Basis of Payment The quantity of Glare Screen – Remove and Reset, will be paid for at the contract unit bid price per foot. Payment shall include compensation for all labor material, equipment and incidentals necessary to complete the work.

There will be no payment for glare screen removed and not reset. Payment for Glare Screen removed and disposed shall be considered incidental to related contract pay items.

Payment will be made under:

Pay Item

Pay Unit

644.31 Glare Screen – Remove and Reset

Linear Foot

**SPECIAL PROVISION  
SECTION 652  
MAINTENANCE OF TRAFFIC**

**652.1 Description** The following paragraphs are added:

The Contractor shall also submit an Emergency Crisis Plan (ECP). The Contractor shall not commence work in the field until the Department approves the ECP and any proposed modifications to the Traffic Control Plan (TCP). Modifications to the TCP shall be signed and sealed by a Professional Engineer licensed in the State of Maine.

The Contractor shall provide a Traffic Control Monitor who will be responsible for providing traffic control management in compliance with the contract and the 2009 edition of the Manual of Uniform Traffic Control Devices (MUTCD), including supervision of personnel for the installation, inspection, maintenance, and removal of temporary concrete barriers, alternate route signing and all other traffic control devices.

No disruptions to traffic will be allowed before any proposed TCP modifications have been reviewed and approved by the Resident, and Mr. Dana Hanks, Transportation Systems Manager. The Contractor shall present proposed TCP modifications at or before the Preconstruction Meeting. The Contractor must allow ten Business Days in his/her schedule for MDOT to review and approve the first submission of proposed TCP modifications after the pre-construction traffic control meeting. In the event that proposed TCP modifications are rejected, the Contractor's schedule should provide five Business Days after each subsequent submission until the Department approves any revisions.

During the initial setup of lane closures for each phase, a uniformed traffic control officer (Maine State Police) will be present. Traffic control officers will be paid for under contract item 652.381. Uniformed Traffic Control Officers shall be at the discretion and approval of the Resident.

At least two weeks prior to the start of any construction activities, including signing for lane use changes, the Contractor must contact the Department of Motor Vehicles at (207) 624-9063. The Contractor must provide clear descriptions and schedules of the project's width restrictions, and keep the Department of Motor Vehicles informed of upcoming changes to width restrictions. The information and updates must be sufficient for the Department of Motor Vehicles' coordination, issuance and modification of oversized vehicle permits.

In addition to other TCP Requirements enumerated herein, any proposed TCP modifications shall be clearly indicated on a plan view drawing.

The ECP shall include a list of the contacts for communities affected including the MaineDOT Radio Room. The ECP is required for a crisis that may occur during the construction period. The ECP shall include a plan for injured workers, evacuation from beneath the bridge, boat access/availability, and closure of Interstate 95 northbound and/or southbound. The signs and locations for the emergency detour routes are shown on the plans.

### **Temporary Pavement Markers**

Temporary Raised pavement Markers (RPM), shall be installed at a spacing of 10 feet on center. Temporary Pavement Marking (paint) and/or RPM shall be installed as directed by the Resident.

**652.3.3 Submittal of Traffic Control Plan** The following subsections are revised as noted:

e. If the Contractor is using a flagging Subcontractor, then the name and address of the flagging Subcontractor will be provided in addition to a list of all certified flaggers to be used on the Project.

f. An around-the-clock written procedure for notifying the Resident, local emergency officials, and local government officials (including the name and phone numbers of such officials) whenever significant traffic impact are anticipated or occur.

**652.3.4 General Requirements.** The following paragraphs are added:

The contractor shall maintain one through lane of traffic for both directions on both bridges at all times, as shown on the plans. The minimum travel way widths for the traffic lanes shall be as shown on the Stage Construction Plans, and minimum shoulder widths as shown on the Stage Construction Plans must be maintained.

When traffic is routed over the crossover detours, the closed roadway at each bridge shall be barricaded by means of Type 3 barricades, drums and temporary concrete barriers. The temporary concrete barrier shall be flared at the rate of 11: 1 to the outside edge of the traveled way or as directed by the Resident.

Leading ends of concrete barrier shall be protected. This leading end may be placed behind existing guardrail, run through the guardrail, protected by impact attenuators or crash barrels. If the concrete barrier is run through the guardrail, the guardrail shall be dismantled sufficiently to permit the temporary concrete barrier to extend behind the guardrail a minimum of 12 feet. The existing guardrail shall be attached to the concrete barrier with a w-beam terminal connector (RE-8). The 12.5 foot length of existing guardrail, just prior to a connection shall be reinforced with a nested w-beam and two additional posts that will create a post spacing of 37.5 inches. The additional guardrail materials necessary may be either new or used in a manner satisfactory to the resident.

Ends of temporary concrete barrier will be located safely outside the edges of any active travel lanes. Work zone crash cushions that are noted in the Traffic Management Plans or approved by the Resident shall be paid for under Item 527.34 Work Zone Crash Cushions. All other Work Zone Crash Cushions used shall be at the Contractor's expense.

Eight inch by twenty-four inch vertical panel markers shall be placed at 330 foot intervals along the right edge of narrow left main line shoulders adjacent to lanes carrying shifted traffic. The same vertical panel markers shall be mounted at tighter spacings, 70 foot intervals, on bridge railings or barriers. Where there is existing concrete barrier along narrow left shoulders, TPM delineators shall be placed on the concrete barrier faces at ten foot maximum spacing, offset a consistent dimension, 1 to 3 inches from the tops of the barriers.

All construction work shall be confined to the lanes closed to traffic.

The Contractor's workers and equipment shall not cross traffic lanes.

Temporary pavement marking lines shall be placed to delineate lanes for the entire length of the multiple lane detours. Temporary shoulder striping shall also be utilized for the entire length of detours. All permanent striping will be paid for under the appropriate contract bid items. All temporary striping shall be considered paid for as part of Pay Item 652.361, Maintenance of Traffic Control Devices.

A temporary pavement marking line shall be placed from the existing lane edge line through the length of the taper in the lane closures and shall continue to the crossover. Temporary striping shall be used where the pavement is to be overlaid and temporary plastic striping shall be used on pavement that is not to be overlaid as directed by the Resident.

Existing centerlines in the taper to the lane closure shall be removed beginning at the first drum in taper. Edge lines shall be removed at the crossovers before opening to traffic. Existing striping shall be removed where temporary striping or raised pavement markers are required. Pavement marking removal shall be removed in accordance with Section 627.08 of the Standard Specifications. Removing permanent and temporary striping will be considered to be incidental.

A privacy screen located on top of the temporary concrete barrier shall be as shown on the plans (in the swerve areas of the median crossovers). The privacy screen will block headlight glare. The gap in the privacy screen at the joints between the temporary concrete barriers shall be kept to a minimum. The privacy screen shall have adequate strength and a solid connection to the temporary concrete barrier.

**Channelization.** Channelization devices (except temporary concrete barrier) shall be NCHRP 350 compliant. Channelization devices include the following:

Flashing Arrow Boards  
Type III Barricades  
Temporary Concrete Barrier Type I  
Vertical Panel Markers  
Drums  
Cones  
Temporary Raised Pavement Markers  
Temporary Pavement Marking Lines

Channelization devices shall be installed and maintained at the spacing determined by the MUTCD to delineate travel lanes through the project, unless otherwise specified herein. Temporary concrete barriers shall conform to the requirements of Section 526. Temporary Overlay Markers (TOMs) will not be permitted.

Pairs of drums, or other channelization devices if approved by the Resident, shall be placed in the closed lane at a maximum spacing of 400 feet. The foregoing pair of drums shall be in tandem with and in addition to the devices required to channelize the traffic.

**Speed Limits in Work Zones.** The Contractor shall sign all approved reduced speed limits on construction project according to APM number 431 - A Policy on the Establishment of Speed Limits in Work Zones. The reduced speed limit shall be as directed by the Resident.

**Approach Signs and Work Area Signs.** All work zone signing shall be in accordance with the Traffic Control Plan (TCP). Signs, except when tripod mounted, shall be placed on breakaway posts. All tripod mounted signs and sign supports shall be NCHRP 350 compliant. Signs shall be mounted a minimum of five feet above the edge of pavement.

A total of 4 Portable Changeable Message Signs shall be employed as shown on the plans. These signs shall be installed two weeks before construction on Interstate 95 begins.

Portable Changeable Message Signs shall warn the traveling public of the upcoming bridge work and lane closures. Messages displayed on the Portable Changeable Message Sign shall be as approved by the Resident.

Portable Changeable Message Signs shall be in accordance with the special provision and shall be paid for under item 652.43. Flashing arrow boards and channelizing devices shall also be utilized and shown on the TCP.

Approach signs and Work Area signs listed below, which may not be required by the MUTCD, are representative of the requirements of this contract. Signs required for the detours are shown on plan sheets titled, "Detour Plans". Other signs may be required.

Road Construction 1 Mile  
Right or Left lane closed ½ mile with 40 MPH Advisory Speed Plate  
Do Not Pass (In Closure array and one per mile)  
Lane Ends Merge Right or Left  
Right or Left Lane Ends  
W 4-2 and W 4-3  
Reduced Speed Ahead and Resume Speed  
Trucks Entering  
Left Turning Trucks with 500 Feet Advisory Plate  
Flagger Ahead Sign  
Single Lane Ahead and/or Single Lane Next "x" Miles  
Directions Arrows (At crossovers)  
Bump  
Exit  
Pass With Care  
Ramp Closed  
Caution Rumble Strip Ahead  
Wide Load Restrictions  
Work Zone  
Fines Double  
End Work Zone Speed Limit

**On Ramps and Off Ramps.** Interstate 95 Northbound Exit 133 on ramp from Route 201 shall be closed for the duration of Stage Number 1, Stage Number 2, and during activation of the median crossovers. Ramps that remain open shall have access at all times. Ramp traffic shall be confined to a single lane to and from both ends of ramps, utilizing appropriate signing and channelization devices if necessary.

### **Emergency Interstate Closures**

During an emergency Interstate closure, Portable Changeable Message Signs shall be programmed to display a message indicating:

I-95 Closed Ahead  
Use Next Exit

The Portable Changeable Message Sign shall be remote controlled from the job site via hard wire telephone, cell phone and/or radio. Portable Changeable Message Signs shall be paid for under Item 652.43 Portable Changeable Message Sign.

The Contractor shall have available the necessary Type III barricades and any other needed barricades or signs to close down Interstate 95 and any ramps in the event of an emergency. The needed barricades and signs shall be stored as close as possible to where they will be used.

**652.8 Basis of Payment** The following paragraph is added to this subsection:

Temporary Pavement Markers and Temporary Raised Pavement Markers shall be considered incidental to related contract items. Any items approved for use in the Traffic Control Plans but not listed in the Engineer's Estimate will also be considered incidental to related contract items.

SPECIAL PROVISION  
**SECTION 652**  
MAINTENANCE OF TRAFFIC  
(Boat Traffic)

Subsection 652.01 is revised as follows:

**Description** This work shall consist of furnishing, installing, maintaining, and removing traffic control devices necessary to provide reasonable protection for motorists, pedestrians, watercraft, and construction workers in accordance with these Specifications, the applicable provisions of **Subsection 104.04**, and the Plans.

Traffic control devices including signs, markings, hand signaling devices, and flaggers.

Signing shall include the following signs shown on the second page of this Specification:

- 2 – Bridge Under Construction For Your Safety, Stay Between Channel Markers at the Construction Site. Pass at Your Own Risk
- 2 – Channel Temporarily Closed to Passage

The Contractor shall locate the construction signs near the construction site upstream and downstream of the bridge in the channel. The location of these signs shall be as directed by the Resident.

Passage for watercraft shall be maintained through the construction area, except when erecting structural steel, placement of concrete slab, and when the existing deck is being removed. The Contractor shall designate and maintain a minimum 12-foot opening for passage.

Type 3 object markers shall be installed upstream and downstream as directed by the Resident to designate a 12-foot channel opening. The bottom of the marker shall be set at an elevation set by the Resident.

Channel markers and all other signs specified herein shall be made of materials specified in the Manual on Uniform Traffic Control Devices (MUTCD).

**Method of Measurement** Signs and markers shall be measured by the square foot for all signs specified and installed. Maintenance of traffic control devices will be measured as one lump sum for all authorized and installed traffic control devices.

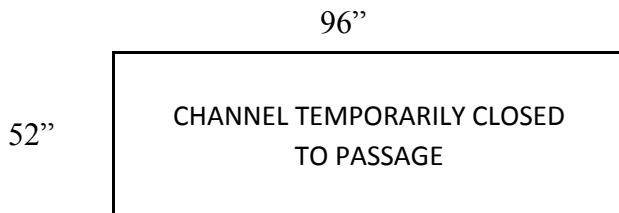
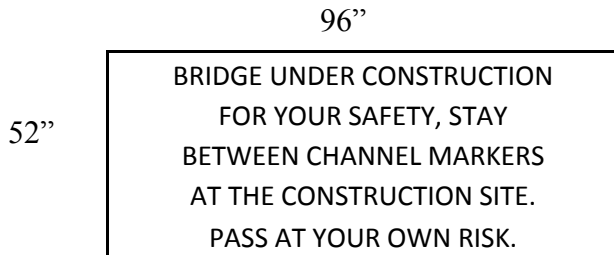
**Basis of Payment** The accepted quantity of signs and markers will be paid for at the contract unit price per square foot. Such payment will be full compensation for furnishing and installing the signs, markers, attachments, sign supports, and all incidentals necessary to complete the installation of the signs.

Maintenance of traffic control devices will be paid for at the contract lump sum price. Such payment will be full compensation for maintaining traffic at all times as specified herein and for moving as many times as necessary, for replacing devices damaged, lost, or stolen and for cleaning, maintaining, and removing all devices used for traffic control.

The contract lump sum price for maintenance of traffic control devices shall be full payment for such maintenance encompassing all areas of the contract.

Payment will be made under:

| <b>Pay Item</b> |                        | <b>Pay Unit</b> |
|-----------------|------------------------|-----------------|
| 652.35          | Construction Signs     | SF              |
| 652.361         | Maintenance of Traffic | LS              |



SPECIAL PROVISION  
**SECTION 652**  
PORTABLE CHANGEABLE MESSAGE SIGN

Description This work consists of furnishing new, trailer-mounted portable changeable message signs (signs) with cell modems and providing sign-related testing, up to 20 hours of class room training, spare parts, control software, 12-months of technical assistance, and warranty.

General

Project Summary The manufacturer shall deliver the signs to the Fleet Services Building, 109 Capital Street, in Augusta. Delivery driver must call (207) 287-2677 to arrange delivery between the hours of 8am and 4pm. Where, the manufacturer shall test each sign (and certain spare parts) in the presence of Department personnel and the installation contractor. The manufacturer shall also train the installation contractor's staff and Department personnel in the proper installation and set-up of the signs. Any deviation from the following minimum specifications must be pre-approved by Cliff Curtis, Ron Cote, and Peter Virgin of the Department.

The signs will be installed as shown on the plans or as directed by the resident. When the first sign is installed, the sign manufacturer shall supervise the installation contractor's work and shall conduct additional training if needed, to ensure that the trainees are competent to install the remaining signs.

The manufacturer shall install sign control software on computers supplied by the Department, test the software, and train Department personnel in its use.

Manufacturer Qualifications The sign must be made by a manufacturer meeting the following qualifications:

- Little risk of financial problems that could impair the manufacturer's ability to provide warranty service, technical support, and spare parts over the next year.
- A record of satisfied customers for products equivalent to those to be furnished under this contract.
- Ability to produce products in compliance with the National Transportation Communications for ITS Protocol (NTCIP).

Required Submittals Five copies of the following items shall be submitted.

a. With the bid The bid will not be deemed acceptable unless these items demonstrate that the manufacturer meets the requirements of the above.

1. Dunn & Bradstreet's "Comprehensive Insight Plus" report on the manufacturer's financial condition. If the manufacturer is a subsidiary, provide the report for the parent.

2. Names, titles, and telephone numbers of individuals at five or more transportation agencies that have purchased the manufacturer's trailer-mounted LED signs with NTCIP-enabled central control software. Do not include customers who have had the products less than six months.

3. Letter from an independent testing agency certifying that the manufacturer's signs are compliant with NTCIP 1203. The signs and software subjected to the independent test need not be identical to those proposed for this project.

b. Prior to shipping any signs Each of these items must be revised until found acceptable by the Department.

1. Shop drawings and descriptive literature demonstrating that the signs meet these specifications.

2. Test report and certification by an independent testing agency that the sign meets the environmental requirements of NEMA TS 4, Hardware Standards for Changeable Message Signs (DMS) with NTCIP Requirements. The test must have been performed on sample components that are essentially identical to those provided in this project.

3. Certification by an independent testing agency or a professional engineer registered in Maine that the sign meets the structural integrity requirements of NEMA TS 4. The certification need only cover those aspects of structural integrity for which TS 4 requires certification.

4. Calculations demonstrating that the sign meets the battery capacity and solar recharging requirements of below, as well as the recharging requirement of Paragraph 3.3.5.3 of NEMA TS 4. For solar recharging, take into account the azimuth and tilt of the panels as they will be mounted. The panels must be tiltable and rotatable independent of the message board.

5. (2) Copies of the user manual for the central software.

6. (2) copies of manuals for the installation, operation, and maintenance of the signs.

7. A proposed plan for testing the signs, software, and spare parts at the time of delivery.

8. Resumes demonstrating the qualifications of the individuals who will train the installation contractor and Department staff.

9. An outline of the proposed training activities with the estimated duration of each activity.

c. With the Signs

1. A CD containing the management information bases (MIBs) and electronic copies of the manuals and drawings provided earlier. The MIBs shall be ASCII files in Abstract Syntax Notation 1 (ASN.1) format. The supported range shall be indicated in ASN.1 format in the SYNTAX field of the associated OBJECT TYPE macro for devices that do not support the full range of any object within a standard MIB module. The manuals and drawings shall be in Acrobat or Word. The manufacturer shall allow the use of this documentation by any party authorized by the Department for systems integration purposes.

2. Maine uses a product name Vanguard for the control of other signs. A CD containing all necessary Font and Configuration files shall be provided and installed at the time the manufacturers software is installed.

3. Warranty covering the signs for the manufacturer's standard warranty period, but not less than one year.

Conformance Testing of Display The manufacturer is not required to provide independent certification that the display meets the requirements in Section 5 of NEMA TS 4. However if, after inspecting the signs, the Department believes that the display properties do not fully comply with TS 4 and these specifications, then the manufacturer must either remedy the defects or present third party certification that the signs are in compliance.

Portable Sign The sign shall consist of an all-LED (light emitting diode) matrix message board, support post, power system, and a controller assembly, all mounted on a heavy duty, towable trailer. The sign shall conform to NEMA TS 4, except for requirements of NEMA TS 4 that conflict with the requirements in this specification.

General

a. Finish All exterior surfaces except the sign face shall be cleaned, primed and finished with two coats of Highway Safety Orange. An exception is the border around the display, which shall be black. The finish shall be either polyester powdercoat or baked enamel.

b. Wiring All wiring shall be inaccessible to vandals. Connections to power and telephone service supplied by others shall be via wires enclosed in liquid-tight flexible metal conduit, so the sign must have provision for connecting such conduit to the sign. All wiring and connections shall be of sufficient size to support all maximum currents continuously. (Including all pixels at maximum brightness.)

c. Labeling All terminals and connections shall be clearly labeled. Labels shall be permanent, waterproof and machine-printed.

Message Board

a. Dimensions The display shall be a matrix of LED pixels approximately six feet high by 12 feet wide. Center-to-center pixel spacing shall be the same horizontally and vertically and shall be 2.6 inches or less. If the spacing is 2.6 inches, the display shall be at least 50 pixels wide and 27 pixels high. If the spacing is less, the number of pixels shall be proportionally larger. The sign shall be capable of displaying three lines of 18" high characters.

b. Finish The inside of the display enclosure shall be painted black to facilitate heat dissipation.

c. Display Modules The display shall be composed of at least ten display modules that can quickly be replaced in the field. They must be designed so they cannot warp.

d. Glazing If the display modules are not weatherproof, they shall be protected by a watertight sheet of UV-protected acrylic or polycarbonate.

e. LEDs The LEDs shall be amber and have a viewing angle of 30 degrees in the horizontal plane. That is, brightness at 15 degrees off axis shall be at least 50 percent of the on-axis brightness.

f. Enclosure The enclosure shall be made of aluminum with aluminum and/or stainless steel fasteners.

g. Brightness When all pixels are illuminated at maximum brightness, the display shall have an on-axis luminance intensity of at least 3,720 candelas per square meter. The sign shall have an automatic intensity control feature in order to keep the LED lamp matrix intensity constant with a reduction in voltage.

h. Sighting Device The housing shall include a sighting device to facilitate proper directional alignment of the message board. This device shall be securely mounted so that a 20 pound force in any direct will not misalign the sighting device.

Support Post The message board shall be mounted on a mast that is raised and lowered by an electrically powered hydraulic pump (with attached fluid reservoir).

a. Backup Pump The hydraulic system shall include an auxiliary manual pump with release for emergency use.

b. Rotation When fully raised in the display position, the message board shall be able to rotate so the sign can be aimed at traffic. Solar panels must be rotatable and tiltable independently from the sign for maximum solar exposure.

c. Locking Mechanisms The sign's rotation-locking device shall be independent from the sign's raise/lower-locking device. Such device will be secure enough to prevent turning with 50 mph wind gusts.

d. Protection The hydraulic system shall be inside a locked housing.

Power System The sign shall be powered by batteries that are recharged by 120 volt AC power when available and by solar power at other times.

a. Batteries The batteries must be available from multiple manufacturers. The number and type of batteries shall be sufficient to operate a display of 3 full lines of “X”s for 240 hours continuously with no recharging and no solar assist.

b. Recharging During recharging of low batteries from 120-volt power, the sign shall operate normally.

Power control circuitry shall protect the batteries from overcharging by the 120-volt and solar chargers. It shall also protect the all components from damage in the event of a short circuit, overload, or similar problem. It shall disconnect the load from the batteries when further discharging could damage the batteries. A voltmeter and ammeter shall be included to monitor the condition of the batteries and charging system.

The 120 Volt battery charger shall include a separate ammeter for monitoring the charging process.

c. Automatic Sensing of 120-Volt Power The system shall automatically switch between solar and 120-volt power (when available) for battery charging with no operator intervention.

d. Operation without Batteries If the batteries have been disconnected, the sign and controller shall operate using 120 VAC.

e. Solar Recharging The solar charging system shall produce more power in a 2 hour solar day than the sign needs to display a 3-line message (“X”s) continuously for 24 hours. The solar panels shall be mounted so the panels can be rotated independently from the display for 360 degrees; In addition at the same time, the panels can be tilted from flat to 30 degrees from vertical. This structure shall be rugged enough to withstand 50 mph wind gusts from any direction while tilted.

### Controller Assembly

a. Control Architecture The sign shall support both types of control architecture described in Section 8.10 of TS 4. The controller shall be able to store at least 30 messages in non-volatile memory.

b. Fonts Section 5.6 of TS 4 does not apply to this sign. The controller shall be capable of storing at least four fonts in memory and shall be shipped with at least two fonts in memory. The user shall be able to create at least two additional fonts, download them to the controller, and store them there.

Both fonts shall be 18 inches high. One shall be comparable to that shown in Figure 7-1 of Federal Highway Administration publication # FHWA-TS-90-043. The other shall be a similar, compressed font. Both fonts shall include:

- All upper case letters,
- The following punctuation marks . , / ? ‘ : and “.
- All numerals 0 to 9,
- The following special characters #& \* +< >← →↑ ↓↖ ↗↘ ↙

c. Alarms The sign controller shall automatically notify the central sign control computer when the batteries are low.

Communication Section 8.7 of TS 4 does not apply to this sign. All communication with the sign controller shall use the latest recommended NTCIP standards at the time of bidding.

- a. Communication Ports The controller shall have at least two communication ports that can be used for remote control. The controller shall accept commands via either port and respond via the same port that received the command, so that each port automatically functions as a backup communication link for the other port and include cell phone modems for Fairpoint, GPS and web server service.
- One port shall be equipped with an internal cellular modem. It shall operate in accordance with the latest version of NTCIP 2103, Point-to-Point Protocol over RS-232 Subnetwork Profile. All Challenge Handshake Authentication Protocol (CHAP) secrets shall be user configurable via the CHAP Secret Table. This modem shall be a SierraWireless Pinpoint X modem for Fairpoint cellular service; The antenna installation shall also include a GPS antenna connected directly to the cellular modem. The Department will supply the SIM card for the modem.
- The other port shall be an RJ-45 Ethernet port, which may be used for a wireless data communication service. The Ethernet port shall also be suitable for connecting a notebook computer for local control and maintenance. It shall operate in accordance with the latest version of NTCIP 2104, Ethernet Subnetwork Profile. The medium shall be 10Base-T.

b. Cellular Antenna An antenna suitable for cellular telephone or data service shall be installed on top of the message board. Install the antenna in a way that does not permit water to enter the message board. A 50 ohm coaxial cable, 100 percent shielded and designed for outdoor use, shall run from the antenna to the controller compartment. The cable may not pass through the top of the compartment and the hole where the cable enters must be sealed watertight. Immediately upon entering the controller compartment, the cable shall terminate on a grounded lightning protector. The antenna shall be omnidirectional, designed for both the 806-894 MHz range and the 1850-1990 MHz range. It shall have a built-in ground plane

and vertical polarization. The antenna gain shall be at least 5 dBi. The GPS antenna for the cellular modem may be included in this antenna.

c. Information Level Standards

1. Global Objects. The sign shall support the following objects defined in NTCIP 1201, Global Object Definitions:

- All objects in the Global Configuration Node.
- The following objects in the Global Time Management Node: globalTime; globalDaylightSaving; maxTimeBaseScheduleEntries; timeBaseScheduleTable; maxDayPlans; maxDayPlanEvents; timeBaseDayPlanTable.
- All objects in the Report Parameters Node.

The module table required by Clause 2.2.3 of NTCIP 1201 shall contain at least one row with moduleType equal to 3 (software).

2. Changeable Message Sign Objects At least the following objects, if defined in NTCIP 1203

- ◆ Sign Configuration and Capability Objects
  - dmsSignAccess
  - dmsSignType
  - dmsSignHeight
  - dmsSignWidth
  - dmsSignTechnology
  - vmsCharacterHeightPixels
  - vmsCharacterWidthPixels
  - vmsSignHeightPixels
  - vmsSignWidthPixels
  - vmsHorizontalPitch
  - vmsVerticalPitch
  - vmsMaxNumberPages
  - vmsMaxMultiStringLength
- ◆ Font Objects
  - numFonts
  - fontTable and subsidiary objects
  - maxFontCharacters
  - characterTable and subsidiary objects

- fontMaxCharacterSize
- ◆ MULTI Configuration Objects
  - defaultFlashOn
  - defaultFlashOff
  - defaultFont
  - defaultJustificationLine
  - defaultJustificationPage
  - defaultPageOnTime
  - defaultPageOffTime
  - defaultCharacterSet
  - dmsColorScheme
  - dmsSupportedMultiTags
- ◆ Message Objects
  - messageIDCode
  - messageActivationCode
  - dmsNumPermanentMsg
  - dmsNumChangeableMsg
  - dmsMaxChangeableMsg
  - dmsFreeChangeableMemory
  - dmsNumVolatileMsg
  - dmsMaxVolatileMsg
  - dmsFreeVolatileMemory
  - dmsMessageTable and subsidiary objects
  - dmsValidateMessageError
- ◆ Sign Control Objects
  - dmsControlMode
  - dmsSWReset
  - dmsActivateMessage
  - dmsMessageTimeRemaining
  - dmsMsgTableSource
  - dmsMsgRequesterID
  - dmsMsgSourceMode
  - dmsShortPowerRecoveryMessage
  - dmsLongPowerRecoveryMessage
  - dmsShortPowerLossTime
  - dmsResetMessage
  - dmsCommunicationLossMessage
  - dmsTimeCommLoss
  - dmsPowerLossMessage

- dmsEdDurationMessage
- dmsActivateMsgError
- dmsMultiSyntaxError
- dmsMultiSyntaxErrorPosition
- dmsMultiOtherErrorDescription
- dmsActivateMessageState
- ◆ Brightness Objects
  - dmsIllumControl
  - dmsIllumMaxPhotocellLevel
  - dmsIllumPhotocellLevelStatus
  - dmsIllumManLevel
  - dmsIllumBrightnessValues
  - dmsIllumBrightnessValuesError
  - dmsIllumLightOutputStatus
- ◆ Scheduling Action Objects
  - numActionTableEntries
  - dmsActionTable and subsidiary objects
- ◆ Sign Status Objects, to the extent supported by the sign hardware.
  - statMultiFieldRows
  - statMultiFieldTable and subsidiary objects
  - watchdogFailureCount
  - dmsStatDoorOpen
  - shortErrorStatus
  - controllerErrorStatus
  - dmsPowerStatusMap
  - dmsPowerNumRows
  - dmsPowerStatusTable and subsidiary objects
  - fanFailures
  - pixelFailureTableNumRows
  - pixelFailureTable and subsidiary objects
  - pixelTestActivation
  - dmsPixelStatusTable and subsidiary objects
  - dmsPixelFailureTestRows
  - dmsPixelFailuresMessageRows
  - dmsLightSensorStatusMap
  - dmsLightSensorNumRows
  - dmsLightSensorStatusTable and subsidiary objects
  - dmsTepSensorStatusMap
  - dmsTemSensorNumRows

- dmsTempSensorStatusTable and subsidiary objects
- powerSource
- tempMinAmbient
- temptMaxAmbient
- tempMinSignHousing
- tempMaxSignHousing
- tempSensorWarningMap
- tempSensorCriticalTempMap
- ◆ Graphic Definition Objects
  - dmsGraphicMaxEntries
  - dmsGraphicNumEntries
  - dmsGraphicVertSpacing
  - dmsGraphicHorzSpacing
  - dmsGraphicMaxSize
  - availableGraphicMemory
  - dmsGraphicBlockSize
  - dmsGraphicTable and subsidiary Objects
  - dmsGraphicsBitmapTable and subsidiary objects

Any mandatory objects that are required by NTCIP1203 but that are missing from the above list shall also be supported.

d. Blanking Displaying a blank sign shall be achieved in the same way that any message is displayed (i.e., by using an object that has a syntax of either MessageActivationCode or MessageIDCode). However, a new memory type, dmsMessageMemoryType equal to 'blank (7)', shall be created to support this operation. It shall function as follows: The dmsMessageNumber for this memory type shall be reflective of the run time priority and shall be between 1 and 255, inclusive. The CRC for this memory type shall be 0x00 00 and the normal CRC algorithm shall not be applied to blank messages. The dmsMessageMultiString shall be an octet string of length 0. The activate priority for any MessageActivationCode using this type of memory shall be used as the actual activation priority.

3. Object Range Requirements Every object required by these specifications shall have full standardized object range support except:

| OBJECT                         | MINIMUM PROJECT REQUIREMENTS      |
|--------------------------------|-----------------------------------|
| Max Time Base Schedule Entries | 28                                |
| Max Day Plans                  | 14                                |
| Max Day Plan Events            | 12                                |
| Max Event Log Configurations   | 50                                |
| Event Configuration Mode       | 2, 3, and 4                       |
| Max Event Log Size             | 200                               |
| Max Event Classes              | 16                                |
| Max Group Address              | 1                                 |
| Number Fonts                   | 4                                 |
| Max. Font Characters           | 100                               |
| Number Action Table Entries    | Equal to message capacity of sign |
| Number of User-Define Events   | 0                                 |
| Number of External Devices     | 0                                 |
| Number of Brightness Levels    | 16 or more                        |

e. Mark Up Language for Transportation Information (MULTI) The software shall implement the following tags (opening and closing where defined) of MULTI as defined in NTCIP 1203.

- Fields for 12 hour time, day of month, month, four digit year, and current speed in mph.
- Flash
- Font
- Justification Line
- Justification Page
- Moving Text
- New Line
- New Page
- Page Time
- Hexadecimal Character

f. Other NTCIP Standards All communication shall conform to NTCIP 2202, Internet (TCP/IP and UDP/IP) Transport Protocol; NTCIP 1102, Octet Encoding Rules (OER) Base Profile; and NTCIP 1103, Transportation Management Protocols. Communication with the signs shall use SNMP only.

#### Trailer

a. Hitch The trailer shall have a fixed height, pintal hitch.

b. Dimensions The trailer shall be no more than 20 feet (6 m) long with the tongue in place, and no more than eight feet (2.5 m) wide.

c. Tongue The tongue shall be removable. No tools shall be required for removal or remounting of the tongue. It shall not be necessary to disconnect any hydraulic brake lines to effect complete removal, and it shall not be necessary to bleed the brake system upon re-installation of the tongue.

d. Safety Chains Both the tongue and coupler shall have safety chains attached.

e. Compartments The trailer shall have lockable, weatherproof compartments for the controller and batteries. The battery compartment shall be centrally positioned to promote stability of the trailer

f. Leveling Jacks The trailer chassis shall have at each corner a leveling jack affixed in such a manner that the jacks may be readily placed and locked in a horizontal position for traveling without the use of any tools.

g. Conspicuity Material All faces of the trailer shall be delineated on a permanent basis by affixing retro-reflective material, known as conspicuity material, in a continuous line as seen by oncoming drivers.”

#### Miscellaneous Requirements

a. Radar-Ready The sign shall have an on-board Doppler radar speed detector installed, such that the speed of approaching vehicles can be displayed on the sign. All necessary software and firmware shall be included with this order.

b. Grounding All electrical systems, surge protectors, antenna grounds, and the trailer shall connect to a common ground that also connects to a grounding lug on the outside of the trailer. Label the lug “EARTH GROUND”.

Control Software The software is to enable traffic management staff to control and monitor the signs. It is also to enable a maintenance technician at a sign to exercise all sign features, examine event logs, and run diagnostic tests. It is expected that the software will be the DMS manufacturer’s standard product, with minimal customization. The software for use by

maintenance technicians need not be identical to that used by the traffic management staff, although it must have equivalent capabilities.

The manufacturer is to install the software on three of the Department's existing computers and provide the Department with the right and means to install the same software on at least ten other computers.

It is expected that this software will be used to control additional portable and permanent changeable message signs that the Department will buy.

Currently the department uses a product called Vanguard. The manufacture will supply all necessary font and configuration files to integrate the signs into the Vanguard product. Installation and testing shall occur at the same time as the manufacturers software is installed as above.

Computer Compatibility Three of the computers will be stationary desktop computers with Intel Pentium IV (1.8 GHz) processors and the other three will be notebook computers with Intel Pentium M (1.5 GHz) processors. All will have Windows XP operating systems (with Service Pack 3), 512 MB or more of memory, a 20 GB hard drive and internet connectivity. The software shall work with these computers.

The manufacturer shall visit two Department facilities to install this software. The main control computer, a desktop, will be in the radio room at the Department's Augusta Headquarters.

Augusta: Maine Department of Transportation  
Child Street  
Augusta, Maine 04333

Password Protection Only users, who have proper authorization, as indicated by their passwords, shall be able to undertake the following actions:

- Place equipment on standby.
- Change sign messages, blank signs, and change message priority.
- Replace or delete messages stored in a DMS controller's memory.
- Display test patterns on a sign.
- Change or delete the sign computer's schedule.
- Modify the message library on the sign computer's hard disk.
- Change sign configuration parameters.
- Delete the event log.

- View passwords.
- Change passwords and privileges.

Each user shall have a different password. Users may be granted or denied permission to use each protected command independently. Via an encrypted lookup table, the computer shall determine which of the protected commands a user may use.

The software shall ask the user for his password at the time the protected command is entered. The computer shall not carry out these commands unless the user has the proper privileges.

Off Line Status A user shall be able to take a sign off line, causing it to be ignored by the sign computer. This will be used when a malfunctioning sign is generating an excessive number of alarms. When a user attempts to control an off line sign, a message shall appear on his screen informing him that the sign is out of service. When a user takes a sign off line, the software shall ask the user to type in a comment of up to 100 characters explaining the action. The comment field may be left blank. The computer shall also record the user's name, based on his password, and include the name and comment in the failure report described below.

Message Library The sign computer shall store a library of at least 999 messages on its hard disk. In addition to the message text, the file shall contain all the MULTI control codes needed for a sign to properly display the message

When adding a message to the library, a user shall specify the message name. If a message with the same name already exists in the library, the software shall notify the user and give him the options of replacing the existing file or selecting a new name for the message he has just created. A user shall also be able to delete library messages from within the program. The program shall ask the user to confirm each message deletion before actually deleting the file.

If the user is seeking a message to display, the software shall present a list so that the user can choose one. When the user makes his selection, the software shall display the entire message, exactly as it would appear on a sign, and shall ask the user to confirm that this is the message desired. The user shall then be able to post the message on one or more signs, edit the message, or do nothing with it.

Sign Control Future signs may have different line lengths and heights (measured in pixels) than the signs provided in this project, and may have more or fewer lines. The software shall display messages as a matrix of dots that replicate the way the message will actually appear on a selected sign. The presentation should be based on the assigned font and the height and width (in pixels) of the display, as stored in a data base maintained by the sign computer. This type of display will be used during message creation and editing, as well as when displaying to a user the message currently on a sign. If the user is displaying a message from the library or creating a message without specifying what sign it will go on, the display shall be based on the characteristics of the signs provided in this project.

Upon creating or revising a message, the user shall be able to save it in the message library on the sign computer's hard disk or send it directly to one or more DMS controllers for storage or display.

When a user sends a message to one or more signs, the sign computer shall automatically check to be sure that the message will fit on the sign. This checking shall take into account the selected fonts and the size of the sign's display. If the message won't fit, the computer shall alert the user and not post the message.

If a user chooses to send the same message to multiple signs, the software shall present the user with a list of all signs, so that the user can check off which signs the new message goes to. The screen shall also give the user a choice of "All Signs". The list shall identify signs by roadway and milepost. Using a single command, the user shall be able to cause the message to be stored in all the signs he specified, replacing those previously stored in the controllers. Similarly, the user shall be able to use a single command to have all the selected signs display the same message, or the same message number.

In addition to entering commands for immediate execution, a user may store commands in the sign computer for future execution. For example, the user may want to conduct a pixel test of every sign each night at 3:00 AM. A user shall be able to quickly and easily create, modify, suspend, or cancel a schedule of commands for the sign computer to issue to specified DMS controllers. The user shall be able to specify the same action at the same time for multiple signs, in the same way as was described in the preceding paragraph. A user shall also be able to schedule the printing of sign-related reports. A user shall not be able to schedule any command that he does not have the privilege to execute directly. The schedule shall show the name of the user who scheduled each command, based on his password. Actions that would be recorded in the event log if a user commanded them directly shall also be logged when they result from a scheduled command. The record shall include the user's name and an indication that the command was scheduled.

The software shall provide a single command that not only transmits a message to a sign (after confirming that it fits) but also causes the sign to immediately display that message on the sign (after confirming that the transmission was error free).

Status Monitoring The sign computer shall maintain an event log file on its hard disk with a record for each appearance or disappearance of an alarm from a sign. The file shall be in ASCII format with fixed-length fields separated by spaces, suitable for transfer to spreadsheet and data base management software. The record shall include the date, time, sign ID, and nature of the change. If the alarm indicates a change in the sign display, the log shall include the exact text of the message, the device from which it was commanded, and, if commanded via the sign computer, the name of the person posting the message, based on his password. The log file shall include this same information each time a message is downloaded to a sign's memory from the sign computer.

The log shall also record each time a user at the sign computer does the following:

- Changes the priority of a message.
- Changes the schedule.
- Changes a message in the library on the computer's hard disk.

The record shall include the user's name based on his password.

The log shall also record the beginning and end of communication failures. The sign computer shall deem a communication failure to have occurred if it does not get an error-free response to two consecutive commands to a controller. The computer shall deem a controller recovered if it responds properly to a command.

Reports The system shall provide the following reports to the user's screen, a disk file named by the user, or to the printer, as specified by the user:

- Equipment Failures. Lists each sign that is currently malfunctioning, along with the time and date of failure and a phrase indicating the nature of the problem. Also lists each DMS controller that is off line, along with the date and time it was taken off line, the comment written by the user who took it off line, and the user's name based on his password.
- Sign System Configuration. Lists the current values of all configuration parameters stored in the sign computer, clearly labeled. It includes such things as communication address. It does not include operating parameters stored in the DMS controllers.
- Individual Sign Configuration. Lists the current values of all changeable parameters stored in a DMS controller, clearly labeled. It includes such things as temperature thresholds. This report shall cover all signs, or a particular sign, as specified by the user. The information displayed shall be uploaded from the DMS controllers at the time the report is requested. If the sign computer is unable to upload the data from a particular sign, it shall use the corresponding data on its hard disk, but shall indicate in the report that the data is from the hard disk and may not be current.
- Current Sign Status. Lists sign location, text of message currently displayed, the priority value of the message, storage location of the message in the sign's memory, entity that caused the message to be displayed, and controller status (failed, working, or off line) for each sign in the system. This report shall cover all signs, or a particular sign, as specified by the user.

- Event Log. Lists all information in the control computer's event log file, with each field clearly labeled. The user shall be able to specify that only events between certain times, or pertaining to a certain sign, or pertaining to a certain type of event, or any combination of the foregoing, shall be included in the report. Events shall be listed chronologically.
- Message Library. Lists the text of each frame of each message in the message library, along with the duration for which the frame is displayed. Also lists the message's file name and latest revision date. Each frame shall be displayed in the report in the same way it would appear on a sign, with regard to text centering, bolding, and justification. Flashing text shall be underlined. Messages shall be grouped by subdirectory, and a user shall be able to specify that only certain subdirectories be included.
- Sign Computer's Schedule. Lists all information in the sign computer's schedule, clearly labeled. The user shall be able to specify that only events between certain times, or pertaining to a certain sign, or pertaining to a certain type of event, or any combination of the foregoing, shall be included in the report. Events shall be listed chronologically.
- Sign Memory. Lists sign ID and location and the text of each message stored in the sign. The message portion of the report shall indicate the message's memory location number and shall display the text of each frame of the message, along with the duration for which the frame is displayed. Each frame shall be displayed in the report in the same way it would appear on a sign, with regard to text centering, bolding, and justification. Flashing text shall be underlined. All information shall be clearly labeled. The user shall be able to specify that the report cover only a particular sign, or all signs. The information displayed shall be uploaded from the DMS controllers at the time the report is requested. If the sign computer is unable to upload the data from a particular sign, it shall use the corresponding data on its hard disk, but shall indicate in the report that the data is from the hard disk and may not be current.
- Bad Pixel Maps. Consist of a matrix display indicating which display elements of a sign have failed, according to the DMS controller. The user shall be able to specify that the report cover only a particular sign or all signs with display problems. If the user specifies all signs with display problems, the report will cover all signs whose controllers are currently reporting malfunctioning drivers or display elements.

The time and date for which the information is current shall appear on every page of each printed report. All pages shall be numbered.

Alarms The sign computer shall issue alarms by beeping and displaying a message clearly identifying the problem in a prominent box that pops up on the user's screen. The box shall disappear when the user clicks on it and the beeping shall stop. If the alarm is of the type called "recurring", the beeping and screen message recur every 15 minutes as long as the condition persists. The sign computer shall issue a single alarm for the following situations:

- A new sign failure.
- The sign computer is unable to change a sign's display as scheduled because the currently displayed message has a higher priority.

A sign computer shall issue a recurring alarm if its hard disk is over 90 percent full.

User Interface The user shall enter commands by selecting from menus. The user shall make selections from menus and from lists of signs, messages, and options using a mouse. The interface shall be easy to use, minimizing memorization and opportunities for errors. The interface shall automatically check commands for out-of-range values and other errors. When it checks an error, it shall beep, reject the command or data, and provide the user with a clear explanation.

The software shall have the complete text of the software operator's manual stored on disk, readily available to the user.

Communication Interface The software shall be capable of contacting signs by dial-up telephone and over an Ethernet network. It shall use the appropriate communication method for each sign, based on information stored in the computer's database. If a sign is connected to both telephone and Ethernet networks, the software shall use the dial-up link as a backup when the Ethernet network is not successful.

Spare Parts Provide the following spare parts:

- Display modules: 20 percent of the total provided.
- Controllers: two.
- Display power supplies: ten percent of total provided (At least one).
- Other circuit boards used in the sign, if not covered by the previous items: one of each type.
- Surge protectors: two of each type.
- Battery charging unit: one.
- Battery: sufficient to equal the system operating voltage (2x 6 volt for 12 volt system)

Testing. The manufacturer shall test the signs, software, and spare parts. The manufacturer shall develop the test procedures and revise them as necessary to meet the Engineer's approval. Prior to the testing, the manufacturer shall deliver all signs and spare parts to the Department's Fairfield facility, shall successfully install the software on the Department's computers, shall conduct all the tests in the test plans, and shall correct any deficiencies found.

When the manufacturer is confident that the signs, software, and parts will pass the test, he shall arrange for the Department's representative's to witness the testing. He shall contact the Engineer at least two weeks in advance of the proposed testing date and shall arrange for testing to begin at a mutually convenient time. All testing will be done on the same day (or two days, if

necessary) at the Department's Fairfield facility. The installation contractor may witness this testing if he or she chooses. The manufacturer shall provide all materials and equipment needed for testing and shall prepare a written report of the test results.

Sign Testing The test procedure shall be designed to uncover manufacturing defects and shipping damage of all types. The test shall include a visual inspection of the sign. Among the aspects that must be tested are the following:

- All diagnostic routines provided by the manufacturer.
- Proper operation of every pixel, including uniform brightness at all brightness levels and proper current consumption.
- Proper wiring of the display modules, checked by displaying a text message that identifies the modules' proper row and column positions.
- Appropriate display brightness for day and night conditions, and brightness when the sun at its worst condition for the location.
- Proper aiming of the display modules.
- Proper entry of messages into memory.
- Proper operation of sign monitoring.
- Proper operation of sensors for alarm conditions.
- Correct wiring of sensors and alarms to the controller's inputs.
- Proper remote access and control using the central and laptop software provided in this project.

Software Testing The purpose of the sign computer software test is to demonstrate that the software operates reliably and is in full compliance with the specifications. The manufacturer shall conduct the tests following the approved test plan but, if practical, shall also perform any supplemental tests requested by the Department's representatives at the time of testing. To be accepted, the software must pass all the tests.

The test plan shall test every interface, feature, and function of the software, including features present but not required by these specifications. The testing shall demonstrate that the software deals appropriately with communication errors and operator errors. The testing shall confirm that the signs can be monitored and controlled from each of the Department's computers on which software was installed.

Spare Parts Testing Test the parts by substituting them into a working sign.

### Training

General Within two weeks of successful completion of testing, the manufacturer shall train the Department's operations and maintenance staff at the Fairfield facility. All the signs will still be at that facility for use during training.

In the training, each trainee shall receive copies of the appropriate manuals. The training shall be conducted in such a way as to familiarize the trainees with the manuals (and any other handouts provided) so that the trainees are able to make efficient use of those materials after the training. All course material, in reproducible form, shall be delivered to the Engineer immediately following course completion.

The manufacturer shall provide all tools and instruments needed for the training.

Installation Training The class will consist of up to 15 people, some from the Department and others from the contractor who is to install the signs. It shall cover proper towing and positioning of the sign, leveling, removing the tongue, raising and lowering the message board, aiming the message board, aiming the solar panels, connections to communication and power, and all other setup activities. It shall last four hours.

Maintenance Training The maintenance training shall be provided for 12 hours for at least ten maintenance technicians with electronics backgrounds. These trainees will also attend the training session for sign operators, so material in that class need not be repeated in the maintenance training. The training shall include theory of operation, circuit description, field adjustments, preventive maintenance procedures, troubleshooting, operation of diagnostic and configuration software, use of the event log, and repair of components.

In addition to classroom training, it shall include “hands on” training using the signs provided in this project. That training shall include use of the control panels (if provided), control of the signs using the Department’s notebook computers, display module replacement, controller replacement, battery replacement, and troubleshooting. Spare parts furnished under this contract may be used for the replacement activities. Each trainee shall use the Department’s laptop software to run all the diagnostic messages, create a message, schedule the message, and adjust the sign’s brightness. Each shall use the sign controller’s front panel to run stored messages and determine the sign’s current status.

Operator Training The training shall be provided for a minimum of four hours for at least ten engineering and operations personnel. The training shall include a complete demonstration of the operation and capabilities of the signs and software, as well as opportunities for the trainees to create and store messages, post messages, and schedule messages.

Technical Support Phone numbers provided for technical support must be attended by a person who can answer questions or promptly find the answer to questions. An answering machine or answering service does not constitute technical support. The telephone support required by these specifications shall be provided at least eight hours a day on all work days.

On-Site Support The manufacturer shall have a representative present when the installation contractor installs the first sign. The representative shall observe the installation, provide additional training to the contractor as required, and ensure that the sign is installed correctly. If the manufacturer’s representative is not confident that the contractor can install the remaining signs without assistance, the representative shall immediately notify the Engineer.

Telephone Support During Installation The manufacturer shall provide telephone support to the installation contractor during installation. This support shall be available until all the signs have been installed.

Telephone Support for Operation and Maintenance The manufacturer shall provide telephone support to the Department's operations and maintenance staff for a period of one year following the acceptance of the signs. This will be at no charge to the Department.

Method of Measurement Portable Changeable Message Signs will be measured by Each.

Basis of Payment The accepted portable changeable message signs will be paid for at the contract unit price each. Such price will be full compensation for furnishing and testing the four signs, as well as all sign-related documentation. Control software, spare parts, training and technical support as described within this Special Provision will be included in the contract unit price for the Portable Changeable Message Signs.

Payment will be made under:

| <u>Pay Item</u>  | <u>Pay Unit</u> |
|--|-----------------|
| 652.43 Portable Changeable Message Sign – Retained By Department | EA              |

**SPECIAL PROVISION**  
**SECTION 652**  
**MAINTENANCE OF TRAFFIC**  
 (Traffic Control)

Failure by the contractor to follow the Contracts 652 Special Provisions and Standard Specification and/or The Manual on Uniform Traffic Control Devices (MUTCD) and/or The Contractors own Traffic Control Plan will result in a violation letter and result in a reduction in payment as shown in the schedule below. The Departments Resident or any other representative of The Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item. Any reduction in payment under this Special Provision will be in addition to forfeiting payment of maintenance of traffic control devices for that day.

**ORIGINAL CONTRACT AMOUNT**

| from                    | Up to and               | Amount of Penalty                   |
|-------------------------|-------------------------|-------------------------------------|
| <b><u>More Than</u></b> | <b><u>Including</u></b> | <b><u>Damages per Violation</u></b> |
| \$0                     | \$100,000               | \$250                               |
| \$100,000               | \$300,000               | \$500                               |
| \$300,000               | \$500,000               | \$750                               |
| \$500,000               | \$1,000,000             | \$1,500                             |
| \$1,000,000             | \$2,000,000             | \$2,500                             |
| \$2,000,000             | \$4,000,000             | \$5,000                             |
| \$4,000,000             | and more                | \$10,000                            |

**SPECIAL PROVISION**  
**SECTION 652**  
**MAINTENANCE OF TRAFFIC**  
**Construction Sign Sheeting Material**

Super high intensity fluorescent retroreflective sheeting, ASTM D 4956 - Type VII, Type VIII, or Type IX (prismatic), is required for all construction signs.

**SPECIAL PROVISION**  
**SECTION 656**  
Temporary Soil Erosion and Water Pollution Control

The following is added to Section 656 regarding Project Specific Information and Requirements. All references to the Maine Department of Transportation Best Management Practices for Erosion and Sedimentation Control (a.k.a. Best Management Practices manual or BMP Manual) are a reference to the latest revision of said manual. The latest version is dated "February 2008" and is available at:

<http://www.maine.gov/mdot/environmental-office-homepage/surface-water-resources.php>

**Procedures specified shall be according to the BMP Manual unless stated otherwise.**

**Project Specific Information and Requirements**

The following information and requirements apply specifically to this Project. The temporary soil erosion and water pollution control measures associated with this work shall be addressed in the Soil Erosion and Water Pollution Control Plan (SEWPCP.)

1. Newly disturbed earth shall be mulched by the end of each workday. Mulch shall be maintained on a daily basis.
2. The SEWPCP shall describe the location and method of temporary erosion and sediment control for existing and proposed catch basins, outlet areas and culvert inlets and outlets.
3. **If water is flowing within the drainage system, the water shall be diverted to a stable area or conduit and work shall be conducted in the dry.** The Contractor's plan shall address when and where the diversions will be necessary.
4. Dust control items other than those under Standard Specification 637, if applicable, shall be included in the plan.
5. Permanent slope stabilization measures shall be applied within one week of the last soil disturbance. Temporary slope stabilization is required on a daily basis.
6. Permanent seeding shall be done in accordance with *Special Provision, Section 618, Seeding* unless the Contract states otherwise.
7. Culvert inlet and outlet protection shall be installed within 48 hours of culvert installation, or prior to a storm event, whichever is sooner.

**SPECIAL PROVISION**  
**SECTION 656**  
Temporary Soil Erosion and Water Pollution Control

8. Temporary winter stabilization must be used between November 1<sup>st</sup> and April 1<sup>st</sup> or outside of that time period if the ground is frozen or snow covered. Temporary winter stabilization involves, at a minimum, covering all disturbed soils and seeded ground that is not Acceptable Work with an approved method. If temporary winter stabilization practices are used then spring procedures for permanent stabilization shall also be described in the SEWPCP. Use of these methods for over-winter temporary erosion control will be incidental to the contract and be paid for as part of Pay Item 656.75.
9. Demolition debris (including debris from wearing surface removal, saw cut slurry, dust, concrete debris, etc.) shall be contained and shall not be allowed to discharge to any resource. All demolition debris shall be disposed of in accordance with *Standard Specifications, Section 202.03, Removing Existing Superstructure, Structural Concrete, Railings, Curbs, Sidewalks and Bridges.* Containment and disposal of demolition debris shall be addressed in the Contractor's SEWPCP.
10. If a cofferdam sedimentation basin is used, it shall be located in an upland area where the water can settle and sink into the ground or be released slowly to the resource in a manner that will not cause erosion. The location of such a cofferdam sedimentation basin shall be addressed in the SEWPCP.
11. Prior to release to a natural resource, any impounded water that has been in contact with concrete placed during construction must have a pH between 7.0 and 8.5, must be within one pH unit of the background pH level of the resource and shall have a turbidity no greater than the receiving resource. This requirement is applicable to concrete that is placed or spilled (including leakage from forms) as well as indirect contact via tools or equipment. Water not meeting release criteria shall be addressed in the SEWPCP. Discharging impounded water to the stream must take place in a manner that does not disturb the stream bottom or cause erosion.
12. The Contractor shall be responsible for monitoring pH with a calibrated meter accurate to 0.1 units. A record of pH measurements shall be kept in the Environmental Coordinator's log (Section 656.4.4.)

**SPECIAL PROVISION  
PROTECTION OF RAILROAD TRAFFIC AND STRUCTURES**

**1. GENERAL REQUIREMENTS**

Part of the work required by the Contract will be performed within a railroad right of way and/or adjacent to the tracks, telephone, telegraph, signal and electric supply lines of a railroad or railroads. The Contractor agrees to perform all such work in compliance with all of the terms of this Special Provision and all safety rules, regulations, or standards applicable to the Railroad. The Contractor shall be fully responsible for all damages arising from its failure to comply with the requirements of this Special Provision. The Contractor shall be deemed to have included all costs in the unit prices of the Schedule of Prices and the Proposal.

**2. AMOUNT OF RAILROAD WORK**

The estimated amount of work to be done within 50 feet of the track of the Maine Central Railroad is 100% of the contract.

**3. NUMBER OF TRAINS AND TRAIN SPEED**

The Contractor is notified that a maximum speed of        kph (**10** mph) will be considered as prevailing for the operation of trains of the Railroad at this project and that the approximate number of trains per day at this project is 2.

**4. PRIORITY OF RAILROAD OPERATIONS**

The train movements of the Railroad, and its lessees, and licensees shall have absolute priority over the performance of the Construction Project within the railroad right of way. The Contractor hereby agrees that the hours and times of work within the Railroad right of way must be coordinated through the Railroad and that such hours and times are subject to change without prior notice to the Contractor, unless other prior arrangements have been made through the Railroad.

**5. AUTHORITY OF RAILROAD TO STOP WORK**

If the Contractor fails to comply with the safety terms of this Special Provision, or if the Chief Engineer of the Railroad determines that the Contractor is using unsafe practices that threaten the safety of rail traffic, rail workers, or the general public, the Railroad shall have the right to immediately order the Contractor to cease work and vacate the Railroad's property. The Railroad agrees to confirm any cessation of work in writing by delivering to the Department's Construction Manager a completed Stop Work Order form attached as Exhibit A within 24 hours of giving any such order.

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## **6. ENTRY UPON RAILROAD PROPERTY**

The Railroad hereby agrees to permit the Contractor, together with their subcontractors, suppliers, consultants and engineers (the “Contractor”), to enter upon the Railroad property for the purpose of performing the Construction Project, PROVIDED THAT the Contractor complies with all of the terms of this Special Provision and all safety requirements and directions of the Chief Engineer of the Railroad, or his authorized representative (the “Railroad’s Chief Engineer”).

## **7. NOTICE REQUIRED BEFORE ENTRY**

The Contractor shall give written notice to the Railroad's Chief Engineer at least 7 calendar day(s) in advance of the time it proposes to do work within the limits of the Railroad right-of-way or perform operations that may create a Hazard as specified by this Special Provision. The Contractor shall give such notice regardless of whether the work may also be within the limits of a public highway.

## **8. HAZARDS**

The Contractor shall assess to its own satisfaction hazards which may be caused by its operations. At a minimum, the Contractor agrees that the following shall constitute Hazards.

An operating track shall be considered fouled and subject to hazard when any object is brought nearer than        meters (15 feet) to the gauge line of the near rail of the track.

A signal line or communication line shall be considered fouled and subject to hazard when any object is brought nearer than        meters (10 feet) to any wire or cable.

An electric supply line shall be considered fouled and subject to hazard when any object is brought nearer than        meters (10 feet) to any wire of the line.

Cranes, trucks, power shovels or any other equipment shall be considered as fouling and subjecting to hazard a track, signal line, communication or electric supply line when working in such position that failure of equipment, with or without load, could foul the track, signal line, communication or electric supply line.

Railroad operation will be considered subject to hazard when explosives are used in the vicinity of railroad premises, or during the driving or pulling of sheeting for any footing adjacent to a track, or when erecting structural steel adjacent to a track, or when performing work under, across or adjacent to a track, or when operations involve, swinging booms or chutes that could in any way come nearer than        meters (15 feet) to the gauge line of the near rail of the track, or when erection or removal of staging, false work or forms fouls a track or wire line.

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None of the operations specified as a Hazard above shall be carried on during the approach or passing of a train or without permission from the Railroad's Chief Engineer and the presence of a railroad inspector/flagman, unless other prior arrangements have been made through the Railroad.

## **9. MINIMUM CLEARANCES**

During the construction of staging, false work or forms, the Contractor shall at all times maintain a minimum vertical clearance of [REDACTED] meters (**22.5** feet) above the top of high rail and a minimum side clearance of [REDACTED] meters (**10** feet) from the gauge line of the near rail where track is tangent. Additional side clearance must be maintained where track is on a curve.

## **10. WORK PLAN SUBMITTAL AND APPROVAL**

The Contractor shall submit in writing to the Railroad's Chief Engineer or duly authorized representative, and the Department's Railroad Property Manager or his appointed representative, at least **14** calendar day(s) in advance of the start of the project, an outline of his plan for work within the Railroad right of way including contemplated method(s) of construction. This plan must meet with the approval of the Railroad's Chief Engineer and the Department's Railroad Property Manager in every respect. If the Contractor contemplates the use of "on the track equipment", it should so state and obtain from the Railroad the conditions pertaining to such operations. All Railroad costs included in this operation will be borne by the Contractor. In a like manner, any of the Contractor's equipment or material on cars for this project shall be handled in conformance with existing traffic rules with all costs borne by the Contractor.

Prior to submitting its Proposal, the Contractor shall have ascertained from the Railroad and from the Department's Railroad Property Manager or his appointed representative, all information relating to its requirements and regulations and all costs in connection with compliance thereto.

## **11. EXCAVATIONS**

Before excavation for footings adjacent to tracks and/or within the Railroad's right-of-way may commence, whether or not also within the limits of a public highway, plans and calculations for such excavations, prepared by a Professional Engineer authorized to practice in Maine, shall be submitted to the Railroad's Chief Engineer for review and approval. Unless other prior arrangements have been made, the Railroad's Chief Engineer shall have **2** week(s) to perform such review and approval and issue a written permission to proceed with the excavation. No excavation shall proceed without such permission.

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At a minimum, excavations must utilize proper bracing, shoring, sheeting or other support as determined by the Railroad's Chief Engineer, to support the tracks with railroad traffic. Open excavation shall be suitably planked over when construction operations are not in progress. No excavation work shall be performed by the Contractor within the limits of the Railroad right of way, whether or not also within the limits of a public highway, until the Contractor has ascertained from the Chief Engineer of the railroad the location of any wires, conduits, pipes, cables or other railroad facilities below the surface of the ground. Damage to any such facilities caused by the failure of the Contractor to ascertain the location of such facilities or by failure to use due care to avoid injury to such facilities shall be at the expense of the Contractor.

## **12. EQUIPMENT**

Equipment of the Contractor shall be in such condition so as to prevent failure that would cause delay in the operation of trains or damage to railroad facilities. Equipment shall not be placed or put in operation adjacent to a track without first obtaining permission of the Railroad. The Railroad agrees that such permission shall not be unreasonably withheld.

## **13. RAILROAD SERVICES - GENERALLY**

When work is to be performed within the Railroad's right-of-way, the Railroad shall provide the services, equipment and materials provided in this Special Provision including, but not limited to, engineering, flagging, inspection, signal protection and/or relocation, and restoration or replacement of the Railroad's track structure of ballast. Further, if the Railroad's Chief Engineer determines that the Contractor's operations do not comply with all of the safety requirements of this Special Provision and all safety requirements and directions of said Chief Engineer, the Railroad will employ the necessary qualified employees to protect its trains and other facilities. The Contractor shall pay to the Railroad the cost for performing all Railroad Services unless said costs are to be paid by the Department as specified in this Special Provision.

## **14. INSPECTION / FLAGGING**

The Railroad shall furnish and assign all inspectors / flaggers for general inspection purposes of general protection of railroad property and operations during construction as the Railroad's Chief Engineer determines are necessary to preserve safety.

(a) Responsibility for Cost. The Department will bear the cost of flagging or inspection (including travel time) or any combination thereof up to **100** man days of said flagging or inspection. If, in the opinion of the Railroad's Chief Engineer, further services of a flagger or inspector will be required due to the operations of the Contractor, the services will be furnished and the cost thereof (salary, expenses, insurance, taxes and vacation allowance, etc.) shall be paid to the Railroad by the Department, and will be recovered by the Department from the Contractor.

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(b) Terms. The minimum hours per day for the Railroad employees engaged in inspection flagging services shall be eight (8) hours. Time at rates for straight time, overtime or for deadheading starts in accordance with established practices in effect in the territory in which the project is located. Information as to these practices should be obtained from the Railroad's Chief Engineer.

The Contractor shall notify the Railroad's Chief Engineer and the Chief Engineer of the Department in writing 7 calendar day(s) before beginning, resuming or suspending work within \_\_\_\_\_ meters (25 feet) of the track, so that an inspector may be provided or removed in accordance with the requirements of this Special Provision. An inspector may be removed upon 3 calendar day(s) notice. Failure to give notice of intent to suspend work shall be cause of charge to the Contractor the cost of inspection during the period when work is suspended.

(c) Estimated Cost. The following is an estimate of the cost per day of inspection/flagging necessary for this project. The rates shown include all overhead charges, travel time, deadheading and personal expenses.

Date of estimate 8/4/2010.

Estimated daily rate for four (4) consecutive hours Monday-Friday (straight time): \$152.16

Estimated daily rate for four (4) consecutive hours Saturday, Sunday, Holiday (overtime): \$228.24

Estimated rate for hours worked in excess of eight (8) hours in any one day: \$57.06

Rates charged will be those in effect at the time of the performing the inspection/ flagging which may be different than the rates used at the date of the Estimate. The Railroad agrees to notify the Department if rates used to calculate the above estimates change before the date of bids are received for this Contract.

(d) Definitions.

Man day (M.D.) - eight (8) consecutive hours or any portion thereof.

Overtime - Each additional hour or fraction thereof consecutive to and beyond the standard man day will count as 3/16 of a man day.

Standard Man day - Eight (8) consecutive hour, Monday - Friday between the hours of 07:00 a.m. to 15:30 p.m. unless otherwise noted and agreed to by all parties. (NOTE: Does not include lunch period from 12:00 PM to 12:30 PM.)

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Travel Time - Time required by flagger and/or inspector to commute between his or her point of headquarters to the project site. This time shall not be charged used in determining available man days.

## **15. OTHER CONTRACTOR RESPONSIBILITIES**

The restoring and resurfacing of tracks, if disturbed due to Contractor's operations, shall be at the expense of the Contractor.

Any other changes made or services furnished by the Railroad as a result of the Contractor will be at the Contractor's expense.

## **16. EXTRA-CONTRACT SERVICES**

Temporary and permanent changes of tracks and telephone, signal and electric supply lines made necessary by or to clear the permanent work of the Contractor as shown on the construction plans and included in the Railroad force account as recollectable from the State will be made or caused to be made by the Railroad without expense to the Contractor.

## **17. INDEMNIFICATION**

Where work is being performed over, under, across or adjacent to Railroad premises, the Contractor shall defend, indemnify and save harmless the Railroad and the Maine Department of Transportation from and against any and all loss, cost, damage, claims, suits, demands, or liability for damages for personal injury including death and for damage to property, which may arise from or out of the operations conducted under his contract, occurring by reason of any act or omission of the Contractor, his agents, servants or employees, or by reason of any act or omission of any subcontractor, his agents, servants or employees.

## **18. INSURANCE**

In addition to any other forms of insurance or bonds required under the terms of the Contract, the Contractor will be required to procure and maintain, at its sole cost and expense, the following insurance coverage naming the Railroad as an insured.

(a) Railroad Protective Liability Insurance with limits not less than **\$2M** per single occurrence and **\$6M** per aggregate total occurrences.

(b) Comprehensive General Liability Insurance protecting against liability from bodily injury or property damage arising out of the Construction Project with limits of not less than **\$2M** per single occurrence and **\$6M** per aggregate total occurrences.

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(c) Workers Compensation and Occupational Disease Insurance, as required by law.

(d) Automobile Liability Insurance covering all motor vehicles used about or in connection with the Construction Project.

If any part of the work is sublet, these insurance coverages shall be provided by or on behalf of the subcontractors to cover their operations

Each policy shall carry an endorsement covering the “save harmless” clause in favor of the Railroad and the Maine Department of Transportation, as set forth in the paragraph, “Responsibility for Damage Claims”.

If blasting is to be done in the vicinity of the Railroad, the insurance policies shall include such coverage.

The policies shall be in force before any work is done on the project and shall remain in effect until all work required to be performed under the terms of the contract is satisfactorily completed as evidenced by the formal acceptance by the State and the Railroad.

Before any work is done on the project, the Department of Transportation and the Railroad's Chief Engineer shall be furnished certificates of each policy. Further, the original policy of the Comprehensive General Liability Insurance and the Railroad Protective Liability Insurance shall be furnished to the Railroad's Chief Engineer and a duplicate shall be furnished to the Department of Transportation.

The policy or policies of the Railroad’s protective public liability and property damage liability shall be written by a Company authorized to do business in the State of Maine, and shall be signed by the President and Secretary of the Insurance Company and shall be countersigned by an authorized representative of the Company.

## **19. ROADWAY WORKER SAFETY REGULATION**

Notice to all Contractors/Subcontractors and individuals must be aware of the Federal Roadway Worker Safety Regulation, CFR 49, Part 214(c). They may be required to comply with this regulation. Any requirements for them to comply will be discussed at the pre-construction utility meeting.



1. Risk Assessment. Each identified/validated hazard shall be assigned a Risk Assessment Code (RAC) by the Safety Office. The RAC represents the degree of risk associated with the deficiency and combines the elements of hazard severity and mishap probability. The RAC is derived as follows:

a. Hazard Severity. The hazard severity is an assessment of the worst potential consequence: Defined by degree of injury, occupational illness, or property damage, which is likely to occur as a result of a deficiency. Hazard severity categories shall be assigned by roman numeral according to the following criteria.

- (1) Category I - Catastrophic: The hazard may cause death or loss of a facility.
- (2) Category II - Critical: May cause severe injury, severe occupational illness, or major property damage.
- (3) Category III - Marginal: May cause minor injury, minor occupational illness, or minor property damage.
- (4) Category IV - Negligible: Probably would not affect personnel safety or health, but is nevertheless in violation of a NAVOSH standard.

b. Mishap Probability. The mishap probability is the probability that a hazard will result in a mishap, based on an assessment of such factors as location, exposure in terms of cycles or hours of operation, and affected population. Mishap probability shall be assigned an Arabic letter according to the following criteria:

- (1) Sub-category A - Likely to occur immediately or within a short period of time.
- (2) Sub-category B - Probably will occur in time.
- (3) Sub-category C - May occur in time.
- (4) Sub-category D - Unlikely to occur.

c. Risk Assessment Code. The RAC is an expression of risk which combines the elements of hazard severity and mishap probability. Using the matrix shown below, the RAC is expressed as a single Arabic number that can be used to help determine hazard abatement priorities.

|                 | Mishap Probability |   |   |   | RAC |                |
|-----------------|--------------------|---|---|---|-----|----------------|
|                 |                    | A | B | C | D   |                |
| Hazard Severity | I                  | 1 | 1 | 2 | 3   | 1 - Critical   |
|                 | II                 | 1 | 2 | 3 | 4   | 2 - Serious    |
|                 | III                | 2 | 3 | 4 | 5   | 3 - Moderate   |
|                 | IV                 | 3 | 4 | 5 | 5   | 4 - Minor      |
|                 |                    |   |   |   |     | 5 - Negligible |

## STANDARD DETAIL UPDATES

Standard Details and Standard Detail updates are available at:  
[http://www.maine.gov/mdot/contractor-consultant-information/ss\\_standard\\_details\\_updates.php](http://www.maine.gov/mdot/contractor-consultant-information/ss_standard_details_updates.php)

| <b><u>Detail #</u></b> | <b><u>Description</u></b>                                   | <b><u>Revision Date</u></b> |
|------------------------|---|-----------------------------|
| 504(15)                | Diaphragms  | 12/30/02                    |
| 507(04)                | Steel Bridge Railing  | 2/05/03                     |
| 526(33)                | Concrete Transition Barrier                                 | 8/18/03                     |
| 645(06)                | H-Beam Posts – Highway Signing                              | 7/21/04                     |
| 645(09)                | Installation of Type II Signs                               | 7/21/04                     |
| 626(09)                | Electrical Junction Box for Traffic Signals<br>and Lighting | 2/25/05                     |
| 604(01)                | Catch Basins  | 11/16/05                    |
| 604(05)                | Type “A” & “B” Catch Basin Tops                             | 11/16/05                    |
| 604(06)                | Type “C” Catch Basin Tops                                   | 11/16/05                    |
| 604(07)                | Manhole Top “D”   | 11/16/05                    |
| 604(09)                | Catch Basin Type “E”  | 11/16/05                    |
| 606(02)                | Multiple Mailbox Support                                    | 11/16/05                    |
| 606(07)                | Reflectorized Beam Guardrail Delineator Details             | 11/16/05                    |
| 609(06)                | Vertical Bridge Curb  | 11/16/05                    |
| 504(23)                | Hand-Hold Details   | 12/08/05                    |
| 609(03)                | Curb Type 3   | 6/27/06                     |
| 609(07)                | Curb Type 1   | 6/27/06                     |
| 535(01)                | Precast Superstructure - Shear Key                          | 10/12/06                    |
| 535(02)                | Precast Superstructure - Curb Key & Drip Notch              | 10/12/06                    |
| 535(03)                | Precast Superstructure - Shear Key                          | 10/12/06                    |

|         |  |          |
|---------|--|----------|
| 535(04) | Precast Superstructure - Shear Key             | 10/12/06 |
| 535(05) | Precast Superstructure - Post Tensioning       | 10/12/06 |
| 535(06) | Precast Superstructure - Sections              | 10/12/06 |
| 535(07) | Precast Superstructure - Precast Slab & Box    | 10/12/06 |
| 535(08) | Precast Superstructure - Sections              | 10/12/06 |
| 535(09) | Precast Superstructure - Sections              | 10/12/06 |
| 535(10) | Precast Superstructure - Sections              | 10/12/06 |
| 535(11) | Precast Superstructure - Sections              | 10/12/06 |
| 535(12) | Precast Superstructure - Sections              | 10/12/06 |
| 535(13) | Precast Superstructure - Sections              | 10/12/06 |
| 535(14) | Precast Superstructure - Stirrups              | 10/12/06 |
| 535(15) | Precast Superstructure - Plan                  | 10/12/06 |
| 535(16) | Precast Superstructure - Reinforcing           | 10/12/06 |
| 535(17) | Precast Superstructure - Notes                 | 10/12/06 |
| 801(01) | Drives on Sidewalk Sections                    | 2/06/07  |
| 801(02) | Drives on Non-Sidewalk Sections                | 2/06/07  |
| 535(03) | Precast Superstructure - Shear Key             | 12/5/07  |
| 535(04) | Precast Superstructure - Shear Key             | 12/5/07  |
| 535(05) | Precast Superstructure - Post Tensioning       | 12/5/07  |
| 535(17) | Precast Superstructure - Notes                 | 12/5/07  |
| 801(01) | Drives on Sidewalk Sections                    | 1/04/08  |
| 801(02) | Drives on Non-Sidewalk Sections                | 1/04/08  |
| 203(03) | Backslope Rounding                             | 1/29/08  |
| 535(02) | Precast Superstructure - Curb Key & Drip Notch | 5/20/08  |

|          |   |         |
|----------|---|---------|
| 535(05)  | Precast Superstructure - Post Tensioning          | 5/20/08 |
| 502(03)  | Concrete Curb - Bituminous Wearing Surface        | 2/2/09  |
| 502(03)A | Concrete Curb - Concrete Wearing Surface          | 2/2/09  |
| 502(07)  | Precast Concrete Deck Panels - Layout Plan        | 2/2/09  |
| 502(07)A | Precast Concrete Deck Panels - Layout Plan        | 2/2/09  |
| 502(08)  | Precast Concrete Deck Panels - Panel Plan         | 2/2/09  |
| 502(09)  | Precast Concrete Deck Panels - Blocking Detail    | 2/2/09  |
| 502(10)  | Precast Concrete Deck Panels                      | 2/2/09  |
| 502(11)  | Precast Concrete Deck Panels                      | 2/2/09  |
| 502(12)  | Precast Concrete Deck Panels - Notes              | 2/2/09  |
| 502(12)A | Precast Concrete Deck Panels - Notes              | 2/2/09  |
| 526(06)  | Permanent Concrete Barrier                        | 2/2/09  |
| 526(08)  | Permanent Concrete Barrier – Type IIIA            | 2/2/09  |
| 526(08)A | Permanent Concrete Barrier – Type IIIA            | 2/2/09  |
| 526(13)  | Permanent Concrete Barrier – Type IIIB            | 2/2/09  |
| 526(14)  | Permanent Concrete Barrier – Type IIIB            | 2/2/09  |
| 526(21)  | Concrete Transition Barrier                       | 2/2/09  |
| 526(39)  | Texas Classic Rail – Between Window               | 2/2/09  |
| 526(40)  | Texas Classic Rail – Through Window               | 2/2/09  |
| 526(41)  | Texas Classic Rail – Through Post                 | 2/2/09  |
| 526(42)  | Texas Classic Rail – Through Nose                 | 2/2/09  |
| 606(20)  | Guardrail - Type 3 - Single Rail - Bridge Mounted | 2/2/09  |
| 606(21)  | Guardrail - Type 3 - Single Rail - Bridge Mounted | 2/2/09  |
| 606(22)  | Guardrail - Type 3 - Single Rail - Bridge Mounted | 2/2/09  |

|          |   |         |
|----------|---|---------|
| 606(23)  | Guardrail - Type 3 - Single Rail - Bridge Mounted                                 | 2/2/09  |
| 609(06)  | Vertical Bridge Curb  | 2/2/09  |
| 609(08)  | Precast Concrete Transition Curb  | 2/2/09  |
| 502(12)  | Precast Concrete Desk Panels  | 9/09    |
| 504(22)  | Diaphragm & Crossframe Notes  | 9/09    |
| 626(09)  | Electrical Junction Box for Traffic Signals<br>and Lighting                       | 8/20/10 |
| 526(08)  | Permanent Concrete Barrier  | 12/7/10 |
| 526(08)A | Permanent Concrete Barrier  | 12/7/10 |
| 504(15)  | Diaphragms  | 5/19/11 |
| 507(09)  | Steel Bridge Railing  | 5/19/11 |
| 507(09)A | Steel Bridge Railing  | 5/19/11 |
| 610(02)  | Stone Scour Protection  | 5/19/11 |
| 610(03)  | Stone Scour Protection  | 5/19/11 |
| 610(04)  | Stone Scour Protection  | 5/19/11 |
| 640(05)  | Geotextile Placement for Protection of Slopes<br>Adjacent to Stream & Tidal Areas | 5/19/11 |

SUPPLEMENTAL SPECIFICATION  
(Corrections, Additions, & Revisions to Standard Specifications - Revision of December 2002)

SECTION 101  
CONTRACT INTERPRETATION

101.2 Definitions

Closeout Documentation Replace the sentence “A letter stating the amount..... DBE goals.” with “DBE Goal Attainment Verification Form”

Add “Environmental Information Hazardous waste assessments, dredge material test results, boring logs, geophysical studies, and other records and reports of the environmental conditions. For a related provision, see Section 104.3.14 - Interpretation and Interpolation.”

Add “Fabrication Engineer The Department’s representative responsible for Quality Assurance of pre-fabricated products that are produced off-site.”

Geotechnical Information Replace with the following: “Boring logs, soil reports, geotechnical design reports, ground penetrating radar evaluations, seismic refraction studies, and other records of subsurface conditions. For a related provision, see Section 104.3.14 - Interpretation and Interpolation.”

SECTION 102  
DELIVERY OF BIDS

102.7.1 Location and Time Add the following sentence “As a minimum, the Bidder will submit a Bid Package consisting of the Notice to Contractors, the completed Acknowledgement of Bid Amendments form, the completed Schedule of Items, 2 copies of the completed Agreement, Offer, & Award form, a Bid Bond or Bid Guarantee, and any other Certifications or Bid Requirements listed in the Bid Book.”

102.11.1 Non-curable Bid Defects Replace E. with “E. The unit price and bid amount is not provided or a lump sum price is not provided or is illegible as determined by the Department.”

SECTION 103  
AWARD AND CONTRACTING

103.3.1 Notice and Information Gathering Change the first paragraph to read as follows: “After Bid Opening and as a condition for Award of a Contract, the Department may require an Apparent Successful Bidder to demonstrate to the Department’s satisfaction that the Bidder is responsible and qualified to perform the Work.”

SECTION 104  
GENERAL RIGHTS AND RESPONSIBILITIES

104.3.14 Interpretation and Interpolation In the first sentence, change “...and Geotechnical Information.” to “...Environmental Information, and Geotechnical Information.”  
Delete the entire Section 104.5.9 and replace with the following:

## SECTION 105 GENERAL SCOPE OF WORK

Delete the entire Section 105.6 and replace with the following:

105.6.1 Department Provided Services The Department will provide the Contractor with the description and coordinates of vertical and horizontal control points, set by the Department, within the Project Limits, for full construction Projects and other Projects where survey control is necessary. For Projects of 1,500 feet in length, or less: The Department will provide three points. For Projects between 1,500 and 5,000 feet in length: The Department will provide one set of two points at each end of the Project. For Projects in excess of 5,000 feet in length, the Department will provide one set of two points at each end of the Project, plus one additional set of two points for each mile of Project length. For non-full construction Projects and other Projects where survey control is not necessary, the Department will not set any control points and, therefore, will not provide description and coordinates of any control points. Upon request of the Contractor, the Department will provide the Department's survey data management software and Survey Manual to the Contractor, or its survey Subcontractor, for the exclusive use on the Department's Projects.

105.6.2 Contractor Provided Services Utilizing the survey information and points provided by the Department, described in Subsection 105.6.1, Department Provided Services, the Contractor shall provide all additional survey layout necessary to complete the Work. This may include, but not be limited to, reestablishing all points provided by the Department, establishing additional control points, running axis lines, providing layout and maintenance of all other lines, grades, or points, and survey quality control to ensure conformance with the Contract. The Contractor is also responsible for providing construction centerline, or close reference points, for all Utility Facilities relocations and adjustments as necessary to complete the Work. When the Work is to connect with existing Structures, the Contractor shall verify all dimensions before proceeding with the Work. The Contractor shall employ or retain competent engineering and/or surveying personnel to fulfill these responsibilities.

The Contractor must notify the Department of any errors or inconsistencies regarding the data and layout provided by the Department as provided by Section 104.3.3 - Duty to Notify Department If Ambiguities Discovered.

105.6.2.1 Survey Quality Control The Contractor is responsible for all construction survey quality control. Construction survey quality control is generally defined as, first, performing initial field survey layout of the Work and, second, performing an independent check of the initial layout using independent survey data to assure the accuracy of the initial layout; additional iterations of checks may be required if significant discrepancies are discovered in this process. Construction survey layout quality control also requires written documentation of the layout process such that the process can be followed and repeated, if necessary, by an independent survey crew.

105.6.3 Survey Quality Assurance It is the Department's prerogative to perform construction survey quality assurance. Construction survey quality assurance may, or may not, be performed by the Department. Construction survey quality assurance is generally defined as an independent check of the construction survey quality control. The construction survey

quality assurance process may involve physically checking the Contractor's construction survey layout using independent survey data, or may simply involve reviewing the construction survey quality control written documentation. If the Department elects to physically check the Contractor's survey layout, the Contractor's designated surveyor may be required to be present. The Department will provide a minimum notice of 48 hours to the Contractor, whenever possible, if the Contractor's designated surveyor's presence is required. Any errors discovered through the quality assurance process shall be corrected by the Contractor, at no additional cost to the Department.

105.6.4 Boundary Markers The Contractor shall preserve and protect from damage all monuments or other points that mark the boundaries of the Right-of-Way or abutting parcels that are outside the area that must be disturbed to perform the Work. The Contractor indemnifies and holds harmless the Department from all claims to reestablish the former location of all such monuments or points including claims arising from 14 MRSA § 7554-A. For a related provision, see Section 104.3.11 - Responsibility for Property of Others.

## SECTION 106 QUALITY

106.4.3 Testing Change the first sentence in paragraph three from "...maintain records of all inspections and tests." to "...maintain original documentation of all inspections, tests, and calculations used to generate reports."

106.6 Acceptance Add the following to paragraph 1 of A: "This includes Sections 401 - Hot Mix Asphalt, 402 - Pavement Smoothness, and 502 - Structural Concrete - Method A - Air Content."

Add the following to the beginning of paragraph 3 of A: "For pay factors based on Quality Level Analysis, and"

106.7.1 Standard Deviation Method Add the following to F: "Note: In cases where the mean of the values is equal to either the USL or the LSL, then the PWL will be 50 regardless of the computed value of s."

Add the following to H: "Method C Hot Mix Asphalt:  $PF = [55 + (Quality\ Level * 0.5)] * 0.01$ "

## SECTION 107 TIME

107.3.1 General Add the following: "If a Holiday occurs on a Sunday, the following Monday shall be considered a Holiday. Sunday or Holiday work must be approved by the Department, except that the Contractor may work on Martin Luther King Day, President's Day, Patriot's Day, the Friday after Thanksgiving, and Columbus Day without the Department's approval."

107.7.2 Schedule of Liquidated Damages Replace the table of Liquidated Damages as follows:

| From | Up to and | Amount of Liquidated |
|------|-----------|----------------------|
|------|-----------|----------------------|

| <u>More Than</u> | <u>Including</u> | <u>Damages per Calendar Day</u> |
|------------------|------------------|---------------------------------|
| \$0              | \$100,000        | \$225                           |
| \$100,000        | \$250,000        | \$350                           |
| \$250,000        | \$500,000        | \$475                           |
| \$500,000        | \$1,000,000      | \$675                           |
| \$1,000,000      | \$2,000,000      | \$900                           |
| \$2,000,000      | \$4,000,000      | \$1,000                         |
| \$4,000,000      | and more         | \$2,100                         |

## SECTION 108 PAYMENT

Remove Section 108.4 and replace with the following:

“108.4 Payment for Materials Obtained and Stored Acting upon a request from the Contractor and accompanied by bills or receipted bills, the Department will pay for all or part of the value of acceptable, non-perishable Materials that are to be incorporated in the Work, including Materials that are to be incorporated into the Work, not delivered on the Work site, and stored at places acceptable to the Department. Examples of such Materials include steel piles, stone masonry, curbing, timber and lumber, metal Culverts, stone and sand, gravel, and other Materials. The Department will not make payment on living or perishable Materials until acceptably planted in their final locations.

If payment for Materials is made to the Contractor based on bills, only, then the Contractor must provide receipted bills to the Department for these Materials within 14 days of the date the Contractor receives payment for the Materials. Failure of the Contractor to provide receipted bills for these Materials within 14 days of the date the Contractor receives payment will result in the paid amount being withheld from the subsequent progress payment, or payments, until such time the receipted bills are received by the Department.

Materials paid for by the Department are the property of the Department, but the risk of loss shall remain with the Contractor. Payment for Materials does not constitute Acceptance of the Material. If Materials for which the Department has paid are later found to be unacceptable, then the Department may withhold amounts reflecting such unacceptable Materials from payments otherwise due the Contractor.

In the event of Default, the Department may use or cause to be used all paid-for Materials in any manner that is in the best interest of the Department.”

## SECTION 109 CHANGES

109.1.1 Changes Permitted Add the following to the end of the paragraph: “There will be no adjustment to Contract Time due to an increase or decrease in quantities, compared to those estimated, except as addressed through Contract Modification(s).”

109.1.2 Substantial Changes to Major Items Add the following to the end of the paragraph: “Contract Time adjustments may be made for substantial changes to Major Items when the change affects the Critical Path, as determined by the Department”

109.4.4 Investigation / Adjustment Third sentence, delete the words “subsections (A) - (E)”

109.5.1 Definitions - Types of Delays

B. Compensable Delay Replace (1) with the following; “a weather related Uncontrollable Event of such an unusually severe nature that a Federal Emergency Disaster is declared. The Contractor will only be entitled to an Equitable Adjustment if the Project falls within the geographic boundaries prescribed under the disaster declaration.”

109.7.2 Basis of Payment Replace with the following: “Adjustments will be established by mutual Agreement based upon Unit or Lump Sum Prices. These agreed Unit or Lump Sum prices will be full compensation and no additions or mark-ups are allowed. If Agreement cannot be reached, the Contractor shall accept payment on a Force Account basis as provided in Section 109.7.5 - Force Account Work, as full and complete compensation for all Work relating to the Equitable Adjustment.”

109.7.3 Compensable Items Delete this Section entirely.

109.7.4 Non-Compensable Items Replace with the following: “The Contractor is not entitled to compensation or reimbursement for any of the following items:

- A. Total profit or home office overhead in excess of 15%,
- B. ....”

109.7.5 Force Account Work

C. Equipment

Paragraph 2, delete sentence 1 which starts; “Equipment leased....”

Paragraph 6, change sentence 2 from “The Contractor may furnish...” to read “If requested by the Department, the Contractor will produce cost data to assist the Department in the establishment of such rental rate, including all records that are relevant to the Actual Costs including rental Receipts, acquisition costs, financing documents, lease Agreements, and maintenance and operational cost records.”

Add the following paragraph; “Equipment leased by the Contractor for Force Account Work and actually used on the Project will be paid for at the actual invoice amount plus 10% markup for administrative costs.”

Add the following section;

“F. Subcontractor Work When accomplishing Force Account Work that utilizes Subcontractors, the Contractor will be allowed a maximum markup of 5% for profit and overhead on the Subcontractor’s portion of the Force Account Work. If the Department does not accept the Subcontractor quote, then the Subcontractor work will be subject to the Force Account provisions with a 5% markup for profit & overhead..”

## SECTION 110 INDEMNIFICATION, BONDING, AND INSURANCE

Delete the entire Section 110.2.3 and replace with the following:

110.2.3 Bonding for Landscape Establishment Period The Contractor shall provide a signed, valid, and enforceable Performance, Warranty, or Maintenance Bond complying with the Contract, to the Department at Final Acceptance.

The bond shall be in the full amount for all Pay Items for work pursuant to Sec 621, Landscape, payable to the “Treasurer - State of Maine,” and on the Department’s forms, on exact copies thereof, or on forms that do not contain any significant variations from the Department’s forms as solely determined by the Department.

The Contractor shall pay all premiums and take all other actions necessary to keep said bond in effect for the duration of the Landscape Establishment Period described in Special Provision 621.0036 - Establishment Period. If the Surety becomes financially insolvent, ceases to be licensed or approved to do business in the State of Maine, or stops operating in the United States, the Contractor shall file new bonds complying with this Section within 10 Days of the date the Contractor is notified or becomes aware of such change.

All Bonds shall be procured from a company organized and operating in the United States, licensed or approved to do business in the State of Maine by the State of Maine Department of Business Regulation, Bureau of Insurance, and listed on the latest Federal Department of the Treasury listing for “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies.”

By issuing a bond, the Surety agrees to be bound by all terms of the Contract, including those related to payment, time for performance, quality, warranties, and the Department’s self-help remedy provided in Section 112.1 - Default to the same extent as if all terms of the Contract are contained in the bond(s).

Regarding claims related to any obligations covered by the bond, the Surety shall provide, within 60 Days of Receipt of written notice thereof, full payment of the entire claim or written notice of all bases upon which it is denying or contesting payment. Failure of the Surety to provide such notice within the 60-day period constitutes the Surety’s waiver of any right to deny or contest payment and the Surety’s acknowledgment that the claim is valid and undisputed.

## SECTION 202 REMOVING STRUCTURES AND OBSTRUCTIONS

202.02 Removing Buildings Make the following change to the last sentence in the final paragraph, change “...Code of Maine Regulations 401.” to “...Department of Environmental Protection Maine Solid Waste Management Rules, 06-096 CMR Ch. 401, Landfill Siting, Design and Operation.”

## SECTION 203 EXCAVATION AND EMBANKMENT

203.01 Description Under b. Rock Excavation; add the following sentence: “The use of perchlorate is not allowed in blasting operations.”

Delete the entire Section 203.041 and replace with the following:

“203.041 Salvage of Existing Hot Mix Asphalt Pavement All existing hot mix asphalt pavement designated to be removed under this contract must be salvaged for utilization. Existing hot mix asphalt pavement material shall not be deposited in any waste area or be placed below subgrade in any embankment.

Methods of utilization may be any of the following:

1. Used as a replacement for untreated aggregate surface course on entrances provided the material contains no particles greater than 50 mm [2 in] in any dimension. Payment will be made under Pay Item 411.09, Untreated Aggregate Surface Course or 411.10, Untreated Aggregate Surface Course, Truck Measure. Material shall be placed, shaped, compacted and stabilized as directed by the Resident.

2. Stockpiled at commercial or approved sites for commercial or MaineDOT use.

3. Other approved methods proposed by the Contractor, and approved by the Resident which will assure proper use of the existing hot mix asphalt pavement.

The cost of salvaging hot mix asphalt material will be included for payment under the applicable pay item, with no additional allowances made, which will be full compensation for removing, temporarily stockpiling, and rehandling, if necessary, and utilizing the material in entrances or other approved uses, or stockpiling at an approved site as described above. The material will also be measured and paid for under the applicable Pay Item if it is reused for aggregate in entrances, or other approved uses.”

## SECTION 502 STRUCTURAL CONCRETE

502.05 Composition and Proportioning; TABLE #1; NOTE #2; third sentence; Change “...alcohol based saline sealer...” to “alcohol based silane sealer...”. Add NOTE #6 to Class S Concrete.

502.0502 Quality Assurance Method A - Rejection by Resident Change the first sentence to read: “For an individual subplot with test results failing to meet the criteria in Table #1, or if the calculated pay factor for Air Content is less than 0.80.....”

502.0503 Quality Assurance Method B - Rejection by Resident Change the first sentence to read: “For material represented by a verification test with test results failing to meet the criteria in Table #1, the Department will.....”

502.0505 Resolution of Disputed Acceptance Test Results Combine the second and third sentence to read: “Circumstances may arise, however, where the Department may .....

502.10 Forms and False work

D. Removal of Forms and False work 1., First paragraph; first, second, and third sentence; replace “forms” with “forms and false work”

502.11 Placing Concrete

G. Concrete Wearing Surface and Structural Slabs on Precast Superstructures Last paragraph; third sentence; replace “The temperature of the concrete shall not exceed 24° C [75° F] at the time of placement.” with “The temperature of the concrete shall not exceed 24° C [75° F] at the time the concrete is placed in its final position.”

502.15 Curing Concrete First paragraph; replace the first sentence with the following; “All concrete surfaces shall be kept wet with clean, fresh water for a curing period of at least 7 days after concrete placing, with the exception of vertical surfaces as provided for in Section 502.10 (D) - Removal of Forms and False work.”

Second paragraph; delete the first two sentences.

Third paragraph; delete the entire paragraph which starts “When the ambient temperature....”

Fourth paragraph; delete “approved” to now read “...continuously wet for the entire curing period...”

Fifth paragraph; second sentence; change “...as soon as it is possible to do so without damaging the concrete surface.” to “...as soon as possible.”

Seventh paragraph; first sentence; change “...until the end of the curing period.” to “...until the end of the curing period, except as provided for in Section 502.10(D) - Removal of Forms and False work.”

502.19 Basis of Payment First paragraph, second sentence; add "pier nose armor" to the list of items included in the contract price for concrete.

## SECTION 503 REINFORCING STEEL

503.06 Placing and Fastening Change the second paragraph, first sentence from: “All tack welding shall be done in accordance with Section 504, Structural Steel.” to “All tack welding shall be done in accordance with AWS D1.4 Structural Welding Code - Reinforcing Steel.”

## SECTION 504 STRUCTURAL STEEL

504.09 Facilities for Inspection Add the follow as the last paragraph: “Failure to comply with the above requirements will be consider to be a denial to allow access to work by the Contractor. The Department will reject any work done when access for inspection is denied.”

504.18 Plates for Fabricated Members Change the second paragraph, first sentence from: "...ASTM A 898/A 898 M..." to "...ASTM A 898/A 898 M or ASTM A 435/A 435 M as applicable and..."

504.31 Shop Assembly Add the following as the last sentence: "The minimum assembly length shall include bearing centerlines of at least two substructure units."

504.64 Non Destructive Testing-Ancillary Bridge Products and Support Structures Change the third paragraph, first sentence from "One hundred percent..." to "Twenty five percent..."

## SECTION 535 PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

535.02 Materials Change "Steel Strand for Concrete Reinforcement" to "Steel Strand." Add the following to the beginning of the third paragraph; "Concrete shall be Class P conforming to the requirements in this section. 28 day compressive strength shall be as stated on the plans. Coarse aggregate...."

535.05 Inspection Facilities Add the follow as the last paragraph: "If the above requirements are not met, the Contractor shall be considered to be in violation of Standard Specification 104.2.5 – Right to Inspect Work. All work occurring during a violation of this specification will be rejected."

535.26 Lateral Post-Tensioning Replace the first paragraph; "A final tension..." with "Overstressing strands for setting losses cannot be accomplished for chuck to chuck lengths of 7.6 m [25 ft] and less. In such instances, refer to the Plans for all materials and methods. Otherwise, post-tensioning shall be in accordance with PCI standards and shall provide the anchorage force noted in the Plans. The applied jacking force shall be no less than 100% of the design jacking force."

## SECTION 603 PIPE CULVERTS AND STORM DRAINS

603.0311 Corrugated Polyethylene Pipe for Option III Replace the Minimum Mandrel Diameter Table with the following:

| Nominal Size<br>US Customary (in) | Minimum Mandrel<br>Diameter (in) | Nominal Size<br>Metric (mm) | Minimum Mandrel<br>Diameter (mm) |
|-----------------------------------|----------------------------------|-----------------------------|----------------------------------|
| 12                                | 11.23                            | 300                         | 280.73                           |
| 15                                | 14.04                            | 375                         | 350.91                           |
| 18                                | 16.84                            | 450                         | 421.09                           |
| 24                                | 22.46                            | 600                         | 561.45                           |
| 30                                | 28.07                            | 750                         | 701.81                           |
| 36                                | 33.69                            | 900                         | 842.18                           |
| 42                                | 39.30                            | 1050                        | 982.54                           |
| 48                                | 44.92                            | 1200                        | 1122.90                          |

SECTION 604  
MANHOLES, INLETS, AND CATCH BASINS

604.02 Materials Add the following:

|                               |         |
|-------------------------------|---------|
| “Tops and Traps               | 712.07  |
| Corrugated Metal Units        | 712.08  |
| Catch Basin and Manhole Steps | 712.09” |

SECTION 605  
UNDERDRAINS

605.05 Underdrain Outlets Make the following change:

In the first paragraph, second sentence, delete the words “metal pipe”.

SECTION 606  
GUARDRAIL

606.02 Materials Delete the entire paragraph which reads “The sole patented supplier of multiple mailbox...” and replace with “Acceptable multiple mailbox assemblies shall be listed on the Department’s Approved Products List and shall be NCHRP 350 tested and approved.” Delete the entire paragraph which reads “Retroreflective beam guardrail delineators...” and replace with “Reflectorized sheeting for Guardrail Delineators shall meet the requirements of Section 719.01 - Reflective Sheeting. Delineators shall be fabricated from high-impact, ultraviolet and weather resistant thermoplastic.

606.09 Basis of Payment First paragraph; delete the second and third sentence in their entirety and replace with “Butterfly-type guardrail reflectorized delineators shall be mounted on all W-beam guardrail at an interval of every 10 posts [62.5 ft] on tangents sections and every 5 posts [31.25 ft] on curved sections as directed by the Resident. On divided highways, the delineators shall be yellow on the left hand side and silver/white on the right hand side. On two-way roadways, the delineators shall be silver/white on the right hand side. All delineators shall have retroreflective sheeting applied to only the traffic facing side. Reflectorized guardrail delineators will not be paid for directly, but will be considered incidental to the guardrail items.”

SECTION 609  
CURB

609.04 Bituminous Curb f., Delete the requirement “Color Natural (White)”

SECTION 610  
STONE FILL, RIPRAP, STONE BLANKET,  
AND STONE DITCH PROTECTION

Add the following paragraph to Section 610.02:

“Materials shall meet the requirements of the following Sections of Special Provision 703:

|                            |         |
|----------------------------|---------|
| Stone Fill                 | 703.25  |
| Plain and Hand Laid Riprap | 703.26  |
| Stone Blanket              | 703.27  |
| Heavy Riprap               | 703.28  |
| Definitions                | 703.32” |

Add the following paragraph to Section 610.032.a.

“Stone fill and stone blanket shall be placed on the slope in a well-knit, compact and uniform layer. The surface stones shall be chinked with smaller stone from the same source.”

Add the following paragraph to Section 610.032.b:

“Riprap shall be placed on the slope in a well-knit, compact and uniform layer. The surface stones shall be chinked with smaller stone from the same source.”

Add the following to Section 610.032: “Section 610.032.d. The grading of riprap, stone fill, stone blanket and stone ditch protection shall be determined by the Resident by visual inspection of the load before it is dumped into place, or, if ordered by the Resident, by dumping individual loads on a flat surface and sorting and measuring the individual rocks contained in the load. A separate, reference pile of stone with the required gradation will be placed by the Contractor at a convenient location where the Resident can see and judge by eye the suitability of the rock being placed during the duration of the project. The Resident reserves the right to reject stone at the job site or stockpile, and in place. Stone rejected at the job site or in place shall be removed from the site at no additional cost to the Department.”

SECTION 615  
LOAM

615.02 Materials Make the following change:

|                        |  |
|------------------------|--|
| <u>Organic Content</u> | <u>Percent by Volume</u>                   |
| Humus                  | “5% - 10%”, as determined by Ignition Test |

SECTION 618  
SEEDING

618.01 Description Change the first sentence to read as follows: “This work shall consist of furnishing and applying seed .....” Also remove “,and cellulose fiber mulch” from 618.01(a).

618.03 Rates of Application In 618.03(a), remove the last sentence and replace with the following: “These rates shall apply to Seeding Method 2, 3, and Crown Vetch.”

In 618.03(c) “1.8 kg [4 lb]/unit.” to “1.95 kg [4 lb]/unit.”

618.09 Construction Method In 618.09(a) 1, sentence two, replace “100 mm [4 in]” with “25 mm [1 in] (Method 1 areas) and 50 mm [2 in] (Method 2 areas)”

618.15 Temporary Seeding Change the Pay Unit from Unit to Kg [lb].

## SECTION 620 GEOTEXTILES

620.03 Placement Section (c)

Title: Replace “Non-woven” in title with “Erosion Control”.

First Paragraph: Replace first word “Non-woven” with “Woven monofilament”.

Second Paragraph: Replace second word “Non-woven” with “Erosion Control”.

620.07 Shipment, Storage, Protection and Repair of Fabric Section (a)

Replace the second sentence with the following: “Damaged geotextiles, as identified by the Resident, shall be repaired immediately.”

620.09 Basis of Payment

Pay Item 620.58: Replace “Non-woven” with “Erosion Control”

Pay Item 620.59: Replace “Non-woven” with “Erosion Control”

## SECTION 621 LANDSCAPING

621.0036 Establishment Period In paragraph 4 and 5, change “time of Final Acceptance” to “end of the period of establishment”. In Paragraph 7, change “Final Acceptance date” to “end of the period of establishment” and change “date of Final Acceptance” to “end of the period of establishment”.

## SECTION 626 HIGHWAY SIGNING

626.034 Concrete Foundations Add to the following to the end of the second paragraph: “Pre-cast and cast-in-place foundations shall be warranted against leaning and corrosion for two years after the project is completed. If the lean is greater than 2 degrees from normal or the foundation is spalling within the first two years, the Contractor shall replace the foundation at no extra cost.”

## SECTION 627 PAVEMENT MARKINGS

627.10 Basis of Payment Add to the following to the end of the third paragraph: “If allowed by Special Provision, the Contractor may utilize Temporary Bi-Directional Yellow and White(As required) Delineators as temporary pavement marking lines and paid for at the contract lump sum price. Such payment will include as many applications as required and removal.”

## SECTION 637 DUST CONTROL

637.06 Basis of Payment Add the following after the second sentence of the third paragraph: “Failure by the Contractor to follow Standard Specification or Special Provision - Section 637 and/or the Contractor’s own Soil Erosion and Pollution Control Plan concerning Dust Control and/or the Contractor’s own Traffic Control Plan concerning Dust Control and/or visible evidence of excessive dust problems, as determined by the Resident, will result in a reduction in payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department’s Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item. Additional penalties may also be assessed in accordance with Special Provision 652 - Work Zone Traffic Control and Standard Specification 656 - Temporary Soil Erosion and Water Pollution Control.”

## SECTION 639 ENGINEERING FACILITIES

639.04 Field Offices Change the forth to last paragraph from: “The Contractor shall provide a fully functional desktop copier...” to “....desktop copier/scanner...”

Description Change “Floor Area” to “Floor Area (Outside Dimension)”. Change Type B floor area from “15 (160)” to “20 (217)”.

639.09 Telephone Paragraph 1 is amended as follows:

“The contractor shall provide **two** telephone lines and two telephones,....”

Add- “In addition the contractor will supply one computer broadband connection, modem lease and router. The router shall have wireless access and be 802.11n or 802.11g capable and wireless. The type of connection supplied will be contingent upon the availability of services (i.e. DSL or Cable Broadband). It shall be the contractor’s option to provide dynamic or static IP addresses through the service. **The selected service will have a minimum downstream connection of 1.5 Mbps and 384 Kbps upstream.** The contractor shall be responsible for the installation charges and all reinstallation charges following suspended periods. Monthly service and maintenance charges shall be billed by the Internet Service Provider (ISP) directly to the contractor.”

## SECTION 652 MAINTENANCE OF TRAFFIC

652.2.3 Flashing Arrow Board Delete the existing 5 paragraphs and replace with the following: Flashing Arrow Panels (FAP) must be of a type that has been submitted to AASHTO’s National Transportation Product Evaluation Program (NTPEP) for evaluation and placed on the Maine Department of Transportations’ Approved Products List of Portable Changeable Message Signs & Flashing Arrow Panels.

FAP units shall meet requirements of the current Manual on Uniform Traffic Control Devices

(MUTCD) for Type “C” panels as described in Section 6F.56 - Temporary Traffic Control Devices. An FAP shall have matrix of a minimum of 15 low-glare, sealed beam, Par 46 elements capable of either flashing or sequential displays as well as the various operating modes as described in the MUTCD, Chapter 6-F. If an FAP consisting of a bulb matrix is used, each element should be recess-mounted or equipped with an upper hood of not less than 180 degrees. The color presented by the elements shall be yellow.

FAP elements shall be capable of at least a 50 percent dimming from full brilliance. Full brilliance should be used for daytime operation and the dimmed mode shall be used for nighttime operation. FAP shall be at least 2.4 M x 1.2 M [96” x 48”] and finished in non-reflective black. The FAP shall be interpretable for a distance not less than 1.6 km [1 mile].

Operating modes shall include, flashing arrow, sequential arrow, sequential chevron, flashing double arrow, and flashing caution. In the three arrow signals, the second light from the arrow point shall not operate.

The minimum element on-time shall be 50 percent for the flashing mode, with equal intervals of 25 percent for each sequential phase. The flashing rate shall be not less than 25 nor more than 40 flashes per minute. All on-board circuitry shall be solid state.

Primary power source shall be 12 volt solar with a battery back-up to provide continuous operation when failure of the primary power source occurs, up to 30 days with fully charged batteries. Batteries must be capable of being charged from an onboard 110 volt AC power source and the unit shall be equipped with a cable for this purpose.

Controller and battery compartments shall be enclosed in lockable, weather-tight boxes. The FAP shall be mounted on a pneumatic-tired trailer or other suitable support for hauling to various locations, as directed. The minimum mounting height of an arrow panel should be 2.1 M [7 feet] from the roadway to the bottom of the panel.

The face of the trailer shall be delineated on a permanent basis by affixing retro-reflective material, known as conspicuity material, in a continuous line as seen by oncoming drivers.

A portable changeable message sign may be used to simulate an arrow panel display.”

652.2.4 Other Devices Delete the last paragraph and add the following:

“652.2.5 Portable Changeable Message Sign Trailer mounted Portable Changeable Message Signs (PCMS) must be of a type that has been submitted to AASHTO’s National Transportation Product Evaluation Program (NTPEP) for evaluation and placed on the Maine Department of Transportations’ Approved Products List of Portable Changeable Message Signs & Flashing Arrow Panels. The PCMS unit shall meet or exceed the current specifications of the Manual on Uniform Traffic Control Devices (MUTCD), 6F.55.

The front face of the sign should be covered with a low-glare protective material. The color of the LED elements shall be amber on a black background. The PCMS should be visible from a distance of 0.8 km [0.5 mile] day and night and have a minimum 15° viewing angle. Characters must be legible from a distance of at least 200 M [650 feet].

The message panel should have adjustable display rates (minimum of 3 seconds per phase), so that the entire message can be read at least twice at the posted speed, the off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed. Each message shall consist of either one or two phases. A phase shall consist of up to eight characters per line. The unit must be capable of displaying at least three lines of text with eight characters per line. Each character shall be 457 mm [18"] high. Each character module shall use at least a five wide and seven high pixel matrix. The text of the messages shall not scroll or travel horizontally or vertically across the face of the sign.

Units shall automatically adjust their brightness under varying light conditions to maintain legibility.

The control system shall include a display screen upon which messages can be reviewed before being displayed on the message sign. The control system shall be capable of maintaining memory when power is unavailable. Message must be changeable with either a notebook computer or an on-board keypad. The controller shall have the capability to store a minimum of 200 user-defined and 200 pre-programmed messages. Controller and battery compartments shall be enclosed in lockable, weather-tight boxes.

PCMS units shall have the capability of being made programmable by means of wireless communications. PCMS units shall also be fully capable of having an on-board radar system installed if required for a particular application.

PCMS' primary power source shall be solar with a battery back-up to provide continuous operation when failure of the primary power source occurs. Batteries must be capable of being charged from a 110 volt AC power source. The unit must also be capable of being operated solely from a 110 volt AC power source and be equipped with a cable for this purpose.

The PCMS shall be mounted on a trailer in such a way that the bottom of the message sign panel shall be a minimum of 2.1 M [7 ft] above the roadway in urban areas and 1.5 M [5 ft] above the roadway in rural areas when it is in the operating mode. PCMS trailers should be of a heavy duty type with a 51 mm [2"] ball hitch and a minimum of four leveling jacks (at each corner). The sign shall be capable of being rotated 360° relative to the trailer. The face of the trailer shall be delineated on a permanent basis by affixing retro-reflective material, known as conspicuity material, in a continuous line as seen by oncoming drivers."

652.3.3 Submittal of Traffic Control Plan In item e. change "A list of all certified flaggers..." to "A list of all the Contractor's certified flaggers..."

Add the follow to the list of requirements: "k. The plan for unexpected nighttime work along with a list of emergency nighttime equipment available on-site."

In the last paragraph add the following as the second sentence: "The Department will review and provide comments to the Contractor within 14 days of receipt of the TCP." Add the following as the last sentence: "The creation and modification of the TCP will be considered incidental to the related 652 items."

652.3.5 Installation of Traffic Control Devices In the first paragraph, first sentence; change "Signs shall be erected..." to "Portable signs shall be erected.." In the third sentence; change

“Signs must be erected so that the sign face...” to “Post-mounted signs must also be erected so that the sign face...”

652.4 Flaggers Replace the first paragraph with the following; “The Contractor shall furnish flaggers as required by the TCP or as otherwise specified by the Resident. All flaggers must have successfully completed a flagger test approved by the Department and administered by a Department-approved Flagger-Certifier who is employing that flagger. All flaggers must carry an official certification card with them while flagging that has been issued by their employer. Flaggers shall wear safety apparel meeting ANSI 107-2004 Class 2 risk exposure that clearly identifies the wearer as a person, and is visible at a minimum distance of 300 m [1000 ft], and shall wear a hardhat with 360° retro-reflectivity. For nighttime conditions, Class 3 apparel, meeting ANSI 107-2004, shall be worn along with a hardhat with 360° retro-reflectivity. Retro-reflective or flashing SLOW/STOP paddles shall be used, and the flagger station shall be illuminated to assure visibility in accordance with 652.6.2.”

Second paragraph, first sentence; change “...have sufficient distance to stop before entering the workspace.” to “...have sufficient distance to stop at the intended stopping point.” Third sentence; change “At a spot obstruction...” to “At a spot obstruction with adequate sight distance...”

Fourth paragraph, delete and replace with “Flaggers shall be provided as a minimum, a 10 minute break, every 2 hours and a 30 minute or longer lunch period away from the work station. Flaggers may only receive 1 unpaid break per day; all other breaks must be paid. Sufficient certified flaggers shall be available onsite to provide for continuous flagging operations during break periods. Breaker flaggers will not be paid for separately, but shall be considered incidental to the appropriate pay item.”

Add the following:

“652.5.1 Rumble Strip Crossing When lane shifts or lane closures require traffic to cross a permanent longitudinal rumble strip for 7 calendar days or less, the Contractor shall install warning signs that read “RUMBLE STRIP CROSSING” with a supplemental Motorcycle Plaque, (W8-15P).

When lane shifts or lane closures require traffic to cross a permanent longitudinal rumble strip for more than 7 calendar days, the Contractor shall pave in the rumble strips in the area that traffic will cross, unless otherwise directed by the Resident. Rumble strips shall be replaced prior to the end of the project, when it is no longer necessary to cross them.”

652.6 Nightwork Delete this section entirely and replace with the following:

“652.6.1 Daylight Work Times Unless otherwise described in the Contract, the Contractor is allowed to commence work and end work daily according to the Sunrise/Sunset Table at: <http://www.sunrisesunset.com/usa/Maine.asp> . If the Project town is not listed, the closest town on the list will be used as agreed at the Preconstruction Meeting. Any work conducted before sunrise or after sunset will be considered Night Work.

652.6.2 Night Work When Night Work occurs (either scheduled or unscheduled), the Contractor shall provide and maintain lighting on all equipment and at all work stations.

The lighting facilities shall be capable of providing light of sufficient intensity to permit good workmanship, safety and proper inspection at all times. The lighting shall be cut off and arranged on stanchions at a height that will provide perimeter lighting for each piece of equipment and will not interfere with traffic, including commercial vehicles, approaching the work site from either direction.

The Contractor shall have available portable floodlights for special areas.

The Contractor shall utilize padding, shielding or other insulation of mechanical and electrical equipment, if necessary, to minimize noise, and shall provide sufficient fuel, spare lamps, generators, etc. to maintain lighting of the work site.

The Contractor shall submit, as a subset of the Traffic Control Plan, a lighting plan at the Preconstruction Conference, showing the type and location of lights to be used for night work. The Resident may require modifications be made to the lighting set up in actual field conditions.

Prior to beginning any Night Work, the Contractor shall furnish a light meter for the Residents use that is capable of measuring the range of light levels from 5 to 20 foot-candles.

Horizontal illumination, for activities on the ground, shall be measured with the photometer parallel to the road surface. For purposes of roadway lighting, the photometer is placed on the pavement. Vertical illumination, for overhead activities, shall be measured with the photometer perpendicular to the road surface. Measurements shall be taken at the height and location of the overhead activity.

Night Work lighting requirements:

Mobile Operations: For mobile-type operations, each piece of equipment (paver, roller, milling machine, etc) will carry indirect (i.e. balloon type) lights capable of producing at least 10 foot-candles of lighting around the work area of the equipment.

Fixed Operations: For fixed-type operations (flaggers, curb, bridge, pipes, etc.), direct (i.e. tower) lighting will be utilized capable of illuminating the work area with at least 10 foot-candles of light.

Hybrid Operations: For hybrid-type operations (guardrail, sweeping, Inslope excavation, etc.), either direct or indirect lighting may be utilized. The chosen lights must be capable of producing at least 10 foot-candles of light around the work area of the equipment

Inspection Operations: Areas required to be inspected by the Department will require a minimum of 5 foot-candles of lighting. This may be accomplished through direct or indirect means.

All workers shall wear safety apparel labeled as meeting the ANSI 107-2004 standard performance for Class 3 risk exposure.

The Contractor shall apply 2- inch wide retro-reflective tape, with alternating red and white segments, to outline the front back and sides of construction vehicles and equipment, to define

their shape and size to the extent practicable. Pickup trucks and personal vehicles are exempt from this requirement. The Contractor shall furnish approved signs reading "Construction Vehicle - Keep Back" to be used on trucks hauling to the project when such signs are deemed necessary by the Resident. The signs shall be a minimum of 30 inches by 60 inches, Black and Orange, ASTM D 4956 - Type VII, Type VIII, or Type IX (prismatic).

All vehicles used on the project, including pickup trucks and personal vehicles, shall be equipped with amber flashing lights, visible from both front and rear, or by means of single, approved type, revolving, flashing or strobe lights mounted so as to be visible 360°. The vehicle flashing system shall be in continuous operation while the vehicle is on any part of the project.

The Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item. Failure to follow the approved Lighting Plan will result in a Traffic Control violation.

Payment for lighting, vehicle mounted signs and other costs accrued because of night work will not be made directly but will be considered incidental to the related contract items."

652.8.2 Other Items Replace the last paragraph with the following: "There will be no payment made under any 652 pay items after the expiration of the adjusted total contract time."

## SECTION 653 POLYSTYRENE PLASTIC INSULATION

653.05 Placing Backfill In the second sentence; change "...shall be not less than 150 mm [6 in] loose measure." to "...shall be not less than 250 mm [10 in] loose measure." In the third sentence; change "...crawler type bulldozer of not more than 390 kg/m<sup>2</sup> [80 lb/ft<sup>2</sup>] ground contact pressure..." to "...crawler type bulldozer of not more than 4875 kg/m<sup>2</sup> [2000 lb/ft<sup>2</sup>] ground contact pressure..."

653.06 Compaction In the last sentence; change "...not more than 390 kg/m<sup>2</sup> [80 lb/ft<sup>2</sup>] ground contact..." to "...not more than 4875 kg/m<sup>2</sup> [2000 lb/ft<sup>2</sup>] ground contact..."

## SECTION 656 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

656.5.1 If Pay Item 656.75 Provided Replace the second paragraph with the following: "Failure by the Contractor to follow Standard Specification or Special Provision - Section 656

and/or the Contractor's own Soil Erosion and Pollution Control Plan will result in a reduction in payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department's Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item."

SECTION 701  
STRUCTURAL CONCRETE RELATED MATERIALS

701.10 Fly Ash - Chemical Requirements Change all references from "ASTM C311" to "ASTM C114".

SECTION 703  
AGGREGATES

703.05 Aggregate for Sand Leveling Change the percent passing the 9.5 mm [3/8 in] sieve from "85 - 10" to "85 - 100"

703.06 Aggregate for Base and Subbase Delete the first paragraph: "The material shall have..." and replace with "The material shall have a minimum degradation value of 15 as determined by Washington State DOT Test Method T113, Method of Test for Determination of Degradation Value (January 2009 version), except that the reported degradation value will be the result of testing a single specimen from that portion of a sample that passes the 12.5 mm [1/2 in] sieve and is retained on the 2.00 mm [No. 10] sieve, minus any reclaimed asphalt pavement used."

703.07 Aggregates for HMA Pavements Delete the forth paragraph: "The composite blend shall have..." and replace with "The composite blend, minus any reclaimed asphalt pavement used, shall have a Micro-Deval value of 18.0 or less as determined by AASHTO T 327. In the event the material exceeds the Micro Deval limit, a Washington Degradation test shall be performed. The material shall be acceptable if it has a value of 30 or more as determined by Washington State DOT Test Method T 113, Method of Test for Determination of Degradation Value (January 2009 version) except that the reported degradation value will be the result of testing a single composite specimen from that portion of the sample that passes the 12.5mm [1/2 inch] sieve and is retained on the 2.00mm [No 10] sieve, minus any reclaimed asphalt pavement used."

703.09 HMA Mixture Composition The coarse and fine aggregate shall meet the requirements of Section 703.07. The several aggregate fractions for mixtures shall be sized, graded, and combined in such proportions that the resulting composite blends will meet the grading requirements of the following table.

**AGGREGATE GRADATION CONTROL POINTS**

| SIEVE<br>SIZE | Nominal Maximum Aggregate Size---Control Points (Percent Passing) |               |                 |                |                 |
|---------------|---|---------------|-----------------|----------------|-----------------|
|               | TYPE 25<br>mm   | TYPE 19<br>mm | TYPE 12.5<br>mm | TYPE 9.5<br>mm | TYPE 4.75<br>mm |
|               | PERCENT BY WEIGHT PASSING - COMBINED AGGREGATE                    |               |                 |                |                 |
| 37.5 mm       | 100   |               |                 |                |                 |
| 25 mm         | 90-100  | 100           |                 |                |                 |
| 19 mm         | -90   | 90-100        | 100             |                |                 |
| 12.5 mm       |   | -90           | 90-100          | 100            | 100             |
| 9.5 mm        |   | -             | -90             | 90-100         | 95-100          |
| 4.75 mm       |   | -             | -               | -90            | 80-100          |
| 2.36 mm       | 19-45   | 23-49         | 28-58           | 32-67          | 40 - 80         |
| 1.18 mm       |   | -             | -               | -              | -               |
| 600 µm        |   | -             | -               | -              | -               |
| 300 µm        |   | -             | -               | -              | -               |
| 75 µm         | 1-7   | 2-8           | 2-10            | 2-10           | 2-10            |

Gradation Classification---- The combined aggregate gradation shall be classified as coarse-graded when it passes below the Primary Control Sieve (PCS) control point as defined in the following table. All other gradations shall be classified as fine-graded.

**GRADATION CLASSIFICATION**

| PCS Control Point for Mixture Nominal Maximum Aggregate Size<br>(% passing) |               |               |                 |                |
|---|---------------|---------------|-----------------|----------------|
| Nominal Maximum Aggregate<br>Size   | TYPE 25<br>mm | TYPE 19<br>mm | TYPE 12.5<br>mm | TYPE 9.5<br>mm |
| Primary Control Sieve   | 4.75 mm       | 4.75 mm       | 2.36 mm         | 2.36 mm        |
| PCS Control Point (% passing)   | 40            | 47            | 39              | 47             |

If a Grading “D” mixture is allowed per Special Provision Section 403, it shall meet the following gradation and the aggregate requirements of Section 703.07.

| Sieve<br>Designation | Percentage by Weight<br>Passing Square Mesh Sieves |
|----------------------|--|
| ½ inch               | 100  |
| ¾ inch               | 93-100   |
| No. 4                | 60-80  |
| No. 8                | 46-65  |
| No. 16               | 25-55  |
| No. 30               | 16-40  |
| No. 50               | 10-30  |
| No. 100              | 6-22   |
| No. 200              | 3.0-8.0  |

703.18 Common Borrow Replace the first paragraph with the following: “Common borrow shall consist of earth, suitable for embankment construction. It shall be free from frozen material, perishable rubbish, peat, and other unsuitable material including material currently or

previously contaminated by chemical, radiological, or biological agents unless the material is from a DOT project and authorized by DEP for use.”

703.22 Underdrain Backfill Material Change the first paragraph from “...for Underdrain Type B...” to “...for Underdrain Type B and C...”

Replace subsections 703.25 through 703.28 with the following:

“703.25 Stone Fill Stones for stone fill shall consist of hard, sound, durable rock that will not disintegrate by exposure to water or weather. Stone for stone fill shall be angular and rough. Rounded, subrounded, or long thin stones will not be allowed. Stone for stone fill may be obtained from quarries or by screening oversized rock from earth borrow pits. The maximum allowable length to thickness ratio will be 3:1. The minimum stone size (10 lbs) shall have an average dimension of 5 inches. The maximum stone size (500 lbs) shall have a maximum dimension of approximately 36 inches. Larger stones may be used if approved by the Resident. Fifty percent of the stones by volume shall have an average dimension of 12 inches (200 lbs).

703.26 Plain and Hand Laid Riprap Stone for riprap shall consist of hard, sound durable rock that will not disintegrate by exposure to water or weather. Stone for riprap shall be angular and rough. Rounded, subrounded or long thin stones will not be allowed. The maximum allowable length to width ratio will be 3:1. Stone for riprap may be obtained from quarries or by screening oversized rock from earth borrow pits. The minimum stone size (10 lbs) shall have an average dimension of 5 inches. The maximum stone size (200 lbs) shall have an average dimension of approximately 12 inches. Larger stones may be used if approved by the Resident. Fifty percent of the stones by volume shall have an average dimension greater than 9 inches (50 lbs).

703.27 Stone Blanket Stones for stone blanket shall consist of sound durable rock that will not disintegrate by exposure to water or weather. Stone for stone blanket shall be angular and rough. Rounded or subrounded stones will not be allowed. Stones may be obtained from quarries or by screening oversized rock from earth borrow pits. The minimum stone size (300 lbs) shall have minimum dimension of 14 inches, and the maximum stone size (3000 lbs) shall have a maximum dimension of approximately 66 inches. Fifty percent of the stones by volume shall have average dimension greater than 24 inches (1000 lbs).

703.28 Heavy Riprap Stone for heavy riprap shall consist of hard, sound, durable rock that will not disintegrate by exposure to water or weather. Stone for heavy riprap shall be angular and rough. Rounded, subrounded, or thin, flat stones will not be allowed. The maximum allowable length to width ratio will be 3:1. Stone for heavy riprap may be obtained from quarries or by screening oversized rock from earth borrow pits. The minimum stone size (500 lbs) shall have minimum dimension of 15 inches, and at least fifty percent of the stones by volume shall have an average dimension greater than 24 inches (1000 lbs).”

Add the following paragraph:

“703.32 Definitions (ASTM D 2488, Table 1).

Angular: Particles have sharp edges and relatively plane sides with unpolished surfaces

Subrounded: Particles have nearly plane sides but have well-rounded corners and edges

Rounded: Particles have smoothly curved sides and no edges”

SECTION 706  
NON-METALLIC PIPE

706.06 Corrugated Polyethylene Pipe for Underdrain, Option I and Option III Culvert Pipe Change the first sentence from "...300 mm diameters to 900 mm" to "...300 mm diameters to 1200 mm" Delete, in it's entirety, the last sentence which begins "This pipe and resins..." and replace with the following; "Manufacturers of corrugated polyethylene pipe must participate in, and maintain compliance with, AASHTO's National Transportation Product Evaluation Program (www.ntpep.org) which audits producers of plastic pipe. A certificate of compliance must be provided with each shipment."

SECTION 709  
REINFORCING STEEL AND WELDED STEEL WIRE FABIC

709.03 Steel Strand Change the second paragraph from "...shall be 12mm [½ inch] AASHTO M203M/M203 (ASTM A416/A416M)..." to "...shall be 15.24 mm [0.600 inch] diameter AASHTO M203 (ASTM A416)..."

SECTION 710  
FENCE AND GUARDRAIL

710.03 Chain Link Fabric Add the following sentence: "Chain Link fabric for PVC coated shall conform to the requirements of AASHTO M181, Type IV-Class B."

710.04 Metal Beam Rail Replace with the following: "Galvanized steel rail elements shall conform to the requirements of AASHTO M 180, Class A, Type II.

When corrosion resistant steel is specified, rail shall conform to AASHTO M 180, Class A, Type IV. Beams of corrosion resistant steel shall not be painted or galvanized. They shall be so handled and stored that the traffic face of these beams, used in a continuous run of guardrail, shall not show a distinctive color differential.

When metal beam rail is to be installed on a curve having a radius of curvature of 150 ft. or less, the beam sections shall be fabricated on an arc to the required radius and permanently stamped or embossed with the designated radius.

The engineer may take one piece of guardrail, a backup plate, and end or buffer section from each 200 pieces in a lot, or from each lot if less than 200 pieces are included therein for determination of compliance with specification requirements. If one piece fails to conform to the requirements of this specification, two other pieces shall be tested. If either of these pieces fails to conform to the requirements of this specification, the lot of material represented by these samples shall be rejected. A lot shall be considered that quantity of material offered for inspection at one time that bears the same heat and coating identification."

710.07 Guardrail Posts Section b. change "...AASHTO M183/M183M..." to "...AASHTO M 270M/M 270 Grade 250 (36)..."

SECTION 712  
MISCELLANEOUS HIGHWAY MATERIALS

712.04 Stone Curbing and Edging Delete the existing and replace with the following: “Stone for curbing and edging shall be approved granite from acceptable sources. The stone shall be hard and durable, predominantly gray in color, free from seams that would be likely to impair its structural integrity, and of a smooth splitting character. Natural grain size and color variations characteristic of the source deposit will be permitted. Such natural variations may include bands or clusters of mineral crystallization provided they do not impair the structural integrity of the curb stone. The Contractor shall submit for approval the name of the quarry that is the proposed source of the granite for curb materials along with full scale color photos of the granite. Such submission shall be made sufficiently in advance of ordering so that the Resident may have an opportunity to judge the stone, both as to quality and appearance. Samples of curbing shall be submitted for approval only when requested by the Resident. The dimensions, shape, and other details shall be as shown on the plans.”

712.06 Precast Concrete Units In the first paragraph, change “...ASTM C478M...” to “...AASHTO M199...” Delete the second paragraph and replace with the following; “Approved structural fibers may be used as a replacement of 6 x 6 #10 gauge welded wire fabric when used at an approved dosage rate for the construction of manhole and catch basin units. The material used shall be one of the products listed on the Maine Department of Transportation’s Approved Product List of Structural Fiber Reinforcement.” Delete the fifth paragraph and replace with the following; “The concrete mix design shall be approved by the Department. Concrete shall contain 6% air content, plus or minus 1½% tolerance when tested according to AASHTO T152. All concrete shall develop a minimum compressive strength of 28 MPa [4000 psi] in 28 days when tested according to AASHTO T22. The absorption of a specimen, when tested according to AASHTO T280, Test Method “A”, shall not exceed nine percent of the dry mass.”

Add the following:

“712.07 Tops, and Traps These metal units shall conform to the plan dimensions and to the following specification requirements for the designated materials.

Gray iron or ductile iron castings shall conform to the requirements of AASHTO M306 unless otherwise designated.”

712.08 Corrugated Metal Units The units shall conform to plan dimensions and the metal to AASHTO M36/M36M. Bituminous coating, when specified, shall conform to AASHTO M190 Type A.

712.09 Catch Basin and Manhole Steps Steps for catch basins and for manholes shall conform to ASTM C478M [ASTM C478], Section 13 for either of the following material:

- (a) Aluminum steps-ASTM B221M, [ASTM B211] Alloy 6061-T6 or 6005-T5.
- (b) Reinforced plastic steps Steel reinforcing bar with injection molded plastic coating copolymer polypropylene. Polypropylene shall conform to ASTM D 4101.

712.23 Flashing Lights Flashing Lights shall be power operated or battery operated as specified.

(a) Power operated flashing lights shall consist of housing, adapters, lamps, sockets, reflectors, lens, hoods and other necessary equipment designed to give clearly visible signal indications within an angle of at least 45 degrees and from 3 to 90 m [10 to 300 ft] under all light and atmospheric conditions.

Two circuit flasher controllers with a two-circuit filter capable of providing alternate flashing operations at the rate of not less than 50 nor more than 60 flashes per minute shall be provided.

The lamps shall be 650 lumens, 120 volt traffic signal lamps with sockets constructed to properly focus and hold the lamp firmly in position.

The housing shall have a rotatable sun visor not less than 175 mm [7 in] in length designed to shield the lens.

Reflectors shall be of such design that light from a properly focused lamp will reflect the light rays parallel. Reflectors shall have a maximum diameter at the point of contact with the lens of approximately 200 mm [8 in].

The lens shall consist of a round one-piece convex amber material which, when mounted, shall have a visible diameter of approximately 200 mm [8 in]. They shall distribute light and not diffuse it. The distribution of the light shall be asymmetrical in a downward direction. The light distribution of the lens shall not be uniform, but shall consist of a small high intensity portion with narrow distribution for long distance throw and a larger low intensity portion with wide distribution for short distance throw. Lenses shall be marked to indicate the top and bottom of the lens.

(b) Battery operated flashing lights shall be self-illuminated by an electric lamp behind the lens. These lights shall also be externally illuminated by reflex-reflective elements built into the lens to enable it to be seen by reflex-reflection of the light from the headlights of oncoming traffic. The batteries must be entirely enclosed in a case. A locking device must secure the case. The light shall have a flash rate of not less than 50 nor more than 60 flashes per minute from minus 30 °C [minus 20 °F] to plus 65 °C [plus 150 °F]. The light shall have an on time of not less than 10 percent of the flash cycle. The light beam projected upon a surface perpendicular to the axis of the light beam shall produce a lighted rectangular projection whose minimum horizontal dimension shall be 5 degrees each side of the horizontal axis. The effective intensity shall not have an initial value greater than 15.0 candelas or drop below 4.0 candelas during the first 336 hours of continuous flashing. The illuminated lens shall appear to be uniformly bright over its entire illuminated surface when viewed from any point within an angle of 9 degrees each side of the vertical axis and 5 degrees each side of the horizontal axis. The lens shall not be less than 175 mm [7 in] in diameter including a reflex-reflector ring of 13 mm [½ in] minimum width around the periphery. The lens shall be yellow in color and have a minimum relative luminous transmittance of 0.440 with a luminance of 2854° Kelvin. The lens shall be one-piece construction. The lens material shall be plastic and meet the luminous transmission requirements of this specification. The case containing the

batteries and circuitry shall be constructed of a material capable of withstanding abuse equal to or greater than 1.21 mm thick steel [No. 18 U.S. Standard Gage Steel]. The housing and the lens frame, if of metal shall be properly cleaned, degreased and pretreated to promote adhesion. It shall be given one or more coats of enamel which, when dry shall completely obscure the metal. The enamel coating shall be of such quality that when the coated case is struck a light blow with a sharp tool, the paint will not chip or crack and if scratched with a knife will not powder. The case shall be so constructed and closed as to exclude moisture that would affect the proper operation of light. The case shall have a weep hole to allow the escape of moisture from condensation. Photoelectric controls, if provided, shall keep the light operating whenever the ambient light falls below 215 lx [20 foot candles]. Each light shall be plainly marked as to the manufacturer's name and model number.

If required by the Resident, certification as to conformance to these specifications shall be furnished based on results of tests made by an independent testing laboratory. All lights are subject to random inspection and testing. All necessary random samples shall be provided to the Resident upon request without cost to the Department. All such samples shall be returned to the Contractor upon completion of the tests.

712.32 Copper Tubing Copper tubing and fittings shall conform to the requirements of ASTM B88M Type A [ASTM B88, Type K] or better.

712.33 Non-metallic Pipe, Flexible Non-metallic pipe and pipe fittings shall be acceptable flexible pipe manufactured from virgin polyethylene polymer suitable for transmitting liquids intended for human or animal consumption.

712.34 Non-metallic Pipe, Rigid Non-metallic pipe shall be Schedule 40 polyvinylchloride (PVC) that meets the requirement of ASTM D1785. Fittings shall be of the same material.

712.341 Metallic Pipe Metallic pipe shall be ANSI, Standard B36.10, Schedule 40 steel pipe conforming to the requirements of ASTM A53 Types E or S, Grade B. End plates shall be steel conforming to ASTM A36/A36M.

Both the sleeve and end plates shall be hot dip galvanized. Pipe sleeve splices shall be welded splices with full penetration weld before galvanizing.

712.35 Epoxy Resin Epoxy resin for grouting or sealing shall consist of a mineral filled thixotropic, flexible epoxy resin having a pot life of approximately one hour at 10°C [50°F]. The grout shall be an approved product suitable for cementing steel dowels into the preformed holes of curb inlets and adjacent curbing. The sealant shall be an approved product, light gray in color and suitable for coating the surface.

712.36 Bituminous Curb The asphalt cement for bituminous curb shall be of the grade required for the wearing course, or shall be Viscosity Grade AC-20 meeting the current requirements of Subsection 702.01 Asphalt Cement. The aggregate shall conform to the requirements of Subsection 703.07. The coarse aggregate portion retained on the 2.36 mm [No. 8] sieve may be either crushed rock or crushed gravel.

The mineral constituents of the bituminous mixture shall be sized and graded and combined in a composite blend that will produce a stable durable curbing with an acceptable texture.

Bituminous material for curb shall meet the requirements of Section 403 - Hot Bituminous Pavement.

712.37 Precast Concrete Slab Portland cement concrete for precast slabs shall meet the requirements of Section 502 - Structural Concrete, Class A.

The slabs shall be precast to the dimension shown on the plans and cross section and in accordance with the Standard Detail plans for Concrete Sidewalk Slab. The surface shall be finished with a float finish in accordance with Subsection 502.14(c). Lift devices of sufficient strength to hold the slab while suspended from cables shall be cast into the top or back of the slab.

712.38 Stone Slab Stone slabs shall be of granite from an acceptable source, hard, durable, predominantly gray in color, free from seams which impair the structural integrity and be of smooth splitting character. Natural color variations characteristic of the deposit will be permitted. Exposed surfaces shall be free from drill holes or indications of drill holes. The granite slabs in any one section of backslope must be all the same finish.

The granite slabs shall be scabble dressed or sawed to an approximately true plane having no projections or depressions over 13 mm [ $\frac{1}{2}$  in] under a 600 mm [2 ft] straightedge or over 25 mm [1 in] under a 1200 mm [4 ft] straightedge. The arris at the intersection of the top surface and exposed front face shall be pitched so that the arris line is uniform throughout the length of the installed slabs. The sides shall be square to the exposed face unless the slabs are to be set on a radius or other special condition which requires that the joints be cut to fit, but in any case shall be so finished that when the stones are placed side by side no space more than 20 mm [ $\frac{3}{4}$  in] shall show in the joint for the full exposed height.

Liftpin holes in all sides will be allowed except on the exposed face.

## SECTION 717 ROADSIDE IMPROVEMENT MATERIAL

717.03 C. Method #3 - Roadside Mixture #3 Change the seed proportions to the following:

|                  |       |
|------------------|-------|
| Crown Vetch      | 25%   |
| Perennial Lupine | 25%   |
| Red Clover       | 12.5% |
| Annual Rye       | 37.5% |

717.05 Mulch Binder Change the third sentence to read as follows:

“Paper fiber mulch may be used as a binder at the rate of 2.3 kg/unit [5 lb/unit].”

SECTION 720  
STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND  
TRAFFIC SIGNALS

720.08 U-Channel Posts Change the first sentence from "..., U-Channel posts..." to "..., Rib Back U-Channel posts..."

SECTION 722  
GEOTEXTILES

722.01 Stabilization/Reinforcement Geotextile Add the following to note #3; "The strengths specified in the columns labeled "<50%" and "≥ 50%" refer to the elongation at which the geotextile material was tested. For example; if a fabric is tested at 15% elongation then it must meet or exceed the minimum strength shown in the "<50%" column. Submittals must include the percent elongation at which the material was tested."

722.02 Drainage Geotextile Add the following to note #3; "The strengths specified in the columns labeled "<50%" and "≥ 50%" refer to the elongation at which the geotextile material was tested. For example; if a fabric is tested at 15% elongation then it must meet or exceed the minimum strength shown in the "<50%" column. Submittals must include the percent elongation at which the material was tested."

722.01 Erosion Control Geotextile Add the following note to Elongation in the Mechanical Property Table; "The strengths specified in the columns labeled "<50%" and "≥ 50%" refer to the elongation at which the geotextile material was tested. For example; if a fabric is tested at 15% elongation then it must meet or exceed the minimum strength shown in the "<50%" column. Submittals must include the percent elongation at which the material was tested."

APPENDIX A TO DIVISION 100

SECTION 1 - BIDDING PROVISIONS

A. Federally Required Certifications By signing and delivering a Bid, the Bidder certifies as provided in all certifications set forth in this Appendix A - Federal Contract Provisions Supplement including:

- Certification Regarding No Kickbacks to Procure Contract as provided on this page 1 below.
- Certification Regarding Non-collusion as provided on page 1 below.
- Certification Regarding Non-segregated Facilities as provided by FHWA Form 1273, section III set forth on page 21 below.
- "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion" as provided by FHWA Form 1273, section XI set forth on page 32 below.
- "Certification Regarding Use of Contract Funds for Lobbying" as provided by FHWA Form 1273, section XII set forth on page 35 below.

Unless otherwise provided below, the term "Bidder", for the purposes of these certifications, includes the Bidder, its principals, and the person(s) signing the Bid. Upon execution of the Contract, the Bidder (then called the Contractor) will again make all the certifications indicated in this paragraph above. Upon execution of the Contract, the Bidder (then called the Contractor) will again make all the certifications indicated in this paragraph above.

CERTIFICATION REGARDING NO KICKBACKS TO PROCURE CONTRACT Except expressly stated by the Bidder on sheets submitted with the Bid (if any), the Bidder hereby certifies, to the best of its knowledge and belief, that it has not:

(A) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me) to solicit or secure this contract;

(B) agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out the contract, or;

(C) paid, or agreed to pay, to any firm, organization, or person (other than a bona fide employee working solely for me) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the contract;

By signing and submitting a Bid, the Bidder acknowledges that this certification is to be furnished to the Maine Department of Transportation and the Federal Highway Administration, U.S. Department of Transportation in connection with this contract in anticipation of federal aid highway funds and is subject to applicable state and federal laws, both criminal and civil.

CERTIFICATION REGARDING NONCOLLUSION Under penalty of perjury as provided by federal law (28 U.S.C. §1746), the Bidder hereby certifies, to the best of its knowledge and belief, that:

the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with the Contract.

For a related provisions, see Section 102.7.2 (C) of the Standard Specifications - "Effects of Signing and Delivery of Bids" - "Certifications", Section 3 of this Appendix A entitled "Other Federal Requirements" including section XI - "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion" and section XII. - "Certification Regarding Use of Contract Funds for Lobbying."

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B. Bid Rigging Hotline To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

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SECTION 2 - FEDERAL EEO AND CIVIL RIGHTS REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 2 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Nondiscrimination & Civil Rights - Title VI The Contractor and its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Department deems appropriate. The Contractor and subcontractors shall comply with Title VI of the Civil Rights Act of 1964, as amended, and with all State of Maine and other Federal Civil Rights laws.

For related provisions, see Subsection B - "Nondiscrimination and Affirmative Action - Executive Order 11246" of this Section 2 and Section 3 - Other Federal Requirements of this "Federal Contract Provisions Supplement" including section II - "Nondiscrimination" of the "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273.

B. Nondiscrimination and Affirmative Action - Executive Order 11246 Pursuant to Executive Order 11246, which was issued by President Johnson in 1965 and amended in 1967 and 1978, this Contract provides as follows.

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its efforts to achieve maximum results from its actions. The Contractor shall

document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

1. Ensure and maintain a working environment free of harassment, intimidations, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all forepersons, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
2. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and to maintain a record of the organization's responses.
3. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
4. Provide immediate written notification to the Department's Civil Rights Office when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Design-Builder's efforts to meet its obligations.
5. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under B above.
6. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligation; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
7. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review

of these items with on-site supervisory personnel such as Superintendents, General Forepersons, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

8. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractor's and Subcontractors with whom the Contractor does or anticipates doing business.
9. Direct its recruitment efforts, both orally and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above describing the openings, screenings, procedures, and test to be used in the selection process.
10. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth, both on the site and in other areas of a Contractor's workforce.
11. Validate all tests and other selection requirements.
12. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
13. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
14. Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
15. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractor's and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.
16. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

C. Goals for Employment of Women and Minorities Per Executive Order 11246, craft tradesperson goals are 6.9% women and .5% minorities employed. However, goals may be adjusted upward at the mutual agreement of the Contractor and the Department. Calculation of these percentages shall not include On-the-Job Training Program trainees, and shall not include clerical or field clerk position employees.

For a more complete presentation of requirements for such Goals, see the federally required document "Goals for Employment of Females and Minorities" set forth in the next 6 pages below.

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Start of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES  
Federally Required Contract Document

§60-4.2 Solicitations

(d) The following notice shall be included in, and shall be part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to §60-4.6 of this part (see 41 CFR 60-4.2(a)):

Notice of Requirement for Affirmative Action to Ensure Equal Opportunity (Executive Order 11246)

1. The Offeror's or bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

Goals for female participation in each trade 6.9%

Goals for minority participation for each trade

Maine

001 Bangor, ME 0.8%

Non-SMSA Counties (Aroostook, Hancock, Penobscot, Piscataquis, Waldo, Washington)

002 Portland-Lewiston, ME

SMSA Counties: 4243 Lewiston-Auburn, ME 0.5%  
(Androscoggin)

6403 Portland, ME 0.6%  
(Cumberland, Sagadahoc)

Non-SMSA Counties: 0.5%  
(Franklin, Kennebec, Knox, Lincoln, Oxford, Somerset, York)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be in violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor, estimated dollar amount of the subcontract; estimated started and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the Contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION  
CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
  - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
  - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
  - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department form 941;
  - d. "Minority" includes:
    - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

- (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
  - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
  - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of the North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
  3. If the contractor, is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors for Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
  4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a. through p. of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical areas where the work is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specific.
  5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant, thereto.
  6. In order for the non working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the

apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as expensive as the following:
  - a. Ensure and maintain a working environment free of harassment, intimidation, coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, when possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
  - b. Establish and maintain a current list of minority and female recruitment sources provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.
  - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment sources or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
  - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
  - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.
  - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific

review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment, efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing prior to the date for the acceptance of applications for apprenticeship or the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on site and in other areas of a Contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of

solicitation to minority and female contractor associations and other business associations.

- p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7 a through p.). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7 a through p. of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program and reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions take on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
  9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, specific minority group of women is underutilized.)
  10. The Contractor shall not use the goals and timetables or affirmative action even through the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if standards to discriminate against any person because of race, color, religion, sex, or national origin.
  11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
  12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementation regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
  13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the

requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.6.

- 14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work was performed. Records be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
- 15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

End of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES  
Federally Required Contract Document

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D. Disadvantaged Business Enterprise (DBE) Requirements The Department has established an annual Disadvantaged Business Enterprise goal to be achieved through race neutral means. This goal will adjusted periodically and will be provided by Supplemental Provision. The Contractor shall comply with all provisions of this section regarding DBE participation and the Department's latest version of the Disadvantaged Business Enterprise Program Manual, said Manual being incorporated herein by reference. In the case of conflict between this Contract and said Manual, this Contract shall control. The Department reserves the right to adjust DBE goals on a project-by-project basis by addendum.

Policy. It is the Department's policy that DBEs as defined in 23 CFR Part 26 and referenced in the Transportation Equity Act for 21st Century of 1998, as amended from the Surface Transportation Uniform Relocation Assistance Act of 1987, and the Intermeddle Surface Transportation Efficiency Act of 1991. The intent hereto remains to provide the maximum opportunity for DBEs to participate in the performance of contracts financed in whole or in part with federal funds.

The Department and its Contractors shall not discriminate on the basis of race, color, national origin, ancestry, sex, age, or disability in the award and performance of DOT assisted contracts.

Disadvantaged Business Enterprises are those so certified by the Maine Department of Transportation Civil Rights Office prior to bid opening date.

The Department has determined that elements of a good faith effort to meet the contract goal include but are not limited to the following:

1. Whether the Contractor advertised in general circulation, trade association, and minority/women's-focus media concerning the subcontracting opportunities;
2. Whether the Contractor provided written notice to a reasonable number of specific DBEs that their interest in the contract is being solicited;
3. Whether the Contractor followed up on initial solicitations of interest by contacting DBEs to determine with certainty whether the DBEs were interested;
4. Whether the Contractor selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goals;
5. Whether the Contractor provided interested DBEs with adequate information about the plans, specification and requirements of the contract;
6. Whether the Contractor negotiated in good faith with interested DBEs, not rejecting the DBE as unqualified without sound reasons based on a thorough investigation of their capabilities;
7. Whether the Contractor made efforts to assist interested DBEs with other appropriate technical/financial assistance required by the Department or Contractor;
8. Whether the Contractor effectively used the services of available minority/women's community organizations, minority/women's business assistance offices; and other organizations that provide assistance in the recruitment and placement of DBEs.

Substitutions of DBEs. The following may be acceptable reasons for Civil Rights Office approval of such a change order:

- The DBE defaults, voluntarily removes itself or is over-extended;
- The Department deletes portions of the work to be performed by the DBE.

It is not intended that the ability to negotiate a more advantageous contract with another certified DBE be considered a valid basis for such a change in DBE utilization once the DBE Bid Submission review has been passed. Any requests to alter the DBE commitment must be in writing and included with the change order.

Failure to carry out terms of this Standard Specification shall be treated as a violation of this contract and will result in contract sanctions which may include withholding of partial payments totaling the creditable dollars amount which would have been paid for said DBE participation, termination of this contract or other measures which may affect the ability of the Contractor to obtain Department contracts.

Copies of the Maine Department of Transportation's DBE Program may be obtained from:

Maine Department of Transportation  
Civil Rights Office  
#16 State House Station  
Augusta, Maine 04333-0016  
tel. (207) 624-3519

Quarterly Reporting Requirement. The Contractor must submit Semi-annual reports of actual dollars paid to Disadvantaged Business Enterprises (DBE's) on this Project to the MDOT Civil Rights Office by the end of the third week of April and October for the period covering the preceding six months considered Federal Fiscal Year periods. The reports will be submitted directly to the Civil Rights Office on the form provided in the latest version of the DBE Program Manual. Failure to submit the report by the deadline may result in a withholding of approval of partial payment estimates by the Department.

### SECTION 3 - OTHER FEDERAL REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 3 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

#### A. Buy America

If the cost of products purchased for permanent use in this project which are manufactured of steel, iron or the application of any coating to products of these materials exceeds 0.1 percent of the contract amount, or \$2,500.00, whichever is greater, the products shall have been manufactured and the coating applied in the United States. The coating materials are not subject to this clause, only the application of the coating. In computing that amount, only the cost of the product and coating application cost will be included.

Ore, for the manufacture of steel or iron, may be from outside the United States; however, all other manufacturing processes of steel or iron must be in the United States to qualify as having been manufactured in the United States.

United States includes the 50 United States and any place subject to the jurisdiction thereof.

Products of steel include, but are not limited to, such products as structural steel, piles, guardrail, steel culverts, reinforcing steel, structural plate and steel supports for signs, luminaries and signals.

Products of iron include, but are not limited to, such products as cast iron grates.

Application of coatings include, but are not limited to, such applications as epoxy, galvanized and paint.

To assure compliance with this section, the Contractor shall submit a certification letter on its letterhead to the Department stating the following:

“This is to certify that products made of steel, iron or the application of any coating to products of these materials whose costs are in excess of \$2,500.00 or 0.1 percent of the original contract amount, whichever is greater, were manufactured and the coating, if one was required, was applied in the United States.”

#### B. Materials

a. Convict Produced Materials References: 23 U.S.C. 114(b)(2), 23 CFR 635.417

Applicability: FHWA's prohibition against the use of convict material only applies to Federal-aid highways. Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if: 1) such materials have been produced by convicts who are on parole, supervised release, or probation from a prison; or 2) such material has been produced in a qualified prison facility, e.g., prison industry, with the amount produced during any 12-month period, for use in Federal-aid projects, not exceeding the amount produced, for such use, during the 12-month period ending July 1, 1987.

Materials obtained from prison facilities (e.g., prison industries) are subject to the same requirements for Federal-aid participation that are imposed upon materials acquired from other sources. Materials manufactured or produced by convict labor will be given no preferential treatment.

The preferred method of obtaining materials for a project is through normal contracting procedures which require the contractor to furnish all materials to be incorporated in the work. The contractor selects the source, public or private, from which the materials are to be obtained (23 CFR 635.407). Prison industries are prohibited from bidding on projects directly (23 CFR 635.112e), but may act as material supplier to construction contractors.

Prison materials may also be approved as State-furnished material. However, since public agencies may not bid in competition with private firms, direct acquisition of materials from a prison industry for use as State-furnished material is subject to a public interest finding with the Division Administrator's concurrence (23 CFR 635.407d). Selection of materials produced by convict labor as State-furnished materials for mandatory use should be cleared prior to the submittal of the Plans Specifications & Estimates (PS&E).

b. Patented/Proprietary Products References: 23 U.S.C. 112, 23 CFR 635.411

FHWA will not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

- the item is purchased or obtained through competitive bidding with equally suitable unpatented items,
- the STA certifies either that the proprietary or patented item is essential for synchronization with the existing highway facilities or that no equally suitable alternative exists, or
- the item is used for research or for a special type of construction on relatively short sections of road for experimental purposes. States should follow FHWA's procedures for "Construction Projects Incorporating Experimental Features" ([expermnt.htm](#)) for the submittal of work plans and evaluations.

The primary purpose of the policy is to have competition in selection of materials and allow for development of new materials and products. The policy further permits materials and products that are judged equal may be bid under generic specifications. If only patented or proprietary products are acceptable, they shall be bid as alternatives with all, or at least a

reasonable number of, acceptable materials or products listed; and the Division Administrator may approve a single source if it can be found that its utilization is in the public interest.

Trade names are generally the key to identifying patented or proprietary materials. Trade name examples include 3M, Corten, etc. Generally, products identified by their brand or trade name are not to be specified without an "or equal" phrase, and, if trade names are used, all, or at least a reasonable number of acceptable "equal" materials or products should be listed. The licensing of several suppliers to produce a product does not change the fact that it is a single product and should not be specified to the exclusion of other equally suitable products.

c. State Preference References: 23 U.S.C. 112, 23 CFR 635.409

Materials produced within Maine shall not be favored to the exclusion of comparable materials produced outside of Maine. State preference clauses give particular advantage to the designated source and thus restrict competition. Therefore, State preference provisions shall not be used on any Federal-aid construction projects.

This policy also applies to State preference actions against materials of foreign origin, except as otherwise permitted by Federal law. Thus, States cannot give preference to in-State material sources over foreign material sources. Under the Buy America provisions, the States are permitted to expand the Buy America restrictions provided that the STA is legally authorized under State law to impose more stringent requirements.

d. State Owned/Furnished/Designated Materials References: 23 U.S.C. 112, 23 CFR 635.407

Current FHWA policy requires that the contractor must furnish all materials to be incorporated in the work, and the contractor shall be permitted to select the sources from which the materials are to be obtained. Exceptions to this requirement may be made when there is a definite finding, by MDOT and concurred in by Federal Highway Administration's (FHWA) Division Administrator, that it is in the public interest to require the contractor to use materials furnished by the MDOT or from sources designated by MDOT. The exception policy can best be understood by separating State-furnished materials into the categories of manufactured materials and local natural materials.

Manufactured Materials When the use of State-furnished manufactured materials is approved based on a public interest finding, such use must be made mandatory. The optional use of State-furnished manufactured materials is in violation of our policy prohibiting public agencies from competing with private firms. Manufactured materials to be furnished by MDOT must be acquired through competitive bidding, unless there is a public interest finding for another method, and concurred in by FHWA's Division Administrator.

Local Natural Materials When MDOT owns or controls a local natural materials source such as a borrow pit or a stockpile of salvaged pavement material, etc., the materials may be designated for either optional or mandatory use; however, mandatory use will require a public interest finding (PIF) and FHWA's Division Administrator's concurrence.

In order to permit prospective bidders to properly prepare their bids, the location, cost, and any conditions to be met for obtaining materials that are made available to the contractor shall be stated in the bidding documents.

Mandatory Disposal Sites Normally, the disposal site for surplus excavated materials is to be of the contractor's choosing; although, an optional site(s) may be shown in the contract provisions. A mandatory site shall be specified when there is a finding by MDOT, with the concurrence of the Division Administrator, that such placement is the most economical or that the environment would be substantially enhanced without excessive cost. Discussion of the mandatory use of a disposal site in the environmental document may serve as the basis for the public interest finding.

Summarizing FHWA policy for the mandatory use of borrow or disposal sites:

- mandatory use of either requires a public interest finding and FHWA's Division Administrator's concurrence,
- mandatory use of either may be based on environmental consideration where the environment will be substantially enhanced without excessive additional cost, and
- where the use is based on environmental considerations, the discussion in the environmental document may be used as the basis for the public interest finding.

Factors to justify a public interest finding should include such items as cost effectiveness, system integrity, and local shortages of material.

C. Standard FHWA Contract Provisions - FHWA 1273

Unless expressly otherwise provided in the Bid Documents, the following "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273, are hereby incorporated into the Bid Documents and Contract.

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Start of FHWA 1273 REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION CONTRACTS(As revised through March 10, 1994)

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;  
Section IV, paragraphs 1, 2, 3, 4, and 7;  
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.
6. Selection of Labor: During the performance of this contract, the contractor shall not:
  - a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or
  - b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION (Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:
  - a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.
  - b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment,

upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

2. EEO Officer. The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.
3. Dissemination of Policy. All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
  - a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
  - b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
  - c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.
  - d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
  - e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. Recruitment. When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.
  - a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

- b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)
  - c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.
5. Personnel Actions. Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:
- a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
  - b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
  - c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
  - d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.
6. Training and Promotion.
- a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.
  - b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision

for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

- c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
  - d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.
7. Unions. If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:
- a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
  - b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
  - c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.
  - d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.
8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment. The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

- a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.
  - b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.
  - c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.
9. Records and Reports. The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.
- a. The records kept by the contractor shall document the following:
    - (1) The number of minority and non-minority group members and women employed in each work classification on the project;
    - (2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;
    - (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
    - (4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.
  - b. All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the MDOT and the Federal Highway Administration.

The Contractor will submit to the MDOT a report for the month of July, indicating the total hours worked by minority, women and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form PR-1391. If on-the-job training is being required by "Training Special Provision," the Contractor will be required to furnish Form FHWA-1409. The report is required for week ending July 15 and can be obtained from MDOT, is due by week ending August 20th. This report is to be furnished directly to MDOT - Civil Rights Office.

III. NONSEGREGATED FACILITIES (Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

- a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.
- b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).
- c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE (Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

- a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the

provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

- b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.
- c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

- a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.
- b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:
  - (1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;
  - (2) the additional classification is utilized in the area by the construction industry;
  - (3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and
  - (4) with respect to helpers, when such a classification prevails in the area in which the work is performed.
- c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

- d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary
- e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

- a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.
- b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

a. Apprentices:

- (1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.
- (2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor

as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

- (3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.
- (4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

- (1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.
- (2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

- (3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.
  - (4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- c. **Helpers.** Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.
5. **Apprentices and Trainees (Programs of the U.S. DOT).** Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.
  6. **Withholding.** The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.
  7. **Overtime Requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4

and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation. Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.
9. Withholding for Unpaid Wages and Liquidated Damages. The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS (Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3). The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.
2. Payrolls and Payroll Records:
  - a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
  - b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in

Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.
- d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
  - (1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
  - (2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;
  - (3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.
- f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

- g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

## VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:
  - a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
  - b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
  - c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.
2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

## VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).
  - a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor,

with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

- b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.
4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

#### VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health

standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

*"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or*

*Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or*

*Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;*

*Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both."*

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations

in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.
3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.
4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions:  
(Applicable to all Federal-aid contracts - 49 CFR 29)
  - a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
  - b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
  - c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
  - d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
  - e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out

in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

- f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
- g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.
- i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--  
Primary Covered Transactions

- 1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
  - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
  - b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or

local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and
- d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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2. Instructions for Certification - Lower Tier Covered Transactions: (Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
- h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

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Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--  
Lower Tier Covered Transactions:

- 1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- 2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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**XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

- 1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
  - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
  - b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a

Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

End of FHWA 1273



### Environmental Summary Sheet

Pin: 16686.00; 16700.00; 17814.00

Date Submitted: 2-10-11

Town: Benton-Fairfield

CPD Team Leader: Kristen Chamberlain

ENV Surface Water Field Contact: Mike Clark

NEPA Complete: 11/19/10

**Section 106**  
PA  
Special Conditions:

**Section 4(f) and 6(f)**  
Section 4(f)  
Review Complete-no properties  
Section 6(f)  
Not Applicable-no properties

**Maine Department of Inland Fisheries and Wildlife Essential Habitat**  
Not Applicable **Timing Window:** Not Applicable

**Section 7**  
16686.00 & 16700.00 & 17814.00-Atlantic Salmon DPS- No Effect based on no in-water work  
  
16686.00 & 16700.00 -located within ¼ mile buffer of bald eagle nest subject to Federal Bald and Gold Eagle Act; no effect based on scope and guidelines of the Act.

**Maine Department of Conservation/Public Lands, Submerged Land Lease**  
Not Applicable

**Maine Land Use Regulation Commission**  
Not Applicable

**Maine Department of Environmental Protection**  
Not Applicable

**Army Corps of Engineers, Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.**  
Not Applicable

**Coast Guard**  
Not Applicable

*\*Applicable Standards and Permits are included with the contract*

|  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> <b>Special Provisions Required</b> |   |   |
| Special Provision 105-Timing of Work Restriction                       | N/A <input checked="" type="checkbox"/> | Applicable <input type="checkbox"/>                   |
| <b>Special Provision 656-Erosion Control Plan</b>                      | N/A <input type="checkbox"/>            | <b>Applicable <input checked="" type="checkbox"/></b> |
| Special Provision 203-Dredge Spec                                      | N/A <input checked="" type="checkbox"/> | Applicable <input type="checkbox"/>                   |
| General Note for Hazardous Waste                                       | N/A <input checked="" type="checkbox"/> | Applicable <input type="checkbox"/>                   |
| Special Provision 203-Hazardous Waste                                  | N/A <input checked="" type="checkbox"/> | Applicable <input type="checkbox"/>                   |
| Special Provision 105.9  | N/A <input checked="" type="checkbox"/> | Applicable <input type="checkbox"/>                   |