

Updated 10/15/15

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, "FedEx First 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. This is a curable defect.

*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, November 2014 Edition.*

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 an optional plan holders 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 fill out the on-line plan holder registration form and provide an email address to the MDOT Contracts mailbox at: 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 Robert Skehan at robert.skehan@maine.gov , Rebecca Snowden at rebecca.snowden@maine.gov or Diane Barnes at diane.barnes@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:

October 16, 2001

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 submitting questions concerning specific Contracts that have been advertised for Bid, include additional numbered pages as required. RFI’s may be faxed to 207-624-3431, submitted electronically through the Departments web page of advertised projects by selecting the RFI tab on the project details page or via e-mail to RFI-Contracts.MDOT@maine.gov.

These are the only allowable mechanisms 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.

When submitting RFIs by Email please follow the same guidelines as stated on the “Request for Information” form and include the word “RFI” along with the Project name and Identification number in the subject line.

NOTICE

Disadvantaged Business Enterprise Proposed Utilization

The Apparent Low Bidder shall submit the Disadvantaged Business Enterprise Proposed Utilization form with their bid. This is a curable bid defect.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form contains additional information that is required by USDOT.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form should 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 <http://www.maine.gov/mdot/civilrights/dbe.htm>

INSTRUCTIONS FOR PREPARING THE MaineDOT CONTRACTOR'S DBE/SUBCONTRACTOR UTILIZATION FORM

The Contractor Shall Extend equal opportunity to MaineDOT certified DBE firms (as listed in MaineDOT'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.

Calculate and provide percentage of your bid that will be allocated to DBE firms, 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.

Revised 1/12

FHWA DBE GOAL NOTICE FFY 2016-18
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 highway and bridge construction program; MaineDOT contracts covered by the program include consulting, construction, supplies, manufacturing, and service contracts.

For FFY 2016-18 (October 1, 2015 through September 30, 2018) MaineDOT has established an annual DBE participation goal of **2.0%** to be achieved through race/gender neutral means. This goal has been approved by the Federal Highway Administration and remains in effect through September 30, 2018. Maine DOT must meet this goal each federal fiscal year. If the goal is not met, MaineDOT must provide a justification for not meeting the goal and provide a plan to ensure the goal is met, which may include contract goals on certain projects that contractors will be required to meet.

MaineDOT asks all contractors, consultants and subcontractors to seek certified DBE firms for projects and to work to meet the determined 2.0% goal without the need to impose contract goals. DBE firms are listed on the MaineDOT website at:

<http://www.maine.gov/mdot/civilrights/dbe/>

Interested parties may view MaineDOT's DBE goal setting methodology also posted on this website. If you have questions regarding this goal or the DBE program you may contact Sherry Tompkins at the Maine Department of Transportation, Civil Rights Office by telephone at (207) 624-3066 or by e-mail at: sherry.tompkins@maine.gov

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

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

Contractor: _____ **Telephone:** _____ **Ext** _____

Contact Person: _____ **Fax:** _____

E-mail: _____

BID DATE: _____

FEDERAL PROJECT PIN # _____ **PROJECT LOCATION:** _____

TOTAL ANTICIPATED DBE ___ % PARTICIPATION FOR THIS CONTRACT

W B E	D B E	Non DBE	Firm Name	Item Number & Description of Work	Quantity	Cost Per Unit/Item	Anticipated \$ Value
Subcontractor Total >							
DBE Total >							

**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: _____

FHWA FTA FAA

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

Rev. 05/13

Maine Department of Transportation Civil Rights Office

Directory of Certified Disadvantaged Business Enterprises

Listing can be found at:

<http://www.maine.gov/mdot/civilrights/dbe.htm>

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 listing.

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/venbid/index.shtml>

**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 West Approach Bridge Replacement and Traffic Signal Improvements in the city of **BATH**" 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 February 17, 2016 and at that time and place publicly opened and read. Bids will be accepted from bidders previously qualified for this project. **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. NHPP-1927(300), 019273.00 & STP-2056(500), WIN 020565.00

Location: In Sagadahoc County, projects are located on Commercial Street, Leeman Highway, Middle Street, Franklin Street, Washington Street, Water Street, King Street, Vine Street, East Bound route 1 ramp, and Route 1 over Leeman highway.

Scope of Work: West Approach Bridge Replacement and Traffic Signal Improvements plus other incidental work.

The basis of award will be Section 1 combined with chosen Alternate 1 (Section 2), or Section 1 combined with chosen Alternate 2 (Section 3).

For general information regarding Bidding and Contracting procedures, contact George Macdougall 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, drawings, bid results and an electronic form for RFI submittal. For Project-specific information fax all questions to Project Manager Joel Kittredge at (207) 624-3431, use electronic RFI form or email questions to RFI-Contracts.MDOT@maine.gov, project name and identification number should be in the subject line. Questions received after 12:00 noon of **Friday** 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. TTY users call Maine Relay 711.

Plans, specifications and bid forms may be seen at the Maine DOT Building in Augusta, Maine and at the Department of Transportation's Regional Office in Scarborough. 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 \$145.00 (\$153.00 by mail). Half size plans \$72.50 (\$76.50 by mail), Bid Book \$10 (\$13 by mail), payment in advance, all non-refundable.

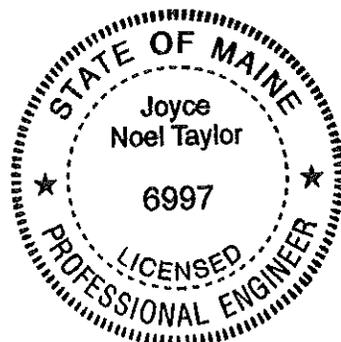
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of \$400,000.00 payable to Treasurer, 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, November 2014 Edition", price \$10 [\$15 by mail], and Standard Details, November 2014 Edition, price \$10 [\$15 by mail]. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Standard Detail updates can be found at <http://www.maine.gov/mdot/contractors/publications/>.

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

Augusta, Maine
January 6, 2016




JOYCE NOEL TAYLOR P.E.
CHIEF ENGINEER

Bath
West Approach Bridge
WIN 019273.00
Intersection Improvements
WIN 020565.00
April 14, 2011
Supersedes August 3, 2004

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)

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 019273.00

Project(s): 019273.00, 020565.00

SECTION: 1 COMMON ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0010	202.10 REMOVING EXISTING SUPERSTRUCTURE (PROPERTY OF CONTRACTOR)	LUMP SUM		LUMP SUM	_____	_____
0020	202.12 REMOVING EXISTING STRUCTURAL CONCRETE	160.000 CY	_____	_____	_____	_____
0030	202.134 REMOVING EXISTING RAILINGS (RETAINED BY DEPARTMENT)	LUMP SUM		LUMP SUM	_____	_____
0040	202.17 REMOVING EXISTING STRUCTURAL CONCRETE	LUMP SUM		LUMP SUM	_____	_____
0050	202.202 REMOVING PAVEMENT SURFACE	15,450.000 SY	_____	_____	_____	_____
0060	202.203 PAVEMENT BUTT JOINTS	125.000 SY	_____	_____	_____	_____
0070	203.20 COMMON EXCAVATION	1,150.000 CY	_____	_____	_____	_____
0080	203.25 GRANULAR BORROW	30.000 CY	_____	_____	_____	_____
0090	206.07 STRUCTURAL ROCK EXCAVATION - DRAINAGE AND MINOR STRUCTURES	250.000 CY	_____	_____	_____	_____
0100	206.082 STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	350.000 CY	_____	_____	_____	_____
0110	206.14 SPECIAL BACKFILL	340.000 CY	_____	_____	_____	_____

Maine Department of Transportation

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Project(s): 019273.00, 020565.00

SECTION: 1 COMMON ITEMS

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0120	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	1,600.000 CY	_____	 _____	_____	 _____
0130	403.102 HOT MIX ASPHALT PAVEMENT - SPECIAL AREAS	50.000 T	_____	 _____	_____	 _____
0140	403.2081 12.5 MM POLYMER MODIFIED HOT MIX ASPHALT	1,800.000 T	_____	 _____	_____	 _____
0150	403.209 HOT MIX ASPHALT 9.5 MM (SIDEWALKS, DRIVES, INCIDENTALS)	320.000 T	_____	 _____	_____	 _____
0160	403.211 HOT MIX ASPHALT (SHIMMING)	600.000 T	_____	 _____	_____	 _____
0170	403.213 HOT MIX ASPHALT 12.5 MM BASE	800.000 T	_____	 _____	_____	 _____
0180	403.2131 12.5 MM POLYMER MODIFIED HMA BASE	450.000 T	_____	 _____	_____	 _____
0190	409.15 BITUMINOUS TACK COAT - APPLIED	1,600.000 G	_____	 _____	_____	 _____
0200	411.10 UNTREATED AGGREGATE SURFACE COURSE (TRUCK MEASURE)	180.000 CY	_____	 _____	_____	 _____
0210	430.25 COBBLESTONE PAVEMENT	10.000 SY	_____	 _____	_____	 _____
0220	502.21 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS	90.000 CY	_____	 _____	_____	 _____

Maine Department of Transportation

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Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0230	502.239 STRUCTURAL CONCRETE PIERS	LUMP SUM	LUMP	SUM	_____	_____
0240	502.35 STRUCTURAL CONCRETE, STAMPED COLORED CONCRETE PAVEMENT	680.000 SY	_____	_____	_____	_____
0250	502.49 STRUCTURAL CONCRETE CURBS AND SIDEWALKS	LUMP SUM	LUMP	SUM	_____	_____
0260	502.55 STRUCTURAL CONCRETE UTILITY SUPPORT SYSTEM	LUMP SUM	LUMP	SUM	_____	_____
0270	502.565 CONCRETE FILL	3.000 CY	_____	_____	_____	_____
0280	502.59 ELASTOMERIC CONCRETE	160.000 CF	_____	_____	_____	_____
0290	502.704 DRAINAGE SYSTEM (DOWNSPOUTS, THROUGHS, ETC.)	LUMP SUM	LUMP	SUM	_____	_____
0300	502.77 FIBER REINFORCED POLYMER BRIDGE DRAIN - TYPE:	13.000 EA	_____	_____	_____	_____
0310	503.12 REINFORCING STEEL, FABRICATED AND DELIVERED	48,000.000 LB	_____	_____	_____	_____
0320	503.13 REINFORCING STEEL, PLACING	48,000.000 LB	_____	_____	_____	_____
0330	503.19 LOW-CARBON, CHROMIUM REINFORCEMENT - FABRICATED & DELIVERED	6,100.000 LB	_____	_____	_____	_____

Maine Department of Transportation

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Project(s): 019273.00, 020565.00

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Alt Set ID: Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0340	503.20 LOW-CARBON, CHROMIUM REINFORCEMENT - PLACING	6,100.000 LB	_____	 _____	_____	 _____
0350	507.0821 STEEL BRIDGE RAILING, 3 BAR	LUMP SUM	LUMP SUM		_____	 _____
0360	508.14 HIGH PERFORMANCE WATERPROOFING MEMBRANE	LUMP SUM	LUMP SUM		_____	 _____
0370	514.06 CURING BOX FOR CONCRETE CYLINDERS	2.000 EA	_____	 _____	_____	 _____
0380	520.2321 ASPHALTIC CRACK CONTROL JOINT	LUMP SUM	LUMP SUM		_____	 _____
0390	523.52 BEARING INSTALLATION	320.000 EA	_____	 _____	_____	 _____
0400	523.5401 LAMINATED ELASTOMERIC BEARINGS, FIXED	48.000 EA	_____	 _____	_____	 _____
0410	523.5402 LAMINATED ELASTOMERIC BEARINGS, EXPANSION	272.000 EA	_____	 _____	_____	 _____
0420	524.301 TEMPORARY STRUCTURAL SUPPORT	LUMP SUM	LUMP SUM		_____	 _____
0430	526.301 TEMPORARY CONCRETE BARRIER TYPE I	LUMP SUM	LUMP SUM		_____	 _____
0440	526.34 PERMANENT CONCRETE TRANSITION BARRIER	1.000 EA	_____	 _____	_____	 _____

Maine Department of Transportation

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0450	526.3401 PERMANENT CONCRETE TRANSITION BARRIER - MODIFIED	3.000 EA	_____	 _____	_____	 _____
0460	527.34 WORK ZONE CRASH CUSHIONS	4.000 UN	_____	 _____	_____	 _____
0470	534.7601 PRECAST APPROACH SLAB	LUMP SUM		LUMP SUM	_____	 _____
0480	534.76021 PRECAST PIER, COLUMN	LUMP SUM		LUMP SUM	_____	 _____
0490	534.76022 PRECAST PIER, CAP	LUMP SUM		LUMP SUM	_____	 _____
0500	603.155 12 INCH REINFORCED CONCRETE PIPE CLASS III	45.000 LF	_____	 _____	_____	 _____
0510	603.159 12 INCH CULVERT PIPE OPTION III	61.000 LF	_____	 _____	_____	 _____
0520	603.165 15 INCH REINFORCED CONCRETE PIPE CLASS III	220.000 LF	_____	 _____	_____	 _____
0530	603.195 24 INCH REINFORCED CONCRETE PIPE CLASS III	130.000 LF	_____	 _____	_____	 _____
0540	603.215 36 INCH REINFORCED CONCRETE PIPE CLASS III	100.000 LF	_____	 _____	_____	 _____
0550	603.216 36 INCH SPECIAL RCP	30.000 LF	_____	 _____	_____	 _____
0560	603.431 36 INCH REINFORCED CONCRETE PIPE CLASS V	14.000 LF	_____	 _____	_____	 _____

Maine Department of Transportation

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Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0570	604.072 CATCH BASIN TYPE A1-C	3.000 EA	_____	 _____	_____	 _____
0580	604.092 CATCH BASIN TYPE B1-C	10.125 EA	_____	 _____	_____	 _____
0590	604.094 72 INCH CATCH BASIN TYPE B1	3.375 EA	_____	 _____	_____	 _____
0600	604.161 ALTERING CATCH BASIN	8.000 EA	_____	 _____	_____	 _____
0610	604.18 ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	40.000 EA	_____	 _____	_____	 _____
0620	604.252 CATCH BASIN TYPE A5-C	3.000 EA	_____	 _____	_____	 _____
0630	605.10 6 INCH UNDERDRAIN OUTLET	15.000 LF	_____	 _____	_____	 _____
0640	605.12 15 INCH UNDERDRAIN TYPE C	230.000 LF	_____	 _____	_____	 _____
0650	605.15 24 INCH UNDERDRAIN TYPE C	430.000 LF	_____	 _____	_____	 _____
0660	606.365 GUARDRAIL REMOVE, MODIFY, AND RESET TYPE 3B TO 3C	150.000 LF	_____	 _____	_____	 _____
0670	606.791 REMOVE AND RESET 350 FLARED TERMINAL	1.000 EA	_____	 _____	_____	 _____
0680	607.1702 TEMPORARY CHAIN LINK FENCE - 6' MOVEABLE	LUMP SUM	_____	 LUMP SUM	_____	 _____

Maine Department of Transportation

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0690	607.183 CHAIN LINK SNOW FENCE 33 INCH	LUMP SUM				
0700	608.092 REMOVE AND RESET EXISTING COBBLESTONE	70.000 SY				
0710	608.26 CURB RAMP DETECTABLE WARNING FIELD	210.000 SF				
0720	608.28 GRANITE PAVERS WITH SAND BASE	230.000 SY				
0730	608.45 CONSTRUCTION SIDEWALK	280.000 SY				
0740	609.11 VERTICAL CURB TYPE 1	830.000 LF				
0750	609.12 VERTICAL CURB TYPE 1 - CIRCULAR	360.000 LF				
0760	609.234 TERMINAL CURB TYPE 1 - 4 FOOT	3.000 EA				
0770	609.2341 TERMINAL CURB TYPE 1 - 4 FOOT - CIRCULAR	1.000 EA				
0780	609.238 TERMINAL CURB TYPE 1 - 8 FOOT	8.000 EA				
0790	609.2381 TERMINAL CURB TYPE 1 - 8' CIRCULAR	10.000 EA				
0800	609.31 CURB TYPE 3	140.000 LF				

Maine Department of Transportation

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SECTION: 1 COMMON ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0810	609.34 CURB TYPE 5	50.000 LF	_____	 _____	_____	 _____
0820	609.35 CURB TYPE 5 - CIRCULAR	50.000 LF	_____	 _____	_____	 _____
0830	609.38 RESET CURB TYPE 1	1,100.000 LF	_____	 _____	_____	 _____
0840	609.40 RESET CURB TYPE 5	1,300.000 LF	_____	 _____	_____	 _____
0850	615.07 LOAM	66.000 CY	_____	 _____	_____	 _____
0860	615.086 LOAM/COMPOST MIX	140.000 CY	_____	 _____	_____	 _____
0870	618.13 SEEDING METHOD NUMBER 1	5.500 UN	_____	 _____	_____	 _____
0880	619.12 MULCH	5.500 UN	_____	 _____	_____	 _____
0890	619.13 BARK MULCH	47.000 CY	_____	 _____	_____	 _____
0900	620.60 SEPARATION GEOTEXTILE	460.000 SY	_____	 _____	_____	 _____
0910	621.101 PLUG/ STARTER PLANT	300.000 EA	_____	 _____	_____	 _____
0920	621.389 DWARF EVERGREENS (15 INCH - 18 INCH) GROUP A	72.000 EA	_____	 _____	_____	 _____
0930	621.397 DWARF EVERGREENS (18 INCH - 24 INCH) GROUP C	18.000 EA	_____	 _____	_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 019273.00

Project(s): 019273.00, 020565.00

SECTION: 1 COMMON ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0940	621.401 DWARF EVERGREENS (2 FOOT - 2.50 FOOT) GROUP A	3.000 EA	_____	 _____	_____	 _____
0950	621.51 HYBRID RHODODENDRON (15 INCH - 18 INCH)	108.000 EA	_____	 _____	_____	 _____
0960	621.54 DECIDUOUS SHRUBS (18 INCH - 24 INCH) GROUP A	42.000 EA	_____	 _____	_____	 _____
0970	621.546 DECIDUOUS SHRUBS (2 FOOT - 3 FOOT) GROUP A	42.000 EA	_____	 _____	_____	 _____
0980	621.554 DECIDUOUS SHRUBS (3 FOOT - 4 FOOT) GROUP C	6.000 EA	_____	 _____	_____	 _____
0990	621.71 HERBACEOUS PERENNIALS GROUP A 1 GALLON	280.000 EA	_____	 _____	_____	 _____
1000	621.71 HERBACEOUS PERENNIALS GROUP A 2 QUART CONT.	132.000 EA	_____	 _____	_____	 _____
1010	623.09 REMOVE AND RESET MONUMENT	1.000 EA	_____	 _____	_____	 _____
1020	626.11 PRECAST CONCRETE JUNCTION BOX	3.000 EA	_____	 _____	_____	 _____
1030	626.21 METALLIC CONDUIT	900.000 LF	_____	 _____	_____	 _____
1040	626.22 NON-METALLIC CONDUIT	1,335.000 LF	_____	 _____	_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 019273.00

Project(s): 019273.00, 020565.00

SECTION: 1 COMMON ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1050	626.31 18 INCH FOUNDATION	16.000 EA	_____	 _____	_____	 _____
1060	626.332 30 INCH DIAMATER GREATER THAN 8 FEET LONG & 36 INCH DIAMETER, 42 INCH DIAMETER FOUNDATION	8.000 CY	_____	 _____	_____	 _____
1070	626.35 CONTROLLER CABINET FOUNDATION	3.000 EA	_____	 _____	_____	 _____
1080	627.18 12 " SOLID WHITE PAVEMENT MARKING	165.000 LF	_____	 _____	_____	 _____
1090	627.4075 TEMPORARY WHITE PAVEMENT MARKING SYMBOL	1,500.000 SF	_____	 _____	_____	 _____
1100	627.733 4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	19,400.000 LF	_____	 _____	_____	 _____
1110	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	4,950.000 SF	_____	 _____	_____	 _____
1120	627.77 REMOVING PAVEMENT MARKINGS	5,600.000 SF	_____	 _____	_____	 _____
1130	627.78 TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	49,200.000 LF	_____	 _____	_____	 _____
1140	629.05 HAND LABOR, STRAIGHT TIME	90.000 HR	_____	 _____	_____	 _____
1150	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	100.000 HR	_____	 _____	_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 019273.00

Project(s): 019273.00, 020565.00

SECTION: 1 COMMON ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1160	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	200.000 HR	_____	 _____	_____	 _____
1170	631.32 CULVERT CLEANER (INCLUDING OPERATOR)	10.000 HR	_____	 _____	_____	 _____
1180	634.160 HIGHWAY LIGHTING	LUMP SUM	LUMP SUM		_____	 _____
1190	634.2042 LED LUMINARIES	11.000 EA	_____	 _____	_____	 _____
1200	634.210 CONVENTIONAL LIGHT STANDARD	11.000 EA	_____	 _____	_____	 _____
1210	638.01 EMBEDDED WORK IN STRUCTURE	LUMP SUM	LUMP SUM		_____	 _____
1220	639.18 FIELD OFFICE TYPE A	1.000 EA	_____	 _____	_____	 _____
1230	643.71 TRAFFIC SIGNAL MODIFICATION	LUMP SUM	LUMP SUM		_____	 _____
1240	643.83 VIDEO DETECTION SYSTEM	LUMP SUM	LUMP SUM		_____	 _____
1250	643.86 TRAFFIC SIGNAL LOOP DETECTORS	2.000 EA	_____	 _____	_____	 _____
1260	643.91 MAST ARM POLE 25 FT	2.000 EA	_____	 _____	_____	 _____
1270	643.91 MAST ARM POLE 35 FT	1.000 EA	_____	 _____	_____	 _____
1280	643.92 PEDESTAL POLE 4 FT	3.000 EA	_____	 _____	_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 019273.00

Project(s): 019273.00, 020565.00

SECTION: 1 COMMON ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1290	643.92 PEDESTAL POLE 8 FT	6.000 EA	_____	 _____	_____	 _____
1300	643.92 PEDESTAL POLE 10 FT	5.000 EA	_____	 _____	_____	 _____
1310	645.106 DEMOUNT REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	46.000 EA	_____	 _____	_____	 _____
1320	645.116 REINSTALL REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	38.000 EA	_____	 _____	_____	 _____
1330	645.271 REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS, TYPE I	97.250 SF	_____	 _____	_____	 _____
1340	648.5201 RECONSTRUCT GRADE CROSSINGS	170.000 TF	_____	 _____	_____	 _____
1350	648.53 REMOVE EXISTING TRACK - AT GRADE	340.000 TF	_____	 _____	_____	 _____
1360	652.30 FLASHING ARROW BOARD	2.000 EA	_____	 _____	_____	 _____
1370	652.312 TYPE III BARRICADE	17.000 EA	_____	 _____	_____	 _____
1380	652.33 DRUM	220.000 EA	_____	 _____	_____	 _____
1390	652.34 CONE	210.000 EA	_____	 _____	_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 019273.00

Project(s): 019273.00, 020565.00

SECTION: 1 COMMON ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1400	652.35 CONSTRUCTION SIGNS	2,204.000 SF	_____	 _____	_____	 _____
1410	652.361 MAINTENANCE OF TRAFFIC CONTROL DEVICES	LUMP SUM	LUMP SUM		_____	 _____
1420	652.38 FLAGGER	10,800.000 HR	_____	 _____	_____	 _____
1430	652.381 TRAFFIC OFFICER	144.000 HR	_____	 _____	_____	 _____
1440	652.41 PORTABLE CHANGEABLE MESSAGE SIGN	5.000 EA	_____	 _____	_____	 _____
1450	655.513 EMBEDDED CATHODIC PROTECTION SYSTEM	LUMP SUM	LUMP SUM		_____	 _____
1460	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM	LUMP SUM		_____	 _____
1470	658.20 ACRYLIC LATEX COLOR FINISH, GREEN	2,400.000 SY	_____	 _____	_____	 _____
1480	659.10 MOBILIZATION	LUMP SUM	LUMP SUM		_____	 _____
1490	660.21 ON-THE-JOB TRAINING (BID)	1,000.000 HR	_____	 _____	_____	 _____
1500	801.141 4" PVC SANITARY SEWER (SDR-35)	10.000 LF	_____	 _____	_____	 _____
1510	801.16 6 INCH PVC SANITARY SEWER (SDR-35)	10.000 LF	_____	 _____	_____	 _____

12/22/2015

Maine Department of Transportation

Proposal Schedule of Items

Page 14 of 16

Proposal ID: 019273.00

Project(s): 019273.00, 020565.00

SECTION: 1 COMMON ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1520	910.301 SPECIAL WORK WINTER MAINT & SNOWPLOW	LUMP SUM	LUMP	SUM	_____	_____
Section: 1			Total:		_____	_____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 019273.00

Project(s): 019273.00, 020565.00

SECTION: 2 STEEL SUPERSTRUCTURE

Alt Set ID: AL Alt Mbr ID: 1

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1530	502.412 STRUCTURAL CONCRETE SUPERSTRUCTURE SPECIAL	LUMP SUM	LUMP	SUM	_____	_____
1540	502.58 ULTRA HIGH PERFORMANCE STRUCTURAL CONCRETE	LUMP SUM	LUMP	SUM	_____	_____
1550	506.9103 GALVANIZING	LUMP SUM	LUMP	SUM	_____	_____
1560	506.9104 THERMAL SPRAY COATING - SHOP APPLIED	LUMP SUM	LUMP	SUM	_____	_____
1570	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES	LUMP SUM	LUMP	SUM	_____	_____
1580	515.26 ELASTOMERIC COATING, SHOP APPLIED	LUMP SUM	LUMP	SUM	_____	_____
1590	521.23 EXPANSION DEVICE FINGER JOINT	3.000 EA	_____	_____	_____	_____
1600	521.32 FABRIC TROUGH FOR FINGER JOINT	3.000 EA	_____	_____	_____	_____
1610	530.04 PREFABRICATED BRIDGE STRUCTURE AND ASSEMBLY	LUMP SUM	LUMP	SUM	_____	_____
Section: 2			Total:		_____	_____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 019273.00

Project(s): 019273.00, 020565.00

SECTION: 3 CONCRETE SUPERSTRUCTURE

Alt Set ID: AL Alt Mbr ID: 2

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1620	502.412 STRUCTURAL CONCRETE SUPERSTRUCTURE SPECIAL	LUMP SUM	LUMP	SUM	_____	_____
1630	502.58 ULTRA HIGH PERFORMANCE STRUCTURAL CONCRETE	LUMP SUM	LUMP	SUM	_____	_____
1640	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES	LUMP SUM	LUMP	SUM	_____	_____
1650	515.26 ELASTOMERIC COATING, SHOP APPLIED	LUMP SUM	LUMP	SUM	_____	_____
1660	520.21 EXPANSION DEVICE - GLAND SEAL	3.000 EA	_____	_____	_____	_____
1670	535.622 PRESTRESSED STRUCTURAL CONCRETE NEXT BEAM	LUMP SUM	LUMP	SUM	_____	_____
Section: 3			Total:		_____	_____
			Total Bid:		_____	_____

Bath
WIN 19273.00
WIN 20565.00
December 9, 2015

SCHEDULE OF ITEMS – INSERT
ADJUSTMENT OF BID
(To be completed by bidder)

Bid for Portion A (bid amount to complete the Work): _____

Bid for B-Portion of Work (time bid) in calendar days: _____

(See Special Provision 102.12)

Total Adjusted Bid (Basis of Award):

Bid for Portion A + (Bid for B-Portion x Daily Road User Cost) = _____

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, WIN **019273.00 & 020565.00**, for the **West Approach Bridge Replacement and Traffic Signal Improvements** in the city of **Bath**, County of **Sagadahoc**, 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 **June 30, 2017**. 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, November 2014 Edition 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

Section 1 \$ _____

Section 2 \$ _____

Section 3 \$ _____

Performance Bond and Payment Bond each being 100% of the amount awarded under this Contract (see award amount in Section G below).

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, November 2014 Edition, Standard Details November 2014 Edition 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 Appendix A to Division 100 of the Standard Specifications November 2014 Edition (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 November 2014 Edition, Standard Details November 2014 Edition as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

WIN 019273.00 West Approach Bridge Replacement and WIN 020565.00 Traffic Signal Improvements plus other incidental work, 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, November 2014 Edition, 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 November 2014 Edition 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 for (see checked boxes):

Section 1

Section 2

Section 3

Contract Amount: _____

This award consummates the Contract, and the documents referenced herein.

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, WIN **019273.00 & 020565.00**, for the **West Approach Bridge Replacement and Traffic Signal Improvements** in the city of **Bath**, County of **Sagadahoc**, 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 **June 30, 2017**. 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, November 2014 Edition 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

Section 1 \$ _____

Section 2 \$ _____

Section 3 \$ _____

Performance Bond and Payment Bond each being 100% of the amount awarded under this Contract (see award amount in Section G below).

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, November 2014 Edition, Standard Details November 2014 Edition 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 Appendix A to Division 100 of the Standard Specifications November 2014 Edition (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 November 2014 Edition, Standard Details November 2014 Edition as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

WIN 019273.00 West Approach Bridge Replacement and WIN 020565.00 Traffic Signal Improvements plus other incidental work, 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, November 2014 Edition, 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 November 2014 Edition 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 for (see checked boxes):

Section 1

Section 2

Section 3

Contract Amount: _____

This award consummates the Contract, and the documents referenced herein.

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, November 2014 Edition 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, November 2014 Edition, Standard Details November 2014 Edition, 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 November 2014 Edition (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, November 2014 Edition, Standard Details November 2014 Edition, 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, November 2014 Edition, 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 November 2014 Edition 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
(Sign Here)

(Signature of Legally Authorized Representative
of the Contractor)
(Witness Sign Here) _____ **(Print Name Here)**
Witness (Name and Title Printed)

G. Award.

Your offer is hereby accepted.

This award consummates the Contract, and the documents referenced herein.

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

.....

WIN 019273.00 & 020565.00



General Decision Number: ME150052 07/31/2015 ME52

Superseded General Decision Number: ME20140052

State: Maine

Construction Type: Highway

County: Sagadahoc County in Maine.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/02/2015
1	07/31/2015

ENGI0004-006 04/01/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Milling Machine.....	\$ 20.75	10.84

* IRON0007-008 03/16/2015

	Rates	Fringes
IRONWORKER, REINFORCING.....	\$ 22.97	20.72

SUME2011-047 09/14/2011

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 17.10	1.95
CEMENT MASON/CONCRETE FINISHER..	\$ 16.94	0.00

ELECTRICIAN.....	\$ 21.41	3.40
INSTALLER - GUARDRAIL.....	\$ 15.91	2.85
IRONWORKER, STRUCTURAL.....	\$ 18.75	4.56
LABORER: Asphalt Raker.....	\$ 15.43	1.09
LABORER: Common or General.....	\$ 12.25	1.73
LABORER: Flagger.....	\$ 9.03	0.00
LABORER: Landscape.....	\$ 15.43	2.09
LABORER: Wheel man.....	\$ 18.76	4.93
OPERATOR: Backhoe.....	\$ 17.92	2.44
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 16.98	4.65
OPERATOR: Broom/Sweeper.....	\$ 14.08	0.00
OPERATOR: Bulldozer.....	\$ 17.95	3.81
OPERATOR: Crane.....	\$ 21.28	0.00
OPERATOR: Excavator.....	\$ 17.81	3.13
OPERATOR: Grader/Blade.....	\$ 27.40	8.46
OPERATOR: Loader.....	\$ 16.81	4.32
OPERATOR: Mechanic.....	\$ 22.21	6.09
OPERATOR: Milling Machine Reclaimer Combo.....	\$ 24.77	8.39
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 18.08	4.89
OPERATOR: Roller excluding Asphalt.....	\$ 15.79	3.32
OPERATOR: Screed.....	\$ 19.58	5.95
PILEDRIVERMAN.....	\$ 19.95	5.26
TRUCK DRIVER, Includes all axles including Dump Trucks.....	\$ 9.90	3.10
TRUCK DRIVER: Lowboy Truck.....	\$ 15.15	5.62

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 (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUMD198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average

calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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.

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END OF GENERAL DECISION

BATH
ROUTE 1
VIA DUCT REHABILITATION
WIN 19273.00

GENERAL NOTE

A Maine Department of Transportation (MaineDOT) Environmental Office investigation associated with this project discovered data suggesting petroleum related contamination was present at the east end abutment (Abutment 2). Subsequent on-site work confirmed petroleum contamination. However, based on the scope of work presented, available data suggests that this contamination may be adjacent to any work proposed in this area.

In light of MaineDOT's findings, the contractor shall employ appropriate health and safety measures to protect its workers against hazards associated with working near petroleum-impacted soils. Furthermore, the Contractor shall remain alert for any additional evidence of contamination. If the Contractor encounters evidence of soil or groundwater contamination, the Contractor shall secure the excavation, stop work in the contaminated area, and immediately notify the Resident. The Resident shall contact the Hydrogeologist in MDOT's Office of Safety and Compliance (MaineDOT-OSC) at 207-624-3004 and the Maine Department of Environmental Protection at 800-482-0777. Work may only continue with authorization from the Resident.

History of the project area in the vicinity of Washington Street once included an active rail road line. Coal ash maybe present in this area. This material is identified as being fine grained black material. This material, if encountered, must be reused on-site as fill material. If the material cannot be reused on site, the contractor is responsible for obtaining all approvals or permits and any required analytical results for proper disposal at a licensed Maine Department of Environmental Protection (MDEP) facility.

BATH
INTERSECTION IMPROVEMENTS
WIN 20565.00

GENERAL NOTE

A Maine Department of Environmental Protection (MDEP) data base review suggested some petroleum contamination issues at the project. The scope of work for this project suggests petroleum or hazardous waste should not be encountered. However, in light of the commercial nature of the area and reported spills, the contractor shall employ appropriate health and safety measures to protect its workers against hazards associated with working near petroleum-impacted soils. Furthermore, the Contractor shall remain alert for any additionally evidence of contamination. If the Contractor encounters evidence of soil or groundwater contamination, the Contractor shall secure the excavation, stop work in the contaminated area, and immediately notify the Resident. The Resident shall contact the Hydrogeologist in MDOT's Office of Safety and Compliance (MaineDOT-OSC) at 207-624-3004 and the Maine Department of Environmental Protection at 800-482-0777. Work may only continue with authorization from the Resident.

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Project/WIN: BR-1927(300) / 19273.00
& STP-2056(500) / 20565.00

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 his 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 (15.24 feet) of the track of the State of Maine and operated by Central Maine & Quebec Railway is 5% of the contract.

3. NUMBER OF TRAINS AND TRAIN SPEED

The Contractor is notified that a maximum speed of (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 **10** 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 (**25** 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 (**25** 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 (**25** 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 then (**8.5** 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 (**22** feet) above the top of high rail and a minimum side clearance of (**8.5** 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 **10** 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 their 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 (two)** 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 **120** 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 **10** calendar day(s) before beginning, resuming or suspending work within (**50** 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 **2** 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 **12/4/15.**

Estimated daily rate for four (4) consecutive hours Monday-Friday (straight time): **\$200**

Estimated hourly rate for straight time hours over four: **\$50**

Estimated daily rate for four (4) consecutive hours Saturday, Sunday, Holiday (overtime):
\$240

Estimated rate for hours worked in excess of eight (8) hours in any one day: **\$60**

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 **7:00** a.m. to **3:00** p.m. unless otherwise noted and agreed to by all parties.

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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 collectable 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 coverages naming the Railroad as an insured.

(a) Railroad Protective Liability Insurance with limits not less than **\$3,000,000** per single occurrence and **\$6,000,000** 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 **\$3,000,000** per single occurrence and **\$6,000,000** 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

MaineDOT DBE Project Attainment Target (PAT)
for this Project is .046 %

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.

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SPECIAL PROVISION 102
BIDDING
(102.11.2 Curable Bid Defects)

Subsection 102.11.2 Curable Bid Defects is amended to include the following:

- F. Failure to submit a CPM schedule with the bid shall result in a curable defect provided a complete CPM schedule is submitted within three (3) business days of the Bid Opening. If a complete CPM schedule is not provided within this time frame, the bid shall be deemed nonresponsive and will be rejected.**

SPECIAL PROVISION
SECTION 102.12

ADDITIONAL BIDDING REQUIREMENTS AND CONTRACT CONDITIONS

The process for Bidding will take into account not only the bid amount to complete the Work, but also the number of Calendar Days the Bidder submits (time bid) to complete the B-Portion of Work. This method shall only be used to determine the successful Bidder. It shall not be used to determine the award amount or final payment to the Contractor when the project is completed.

Preparation of Bid. The Bidder shall establish the number of CD's or portions thereof that it will require to complete the B-Portion of Work. This number of CD's, rounded up to the next whole number, shall be legibly written in ink in the space provided in the bid forms.

The Contractor shall assume the B-Portion of Work start date no earlier than the date specified in Special Provision 107.

When determining the number of CD's, the following holidays will not be included:

2016

- 11-11 Veteran's Day
- 11-24 Thanksgiving
- 11-25 Friday following Thanksgiving
- 12-25 Christmas Day
- 12-26 Christmas Day observance

2017

- 1-1 New Year's Day
- 1-2 New Year's Day observance

The maximum number of Calendar Days allowed for the "B" portion of the bid is 219. Bids with more than 219 CD in the "B" portion will be considered nonresponsive and will be rejected. This is a non-curable defect.

The product of the number of Calendar Days set by the Bidder multiplied by the Daily Road User cost per Calendar Day shall be added to the amount bid.

Consideration of Bids. Each bid submitted shall consist of two parts:

- (A) The bid amount to complete the Work.
- (B) Total number of Calendar Days or portions thereof set by the Bidder that it will require to complete the B-Portion of Work. The number of Calendar Days shall be a whole number.

The apparent low Bid will be determined by the Department as the lowest combination of (A) plus (B) according to the following formula:

$$(A) + [(B) \times (\text{Daily Road User Cost})] = \text{Bid amount for award consideration}$$

Where A is the total cost to complete the Work, and B is the number of Calendar Days to complete the B-Portion of Work. The Daily Road User Cost for purposes of bid analysis and Award determination shall be as defined in Special Provision Section 101.2.1

The preceding formula shall be used to determine the apparent low Bidder and shall not be used to determine the contract award amount nor final payment to the Contractor when the project is completed.

On CD's as defined above that the contractor is working, work shall only be allowed to affect traffic within the limitations specified in Special Provisions 107 – TIME and Special Provision 652 (US Route 1 Viaduct Detour).

The Contractor must provide the Resident 96 hours advance notification when the Contractor plans to begin a night work operation.

SPECIAL PROVISION
SECTION 101.2
DEFINITIONS

The following definitions are added to Section 101.2 Definitions.

Calendar Day (used interchangeably with CD) Every day shown on the calendar beginning 12:01 a.m. and ending at midnight. Calendar Days shall be denoted as CD's.

Daily Road User Cost The amount which represents the average daily cost of interference and inconvenience to the road user caused by complete bridge closure, obstruction or other construction activity related delay. **The Daily Road User Cost for purposes of bid analysis and Award determination shall be \$20,000 per Calendar Day.**

Hour Any continuous 60-minute period or portion of a continuous 60-minute period.

Lane A strip of Roadway intended to accommodate a single line of vehicles, including the adjacent shoulder.

Obstruction When the Contractor's operations have resulted in the useable Lane width of the Traveled Way or ramp to be less than that specified in the plan documents or result in the roadway or Lane being unusable by the public. Shoulder shall be considered part of the useable lane width.

B-Portion of Work Any and all work requiring closure of the viaduct to complete the bridge replacement project resulting in the entire bridge structure not being fully and completely open with both travel lanes and shoulders available to traffic. The Department will be the sole authority in determining when the B-Portion of Work is complete.

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/contractors/> under the “Quick Links”.

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 ROVISION
SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES
Winter Maintenance and Snow Removal

This Special Provision outlines the Department plan and Contractor requirements for project snowplowing, ice control, and snow removal, during the closure of the US Route 1 viaduct bridge. The requirements of this Special Provision supplement the information and restrictions specified in Special Provisions 107, 108, and 652.

During the closure period of the viaduct, the Contractor shall provide for and perform all winter maintenance and snow removal in compliance with this Special Provision.

Department Snowplowing Measures

The Department considers Route 1 and the Route 1 detour a Priority 1 Corridor. The Department commences plowing and material application operations no later than when snow on the pavement has reached a depth of one-half inch if the snow is wet, and one inch if dry. Unless specified otherwise in this Special Provision, immediately after storm conditions have subsided, the Department removes snow to a width of 22 feet or from shoulder to shoulder, whichever is less.

Contractor Requirements

The Contractor shall be responsible for maintaining roadway passage in conjunction with the Department Snowplowing Measures, according to this Special Provision, and in coordination with City staff as follows:

- a) The Contractor shall maintain an unobstructed width of 14 feet per single lane of traffic and 22 feet for two lanes of one-way traffic within the limits shown in the plans and as described in the Plowing Limits below to allow the Department trucks access to plow, salt, and sand through the site as required.
- b) Within 12 hours of storm subsidence and after the Department has cleared the roadway, the Contractor shall clear and remove snow from the remaining roadway along the frontage roads, under the viaduct, including to the backside of sidewalks within the limits shown in the plans and as described in the Winter Maintenance Limits below.
- c) The Contractor shall be responsible to keep sidewalks and crosswalks clear from the curb to the back side of the sidewalks along the frontage roads and pedestrian access ways under the viaduct as noted in the Contract. This sidewalk clearing can be done as part of the cleanup.
- d) The Contractor shall use appropriate equipment and personnel including plow trucks, bucket loaders, or other appropriate equipment approved by the Resident.

- e) The Contractor shall only be responsible for snow removal. No ice control measures such as sanding and salting are required.
- f) When the Contractor is not working, the Contractor shall ensure that at least 22 feet of unobstructed width is available along frontage roads.

Winter Maintenance Limits

Roadway limits for Contractor snow removal within the project are shown in the plans and are generally described as follows:

- US Route 1 eastbound (NB), onto Commercial Street, and the US Route 1 eastbound (NB) on-ramp to the Sagadahoc Bridge.
- US Route 1 westbound (SB) off-ramp from Sagadahoc Bridge, onto Vine Street, Leeman Highway, and to the merge with US Route 1.

Site Shutdown Storm Event

A Site Shutdown Storm (SSS) shall be defined as:

A storm, with an estimated, or anticipated start time, or a storm in-progress, with precipitation amounts and severe weather conditions requiring unrestricted snow removal and ice control within the project limits. SSS conditions will be considered to be a severity level that would affect Department snow plowing measures, related winter maintenance, and work zone safety. Further terms and conditions of a SSS including start and end times, and cleanup time, shall be a result of discussion and agreement between the Contractor and the Resident. The Resident will have final approval of the determination of a SSS.

In the event of a SSS, the Contractor shall:

- clear work areas and provide unrestricted access to all frontage road travel ways and shoulders throughout the project area to allow Department plow vehicles adequate clearance to operate effectively.
- be entitled to additional contract time (including B-Portion of Work time) on a Calendar Day amount basis determined by definition and the result of discussion and agreement between the Contractor and the Resident, including SSS begin, end, and cleanup times. Final approval of SSS conditions including begin and end times, and any additional contract time allowed, will be determined by the Resident.

Method of Measurement

Snow removal as described herein will be measured for payment as one lump sum unit, complete, and accepted.

Basis of Payment

Snow removal will be paid for at the contract lump sum price. The lump sum price shall include all work required to remove snow from travelways, shoulders, and sidewalks as outlined herein. Payment for snow removal and cleanup work in other areas not covered or described in this specification, but required to facilitate construction, shall be considered incidental to related contract items. Lump Sum

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payment shall be made in 3 installments as specified below:

- 35% of the Lump Sum price no later than January 2, 2017
- 35% of the Lump Sum no later than February 15, 2017
- 30% of the Lump Sum no later than May 1, 2017

Failure of the Contactor to follow the requirements described herein, as determined by the Resident, will result in a traffic control violation.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
910.301 Special Work – Winter Maintenance & Snowplowing	Lump Sum

SPECIAL PROVISION
SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

104.4.7 Cooperation With Other Contractors

Add the following paragraphs to the end of subsection 104.4.7 Cooperation With Other Contractors:

The City of Bath and its agents or contractors are designing and constructing a new drainage system along Leeman Highway that extends from the westerly limits of the project near High Street to approximately Station 1393+40 LT. In addition, the City of Bath Water District is lowering the existing waterline near Station 1395+35 LT to accommodate the new drainage under the track that is included in this Contract. The estimated completion for this drainage and waterline relocation work is June 1, 2016. The information depicted in the plans is based on the preliminary design obtained from the City and may not reflect the final design and construction of this infrastructure.

The Contractor shall cooperate and coordinate with the City and the Bath Water District as required to ensure the work included in this contract is compatible with the final design and construction of the drainage and waterline relocation completed by the City and the Water District. The Contractor shall notify the Resident of any issues.

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SPECIAL PROVISIONS
SECTION 104
Utilities

UTILITY COORDINATION

The contractor has primary responsibility for coordinating their work with utilities after contract award. The contractor shall communicate directly with the utilities regarding any utility work necessary to maintain the contractor’s schedule and prevent project construction delays. The contractor shall notify the resident of any issues.

THE CONTRACTOR SHALL PLAN AND CONDUCT WORK ACCORDINGLY.

MEETING

A Preconstruction Utility Conference, as defined in Subsection 104.4.6 of the Standard Specifications is required.

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.

Utilities have been notified and will be furnished a project specification.

Overview:

Utility/Railroad	Aerial	Underground	Railroad
MaineDOT	None	X	X
Central Maine & Quebec Railway	None	X	X
Central Maine Power Company	X	None	None
FairPoint Communications	X	X	None
City of Bath	None	X	None
Bath Water District	None	X	None
Comcast	X	None	None
Firstlight	X	X	None
GW / Biddeford Internet Group	X	None	None
Maine Fiber	X	None	None

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Utility Contact Information		
Utility/Railroad	Contact Person	Contact Phone
MaineDOT – Railroad Track & R/W	Jeff Pitcher	624-3164
Central Maine & Quebec Railway – Railroad Operator	Ron Marshall	848-4261
Central Maine Power Company	Dick Adams	242-0511
Comcast	Kendal Blodgett	441-4307
FairPoint Communications	Marty Pease	797-1119
City of Bath (Sewer)	Peter Owen	443-8357
Bath Water District	Brian Moody	443-2391
Firstlight	Michael Wescott	(518) 694-8740
GWI / Biddeford Internet Corp	Joshua Massey	602-1117
Maine Fiber	Tim LaBreck	956-6657

Temporary utility adjustments **are** anticipated. Central Maine Power plans to de-energize their conductors to accommodate Viaduct operations, and Bath Water District plans to lower gate valves to accommodate the milling operation.

Unless otherwise specified, any underground utility facilities shown on the project plans represent approximate locations gathered from available information. The Department cannot certify the level of accuracy of this data. Underground facilities indicated on the topographic sheets (plan views) have been collected from historical records and/or on-site designations provided by the respective utility companies. Underground facilities indicated on the cross-sections have been carried over from the plan view data and may also include further approximations of the elevations (depths) based upon straight-line interpolation from the nearest manholes, gate valves, or test pits.

All adjustments are to be made by the respective utility/railroad unless otherwise specified herein.

All clearing and tree removal in areas where utilities are involved must be completed before the utilities are able to relocate their facilities.

Fire hydrants shall not be disturbed until all necessary work has been accomplished to provide proper fire protection.

Utility working days are Monday through Friday. Times are estimated on the basis of a single crew for each utility. Any times and dates mentioned are **estimates only** and are dependent upon favorable weather, working conditions, and freedom from emergencies. The Contractor shall have no claim against the Department if they are exceeded.

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AERIAL

Summary:

Utility	Pole Set	New Wires/ Cables	Trans. Wires/ Cables	Remove Poles	Estimated Working Days
Central Maine Power Company					See Below
FairPoint					NA
Comcast					NA
Firstlight					NA
GWI / Biddeford Internet Corp					NA
Maine Fiber					NA
Total:					----

Utility Specific Issues:

Central Maine Power Company

Central Maine Power Company (CMP) has facilities in and around the project work limits. CMP has three aerial guy anchors attached to the bridge. CMP intends to remove those attachments as follows: The bridge anchor on Pole #2 at Station 1397+68, 75'LT (Water St) will be removed from the bridge and replaced with a sidewalk guy. The bridge anchor on Pole #93.1 at station 1396+85, 60'RT (King St) will be removed from the bridge and replaced with an anchor placed directly behind the sidewalk. The anchor attached to the bridge between Pole #74 and Pole #75 at approximate station 1390+06 LT & RT (Middle St) will be removed with no replacement. CMP may complete the bridge anchor removals prior to the project award.

CMP has aerial distribution wires crossing the Viaduct at Washington Street. CMP plans to de-energize the section crossing the Viaduct during construction, but must leave the wires in place. The wires will be covered and visual indicators placed during construction. CMP has requested that the Contractor utilize a "spotter" during crane work in the vicinity of the wires. CMP requires 10 Working Days notice prior to an outage.

FairPoint Communications

FairPoint Communications has aerial facilities in and around the limits of this project. **No involvement is anticipated at this time.**

Comcast

Comcast has aerial facilities in the vicinity of the project. **No involvement is anticipated at this time.**

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Firstlight

Firstlight has aerial facilities in the vicinity of the project. **No involvement is anticipated at this time.**

GWI / Biddeford Internet Corp (GWI)

GWI has aerial facilities in the vicinity of the project. **No involvement is anticipated at this time.**

Maine Fiber Company

Maine Fiber has aerial facilities in the vicinity of the project. **No involvement is anticipated at this time.**

SUBSURFACE

Summary:

Utility	Summary of Work	Estimated Working Days
City of Bath	Sewer MH Adjustments (if necessary) Drainage Installation	See Below See Below
Bath Water District	Lower Water Gate Raise Water Gates	5 See Below
FairPoint Communications	Manhole	NA
Total:		5

Utility Specific Issues:

City of Bath

The City of Bath has no Sewer main attached to the Viaduct. However, the City of Bath has a sewer main system and approximately 25 manholes (sewer and drainage) throughout the limits of the Mill & Fill portion of the project. The City has reviewed their manholes and anticipates 4-5 to adjust to grade. The City plans to complete their adjustments prior to June 1, 2016. **The remaining sewer manholes shall be milled around by the Contractor.** The City will not adjust them for the project. The Contractor shall protect the manholes with temporary ramps between the milling operation and finish paving. **The payment for this work is considered incidental to the related pavement items.**

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The City also plans to install a drainage system from approximate station 1388+00 to 1393+40 prior to June 1, 2016. The Contractor shall not perform any work that may inhibit the completion of the City's drainage installation. Reference Special Provision 104.4.7, Cooperation with Other Contractors, for details.

Bath Water District

The Bath Water District (BWD) has no water main attached to the Viaduct. However the Bath Water District has a water main system throughout the limits of the Mill & Fill project. BWD estimates **Five (5) Working Days** to lower approximately 12 gate valves prior to milling, and plans to raise the gate valves to grade in conjunction with the paving operation. The contractor shall notify BWD three weeks prior to the start of milling so they may schedule their crews.

BWD also plans to lower the water main at approximate station 1395+35 LT to accommodate the installation of the proposed drainage pipe. BWD plans to complete the relocation of the water main prior to June 1, 2016. The Contractor shall not perform any work that may inhibit the completion of BWD's water main relocation. Reference Special Provision 104.4.7, Cooperation with Other Contractors, for details.

FairPoint Communications

FairPoint Communications has underground facilities within the limits of this project. FairPoint has one manhole in the vicinity of King Street at approximate station 1397+00, 50' RT. This **manhole shall be milled around by the Contractor**. FairPoint will not be adjusting their manhole for the project. The Contractor shall protect the manhole with a ramp between the milling operation and finish paving. **The payment for this work will be considered incidental to related pavement items.**

RAILROAD

MaineDOT

The State of Maine is the owner of the Track and railroad Right of Way. MaineDOT intends to replace approximately 240' of track in conjunction with the underdrain installation at approximate location 1393±30, 23' left to 1396±00, 20' left. The Contractor shall coordinate and schedule installation of the drain pipe under the tracks, and the track construction, with MaineDOT and Central Maine & Quebec Railway. The Contractor shall coordinate the schedule with MaineDOT at least six weeks prior to beginning work on the pipe and crossing. Reference Special Provision 647 & 648 – Timber and Ballasted Track Construction for details.

The Contractor shall complete the installation of the 36" underdrain before the Viaduct is closed.

The Contractor shall protect all railroad facilities including, but not limited to, the signal cabinet, signals, cables, and ballast at all times. The contractor shall submit, for the information of the MaineDOT, a plan of how the signals and signal cabinet will be protected.

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Central Maine & Quebec

Central Maine & Quebec is the operating company of this branch. Central Maine & Quebec runs two (2) trains per day on this line.

The Railroad signals must remain active throughout the entire project. It is the responsibility of the Contractor to protect and maintain the signals and cables at all times.

Central Maine & Quebec plans to perform 120 MD/ nights of Flagging for the bridge work, track work, and Mill & Fill operations. Coordination of both maintenance of traffic flaggers and railroad flaggers is the responsibility of the Contractor. Railroad flagging days associated with the Track Construction (By Others) will not be assessed against the 120 MD provided.

For more information, the Contractor shall reference the Railroad PRTS (Protection of Railroad Traffic and Structure) included in the contract documents.

MAINTAINING UTILITY LOCATION MARKINGS

The Contractor will be responsible for maintaining the buried utility location markings following the initial locating by the appropriate utility or their designated representative.

UTILITY SIGNING

Any utility working within the construction limits of this project shall ensure that the traveling public is adequately protected at all times. All work areas shall be signed, lighted, and traffic flaggers employed as determined by field conditions. All traffic controls shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, as issued by the Federal Highway Administration.

SPECIAL PROVISION
SECTION 105
GENERAL SCOPE OF WORK
(Temporary HMA at Vine Street)

A temporary layer of HMA shall be placed on Vine Street as shown on the plans prior to detouring US Route 1 traffic.

SPECIAL PROVISION
SECTION 107
TIME

(Limitations of Operations, Contract Time, & Supplemental Liquidated Damages)

The Contractor shall plan and conduct his operations in such a manner that Bath, West Approach Bridge, aka Viaduct, remains open to un-restricted traffic as stated below. All traffic control items necessary to maintain traffic throughout the project shall be paid for by the appropriate pay items.

The Bath viaduct shall not be closed to traffic prior to Tuesday, October 11, 2016, and shall be reopened on or before Thursday, May 25, 2017. Any closure(s) of the Viaduct outside of these specified dates will result in disincentives assessed against the Contractor in accordance with Special Provision section 108.9.4 Incentive / Disincentive for Early or Late Completion of the B-Portion of Work. Closed or closure shall include any and all work that impacts or restricts the Route 1 approaches and viaduct traffic on the bridge, including any portion of travel lanes and shoulders.

The contract completion date for all Work is June 30, 2017.

In accordance with Standard Specifications Sections 107.7, Liquidated damages will be assessed to the Contractor per Calendar Day for every day work continues beyond the contract completion date.

Assessment of supplemental liquidated damages will be in addition to the liquidated damages specified in Section 107 of the Standard Specifications as well as Incentives/Disincentives for the B-Portion of Work, including Disincentives for Frontage Roads Use, and as shown in related contract documents.

SPECIAL PROVISION
SECTION 107
TIME
(Sundays and Holidays)

Subsection 107.3.3 Sundays and Holidays is hereby amended as follows.

107.3.3 Sundays and Holidays The Contractor may conduct construction operations on Sundays and Holidays up to the contract completion date except for the Holidays and Observance Days specified in Special Provision 102.12.

The Contractor shall not conduct any operations during the City of Bath Heritage Days that include: 7/1/16 thru 7/4/16 and 6/30/17 thru 7/4/17.

**SPECIAL PROVISION
 SECTION 107
 TIME**

107.8 Supplemental Liquidated Damages

Subsection 107.8 Supplemental Liquidated Damages is replaced as follows.

107.8 Supplemental Liquidated Damages The Contractor will be assessed supplemental liquidated damages in accordance with the traffic impact penalties provided below.

Supplemental Liquidated Damages will be deducted from amounts otherwise due the Contractor.

SUPPLEMENTAL LIQUIDATED DAMAGES PER HOUR FOR TRAFFIC IMPACTS

Conditions Allowed	Conditions In Place					
	Viaduct Open	2-L Frontage Rds	1,2-L Frontage Rds	1-L Frontage Rds	WB Frontage Rd Closed	Frontage Rds Closed
		Viaduct Closed	Viaduct Closed	Viaduct Closed	Viaduct Closed	Viaduct Closed
	Frontage Rds normal	2-lane Frontage Rds in both directions	2 - peak direction 1- other direction	1-lane Frontage rds in both directions	eastbound open westbound closed	both frontage rds closed
Viaduct Open	\$ -	See Special Provision 108 for disincentives				
2-L Frontage Rds	\$ -	\$ -	\$ 1,000	\$ 2,000	\$ 3,000	\$ 4,500
1,2-L Frontage Rds	\$ -	\$ -	\$ -	\$ 1,000	\$ 1,800	\$ 3,000
1-L Frontage Rds	\$ -	\$ -	\$ -	\$ -	\$ 1,000	\$ 1,000
WB Front Closed	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,000

Notes:

- 1) If the Resident determines that the Contractor is intentionally violating frontage road lane requirements, then in addition to the damages provided in the table above, additional penalties as outlined in Standard Specification Section 652 shall govern, except that penalty damage per violation shall be applied on an hourly basis of non-compliance with the frontage road lane requirements.
- 2) See Special Provision Section 652 for related information on Viaduct and frontage road lane requirements by hour, day, and month

SPECIAL PROVISION
SECTION 107
TIME
(Schedule of Work)

Description - The Contractor shall submit to the Resident a schedule of work for approval. The schedule of work shall be used to monitor the sequence of construction operations and the progress of work.

The Schedule of Work shall be in the form specified herein.

Critical Path Method Schedule - The construction of this project shall be planned and recorded with a Critical Path Method (CPM) schedule in the form of an activity on node (AON) diagram. The schedule shall be used for coordinating and monitoring all work under the contract including the activity of subcontractors, vendors, and suppliers.

Preparation of Bid Schedule - Each bidder shall submit with the bid a CPM schedule of the work to indicate the scheduled dates or completion of major components of the project. It shall include approval, fabrication, and delivery precedent to the performance of the major components of the project. The schedule must demonstrate the apparent low bidder's understanding of the project and ability to:

1. Complete the B-Portion of the Work within the bid number of calendar days
2. Complete all of the work by the contract completion date.
3. Meet the milestones specified in Section 107.4 entitled Scheduling of Work.

Four paper copies of this schedule shall be provided with the bid.

The critical path of the B-Portion of Work must be highlighted (See Special Provision Section 101.2.1 for the definition of the B-Portion of Work and Special Provision Section 102.12), as this work is directly tied to an incentive/disincentive provision.

Within 20 calendar days of the apparent low bidder's CPM schedule submittal, the Resident will review the schedule and provide the apparent low bidder in writing, any corrections needed to approve the schedule. The apparent low bidder must make all corrections and resolve all comments within 20 calendar days of written notice of required schedule corrections.

The approval of the CPM schedule by the Resident in no way attests to the validity of the assumptions, logic constraints, dependency relationships, resource allocations, manpower and equipment, or any other aspect of the proposed schedule. Once the apparent low bidder becomes the contractor, (i.e. upon contract award) the Contractor is and shall remain solely responsible for the planning and execution of work in order to meet project milestones or contract completion dates.

The construction time for the entire project, or any milestone, shall not exceed the specified contract time. Logic or activity durations will be revised in the event that any milestone or contract completion date is exceeded in the schedule.

The completion milestone for the B-Portion of Work shall be subject to the incentives and disincentives described in Special Provision 108.9.4, regardless of the completion date of the overall contract.

In the event that a Contractor submits a schedule with a completion time before the contract completion date, the Contractor agrees that the Department will not be liable for any compensable delay claims related to the period between the Contractor's scheduled completion time and the contract completion time unless the Contractor can demonstrate that (a) the cause(s) of the delay(s) were solely attributable to the Department, (b) the delays incurred impacted the critical path, (c) the Contractor did not cause any concurrent delays to the critical path, and (d) the Contractor was not able to perform other critical path work during the delay period.

Schedule Requirements:

1. Activity Information: All activity on node diagrams shall include:
 - a. Activity ID
 - b. Activity Description
 - c. Finish to Start relationships with no leads or lags
2. Duration (Working Days): No activity will have duration greater than 15 working days or less than one working day. Activity durations expressed in hours will not be allowed unless approved by the Resident. If requested by the Resident, either the apparent low bidder or the Contractor shall furnish any information needed to justify the reasonableness of activity time durations. Such information shall include, but not be limited to, estimated activity manpower, unit quantities, and production rates.
3. Procurement and Submittals: Separate procurement into at least two activities, fabrication and delivery. When the procurement also requires a submittal to and approval by the Department, ensure these separate activities are shown in the schedule logic. Ensure all work activities that require a submittal are preceded by submittal and approval activities.
4. Constraints: Use only contractual constraints in the schedule logic. No other constraints are allowed unless approved by the Resident. The disallowance of constraints includes the use of activity mandatory start and finish dates.
5. Float: Float is defined as the amount of time between when an activity "can start" (the early start) and when an activity "must start" (the late start). It is understood by the

Department and the Contractor that float is a shared commodity, not for the exclusive use of financial benefit of either party. Either party has the full use of the float until it is depleted.

6. Activity Codes: Activities shall be identified by codes to reflect the following information related to an activity:

Responsible party for the accomplishment of each activity (only one party can be responsible for an activity).

Phase/stage as required by the maintenance and protection of traffic plan and/or the Special Provisions.

Area/Location

Initial Schedule Submittal Requirements:

1. Predecessor/Successor Sort
2. Total Float/Early Start Sort
3. Responsibility/Early Start Sort
4. Area/Early Start Sort
5. Logic Diagram: produce diagram with not greater than 100 activities per ANSI D (24-inch x 36-inch) size sheet. Ensure each sheet includes title, match data or diagram correlation, and key to identify all components used in the diagram.
6. Narrative discussing general approach to completion of the work.

Schedule Updates - The Contractor shall update the schedule bi-weekly during active work until new structure is open to traffic to show current progress. The data date for the update shall be determined by the Resident. The schedule update shall be submitted within seven calendar days of the data date. Should the Contractor fail to provide an update, the Department may withhold payment of the current monthly progress estimate until the bi-weekly schedule update is submitted.

Schedule Revisions - The Contractor will revise the schedule for the following: a delay in completion of the project or contractual milestones or actual prosecution of the work which is, as determined by the Resident, significantly different than that represented on the schedule: Schedule revisions will be considered incidental.

Revisions to the work which impact the critical path of the B-Portion of Work, must be highlighted.

Recovery Schedule - If the initial schedule or current updates fail to reflect the project's actual plan or method of operation, or the B-Portion is more than 5 calendar days behind, the Department may require that a recovery schedule for completion of the remaining contract work be submitted. The Recovery Schedule must be submitted within seven calendar days of the Department's request. The Recovery Schedule shall describe in detail the Contractor's plan to complete the remaining contract work by the contract milestone date. The Recovery Schedule submittal shall meet the same schedule requirements as the Initial Schedule. The narrative submitted with the Recovery Schedule should describe in detail all changes that have been made to meet the contract milestone date.

Contract Modifications - When a contract modification is proposed, the Contractor must identify all logic changes required as a result of the contract modification. The Contractor shall include, as part of each proposed contract modification, a sketch showing all schedule logic revisions, duration changes, and the relationships to other activities in the approved Initial Schedule. This sketch shall be known as the fragment for the change. Upon acceptance of the fragment, the Contractor will revise the Initial CPM Schedule or current update. The logic change work required by the change order will be considered incidental to the contract work. No separate payment will be made.

Schedule Revisions to Utility Work - The Contractor shall provide the utilities ten days notice when revisions in the schedule of work affect operations of a utility unless previous arrangements have been made with the utility company involved.

Method of Measurement and Basis of Payment - Schedule of work will not be measured for payment and will be considered incidental to Contract items.

SPECIAL PROVISION
SECTION 108
PAYMENT

Section 108 PAYMENT of the Standard Specifications is hereby amended by the addition of the following subsection:

108.9.4 Incentive / Disincentive For Early Or Late Completion For The B-Portion of Work

B-Portion of Work Time Period. The time period for the B-Portion of the Work shall be as defined in Special Provision 107 and 102.12.

Early Completion of B-Portion of Work.

The Contractor will be paid **\$20,000 incentive for each CD** the B-Portion of Work is complete less than the number of CD's stated by the Contractor in its Bid.

Failure to complete the B-Portion of Work within the time Bid.

Failure to complete the B-Portion of Work within the established number of CD's set by the Contractor in his/her Bid will result in a **disincentive of \$20,000 per CD** being assessed for every CD in excess of the number of CD's set by the Contractor in its Bid.

After **May 25, 2017, an additional disincentive of \$15,000 per CD** will be assessed for each CD that the B-Portion of Work is not complete.

This assessment of disincentives will be deducted from any monies due or to become due the Contractor.

SPECIAL PROVISION
SECTION 202
(Removing Existing Railing)

The following shall be added to Standard Specifications Section 202, Removing Structures and Obstructions:

Description This work consists of carefully salvaging the existing metal bridge rail components deemed in good condition as directed by the Resident. This work shall also include stacking and packing of the salvaged metal bridge rail components and transportation to a designated location.

Construction Requirements The bridge rail components shall be removed by the Contractor and transported without damage from the project site to the following location:

Maine Department of Transportation
Topsham Maintenance Lot
31 Maintenance Way
Topsham, Maine 04086

The Contractor shall inform the Resident and contact the Topsham Maintenance Lot Supervisor, Tim Leeman, at (207) 725-2395 (or 207.592.3249) a minimum of 72 hours in advance of delivery.

The bridge rails and posts shall be adequately secured to wooden pallets before being returned to the Department. Base plates, rail caps, splice bars, clamp bars and miscellaneous associated 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. MaineDOT is responsible for unloading the bridge rail.

Method of Measurement Removing existing bridge railings, as described herein, will be measured by the lump sum.

Basis of Payment The accepted quantity of removing existing railings will be paid for at the contract lump sum price, which price shall be full compensation for removing, salvaging, preserving, storing, securing, packaging, and transporting the railing as provided herein and as directed by the Resident.

<u>Pay Item</u>		<u>Unit</u>
202.134	Removing Existing Railings (Retained by Department)	Lump Sum

SPECIAL PROVISIONS
SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS
(Removing Pavement Surface)

The December 2002 Revision of the Standard Specifications, Section 202-Removing Structures and Obstructions, subsection 202.061-Removing Pavement Surface, has been removed and replaced in its entirety by the following:

202.061 Removing Pavement Surface The equipment for removing the bituminous surface shall be a power operated milling machine or grinder capable of removing bituminous concrete pavement to the required depth, transverse cross slope, and profile grade by the use of an automated grade and slope control system. The controls shall automatically increase or decrease the pavement removal depth as required, and readily maintain desired cross slope, to compensate for surface irregularities in the existing pavement course. The equipment shall be capable of accurately establishing profile grades by referencing from a fixed reference such as a grade wire, or from the existing pavement surface using a 30 foot minimum contact ski (floating beam), or 24 foot non-contact grade control beam.

The Contractor shall locate and remove all objects in the pavement through the work area that would be detrimental to the planing or grinding machine. Any structures or obstructions left within the travel lane or shoulders shall have tapers installed according to Standard Detail 202(01). The finished milled surface will be inspected before being accepted, and any deviations in the profile exceeding 1/2 inch under a 16 foot string line or straightedge placed parallel to the centerline will be corrected. Any deviations in the cross-slope that exceed 3/8 inch under a 10 foot string line or straightedge placed transversely to centerline will be corrected. All corrections will be made with approved methods and materials. Any areas that require corrective measures will be subject to the same acceptance tolerances. Excess material that becomes bonded to the milled surface will be removed to the Resident's satisfaction before the area is accepted.

On highways or expressways with directional traffic, the Contractor will be required to remove the pavement surface on the adjacent sections of travel lane and designated portions of adjacent shoulder before the end of the following calendar day unless the centerline edge is tapered to a 12:1. Failure to remove the centerline vertical edge by milling, using the approved taper, or matching the adjacent course the following day will constitute a traffic control violation unless an excusable delay is granted by the Department. The Contractor will be required to remove the specified pavement course over the full width of the mainline traveled ways prior to opening the sections to weekend or holiday traffic.

On roadways with two-way traffic, the Contractor will be required to remove the specified pavement course over the full width of the mainline traveled ways prior to opening the sections to weekend or holiday traffic.

During any period that a centerline vertical or tapered edge exists, the Contractor will be responsible for installing additional warning signage that clearly defines the centerline vertical or tapered edge and elevation differential hazard, as well as additional centerline delineation such as double RPM application, or temporary painted line. The Traffic Control Plan shall include the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of 0.50 mile for the entire length of the effected roadway section. All additional signing, labor, traffic control devices, or incidentals will not be paid for directly, but will be considered incidental to the appropriate 652 bid items.

When pavement milling operations leave a 2 inch or less exposed vertical face at the edge of the traveled way, RPMs shall be placed on the remaining pavement surface along the vertical edge at 200 foot intervals. Uneven pavement signs shall be placed at a maximum spacing of ½ mile when pavement milling operations leave an exposed vertical face at the edge of travelway.

When pavement milling operations on directional or bi-directional traffic roadways leave an exposed vertical face greater than 2 inches at the edge of the traveled way the edge shall be either;

1. Be tapered to a zero edge by means of milling a 12:1 transition from the edge of traveled way onto the shoulder before opening the lane to traffic. Tapers shall be removed to form a vertical edge prior to the placement of the new pavement course. No additional payment will be made for tapers, or taper removal.
2. Have an additional 2 feet of pavement shall be removed from the shoulder to eliminate the vertical edge at the edge of travelway before opening the lane to traffic. Payment will be made under the pavement removal item.
3. A pavement layer will be placed to reduce the vertical edge to 2 inch or less before opening the lane to traffic.

As a minimum, the use of temporary painted line, or RPMs placed along the edge of traveled way at 200 foot intervals is required. When pavement milling is extended into the shoulder (including milled tapers), appropriate channelization devices shall be placed 2 feet outside the edge of the vertical face at intervals not exceeding 600 feet, and RPMs shall be placed on the remaining pavement surface along the vertical edge at 200 foot intervals. Uneven pavement signs shall be placed at a maximum spacing of ½ mile when any pavement milling operations leaves an exposed uneven pavement surface.

Any areas of concern, such as de-lamination or pot-holing shall be identified on a continuous basis as milling progresses. Proper corrective action will be determined by the Resident and paid for under the appropriate contract items, and if required, completed prior to opening lane to traffic. Any issues that arise **up to** 7 calendar days after being milled will be the responsibility of the MaineDOT unless otherwise noted in Special Provision Section 105 – Limitations Of Operations. Issues that arise after 7 calendar days will be the responsibility of the Contractor unless otherwise noted in Special Provision Section 105 – Limitations Of Operations.

SPECIAL PROVISION
DIVISION 400
 PAVEMENTS

SECTION 401 - HOT MIX ASPHALT PAVEMENT
 (Longitudinal joint construction using wedge/taper apparatus)

The Special Provision 400. Section 401 – Hot Mix Asphalt Pavement, subsection 401.15 – Spreading and Finishing, and subsection 401.17- Joints have been modified with the following revisions. All sections not revised by this Special Provision shall be as outlined in the Special Provision 400 Pavements, Section 401 – Hot Mix Asphalt Pavement. References to Standard Specifications, Special Provisions, or other documents, shall be determined as the most current version available at the time of bid, or as amended. All costs associated with this Item will not be paid for directly, but shall be considered included in the associated contract items.

401.15 Spreading and Finishing The section has been amended as follows:

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 that 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, or within this Special Provision.

When an approved longitudinal joint construction method is utilized, such as a manufactured notched wedge apparatus, the Department may allow the placement of mixtures in one continuous lane for each calendar day worked, with the following conditions:

The Contractor may utilize a manufactured notched wedge joint apparatus on all HMA layers 1 ½ inch or greater in Zone 1 between the dates of May 30th and the Saturday following October 1st, and in Zone 2 between the dates of May 15th and the Saturday following October 15th. When the work is to be performed, either by contract requirement or Contractor option, during conditions defined as “night work”, the same seasonal limitations shall apply unless the Department determines that the construction method is producing an unsound joint. This work will not be allowed during times of inclement weather as outlined in Division 400 – Special Provision 401; subsection 401.06 Weather and Seasonal Limitations.

If this option is utilized on roadways with two-way traffic, the Contractor will be required to place a matching course of HMA over the adjacent section of travel lane before the end of the following calendar day. Failure to match the centerline course the following day will constitute a traffic control violation unless an excusable delay is granted by the Department.

If this option is utilized on divided highways or expressways with directional traffic, the Contractor will be required to place a matching course of HMA over the adjacent section of travel lane within seven calendar days from placement of the initial paved lane. Failure to match the centerline course the within the seven calendar days will constitute a traffic control violation unless an excusable delay is granted by the Department.

The Contractor will also be responsible for installing additional warning signage that clearly defines the centerline elevation differential hazard, as well as additional centerline delineation such as double RPM application, or temporary painted line. The Traffic Control Plan shall include this option and the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of 0.50 mile for the entire length of the effected roadway section. On roadways with two-way traffic, the Contractor will be required to place the specified course over the full width of the mainline traveled way being paved prior to opening the sections to weekend or holiday traffic. If this option is utilized, all additional signing, labor, traffic control devices, or incidentals will not be paid for directly, but will be considered incidental to the appropriate 652 bid items.

The Department reserves the right to have centerline cores cut by the Contractor's QC personnel for informational purposes to monitor the density along the joint. Informational cores at the centerline joint will be taken centered over the tapered part of the wedge joint.

Any notched wedge joint constructed areas that become cracked or broken shall be trimmed back to the limits affected prior to placing the adjoining lane. Any materials that become unbound or separated from the wedge or tapered joint section, or contaminated by materials determined by the Department as being detrimental to the construction of a sound construction joint, shall be removed by sweeping, compressed air and lance, or by hand tools as required. This work, if necessary, will not be paid for directly, but shall be considered incidental to the related contract items.

401.17 Joints The following section has been amended as follows:

Should the notched wedge joint device be used, the Contractor shall apply a coating of emulsified asphalt on the vertical and tapered surface of the longitudinal centerline joint immediately before paving. The rate of application shall be approximately 0.050 G/SY. This application shall be in addition to the normal application of tack coats to the construction joint face and horizontal surfaces prior to placing a new lift. 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.

SPECIAL PROVISION
SECTION 401 - HOT MIX ASPHALT PAVEMENT

The Standard Specification 401 – Hot Mix Asphalt Pavement, has been modified with the following revisions. All sections not revised by this Supplemental Specification shall be as outlined in Section 401 of the Standard Specifications.

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.

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. No ceasing of paving operations shall be required for fines to effective binder if the mean test value is equal to the LSL or USL and $s = 0$.
- 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. No ceasing of paving operations shall be required for fines to effective binder if the mean test value is equal to the LSL or USL and $s = 0$.
- c. Method C: The Pay Factor for 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. No ceasing of paving operations shall be required for percent passing the nominal maximum sieve, percent passing 2.36 mm sieve, percent passing 0.300 mm sieve, or percent passing 0.075 mm sieve if the mean test value is equal to the LSL or USL and $s = 0$.
- 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.

401.203 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 tons, with unanticipated over-runs of up to 1500 ton rolled into the last lot. Sublot sizes shall be 750 ton for mixture properties, 500 ton for base or binder densities and 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%
% TMD (In place density)	95.0% +/- 2.5%

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:

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

SPECIAL PROVISION
SECTION 403
PAVEMENT REPAIR

Description. This work shall consist of removing bituminous concrete pavement, regrading and compaction of the existing subbase, cleaning, tacking, furnishing and compacting replacement HMA for a minimum of 2 inches in accordance with the contract specifications, for areas defined by the Resident. Areas shall be regraded such that the 2 inches of replacement HMA matches the grade of the surrounding milled surface.

MATERIALS

Tack The bituminous material shall meet the applicable requirements of Section 702 Bituminous Materials.

HMA The Hot Mix Asphalt shall meet all of the Materials, Seasonal Limitations and Construction requirements of Section 401, with the following additions and changes.

DESIGN CRITERIA

PGAB Content	7.0 % minimum
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The mixture shall meet the gradation requirements of a current MDOT approved 12.5 mm JMF and the minimum PGAB content noted above. The Acceptance Limit targets for gradation will be as specified on the JMF. The Acceptance Limits target for PGAB content will be 7.0%. The mixture will not be evaluated for volumetric properties, but will be required to meet the Standard Specification 401, Table 8: Method D Acceptance Limits for PGAB content and gradation.

CONSTRUCTION REQUIREMENTS

Compaction The HMA shall be compacted in 1/more lift by a 3-5 ton roller.

Method of Measurement Pavement Repair will be measured by the Ton.

Basis of Payment The accepted quantity of Pavement Repair will be paid for at the contract unit price per Ton. This price will be full compensation for all materials and equipment required for the removal and cleaning of the existing HMA to the required depth and width, for the regrading of existing subbase material, the application of tack and the furnishing, placing and compaction of replacement HMA. Tack will be applied at a rate of 0.05 Gallons/Yd².

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
403.102 Hot Mix Asphalt Pavement for Special Areas	Ton

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
<u>3" – West Approach Bridge Deck</u>						
Wearing	12.5 mm	403.2081	N/A	1½"	1	2,5,8,12,30
Base	12.5 mm	403.2131	N/A	1½"	1	2,5,8,12,30
<u>9" – US Route 1 Travel Way & Shoulders – Full Depth</u>						
Wearing	12.5 mm	403.2081	N/A	1½"	1	5,8,12,30
Base	12.5 mm	403.2131	N/A	1½"	1	5,8,12,30
Base	12.5 mm	403.213	N/A	6"	3	1,5,8,13
<u>5" – US Route 1 - Travel Way – Mill & Fill/Overlay</u>						
Wearing	12.5 mm	403.2081	N/A	1½"	1	5,8,12,30
Base	12.5 mm	403.2131	N/A	1½"	1	5,8,12,30
Base	12.5 mm	403.213	N/A	2"	1	1,5,8
<u>6" – Washington Street Rail Road Work</u>						
Wearing	12.5 mm	403.2081	N/A	2"	1	5,8,12,30
Base	12.5 mm	403.213	N/A	4"	2	1,5,8,17
<u>Variable Mill with 2" HMA – Washington St, Commercial St, Leeman Highway, Middle St, Franklin St, Vine St, Water St and King St - Travel Way & Shoulders – Mill & Fill</u>						
Wearing	12.5 mm	403.2081	N/A	2"	1	5,8,12,30
Shim	9.5 mm	403.211	N/A	Varies	1	2,5,10,11,14
<u>4" or Match Existing Base – Commercial Street Shoulders</u>						
Base	12.5 mm	403.213	N/A	4"	2	1,2,5,18
<u>4" Base – Curb Installation & Paved Swale Areas</u>						
Base	12.5 mm	403.213	N/A	4"	2	1,2,5,18
<u>5/8" – Vine Street - Selected Travel Way Areas – Overlay</u>						
Shim	9.5 mm	403.211	N/A	Varies	1	2,5,11,14,18
<u>Varies – Reconstruct Base, as directed by the Resident</u>						
Special Areas	12.5 mm	403.102	N/A	Varies	1/more	1,27
<u>2" – Drives, Islands & Incidentals</u>						
Wearing	9.5 mm	403.209	N/A	2"	2/more	2,3,10,11,14

COMPLEMENTARY NOTES

1. The required PGAB for this mixture will meet a **PG 64-28** grading.
2. The incentive/disincentive provisions for density shall not apply. Rollers shall meet the requirements of this special provision. The use of an oscillating steel roller shall be required to compact all mixtures pavements placed on bridge decks.
3. The design traffic level for mix placed shall be <0.3 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **50 gyrations**.

5. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**.
8. Section 106.6 Acceptance, (2) Method B. The Contractor may request a contract modification to change to testing method “A” prior to work starting on this item.
10. Section 106.6 Acceptance, (2) Method D.
11. The combined aggregate gradation required for this item shall be classified as a 9.5mm “**fine graded**” mixture, (using the Primary Control Sieve control point) as defined in 703.09.
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.
13. A mixture meeting the gradation of 19.0 mm hot mix asphalt may be used at the option of the contractor.
14. The combined aggregate gradation required for this item shall be classified as a 9.5mm Thin Lift Mixture (TLM) mixture, using the Aggregate Gradation Control Points as defined in 703.09.
17. Compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **3-5 ton** vibratory roller. An approved release agent is required to ensure the mixture does not adhere to hand tools, rollers, pavers, and truck bodies. The use of petroleum based fuel oils, or asphalt stripping solvents will not be permitted.
18. The Department will accept or reject any HMA based on a visual basis, either prior to it’s use, during placement, or in it’s final disposition.
27. See Special Provision 403.102 – Hot Mix Asphalt Pavement for Special Areas, for project specifics.
30. The required PGAB for this mixture will meet a **PG 70-28** to **PG 76-28** grading. Refer to Special Provision 400 - Polymer Modified PGAB for HMA, for additional testing and documentation requirements.

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/yd², and on milled pavement approximately 0.05 gal/yd² prior to placing a new course. A fog coat of emulsified asphalt shall be applied between shim /base courses and surface course as well as to any bridge membrane prior to the placement of HMA layers at a rate not to exceed 0.025 gal/yd². Tack used will be paid for at the contract unit price for Item 409.15 Bituminous Tack Coat.

**SPECIAL PROVISION
SECTION 430
COBBLESTONE PAVEMENT**

Description

The work covered by this section includes furnishing all labor, materials, equipment and incidentals for installation of granite cobblestone paving in intersection islands as shown on the landscape plans.

Submittals

- (a) Submit a minimum of three (3) full size sample cobblestones and certificates for bedding materials.

Materials

- a) Cobblestones shall be standard gray cobblestones approximately 9" (225mm) long x 5" (125mm) wide x 4" (100mm) thick.
- b) Dry sand cement setting bed shall be six (6) parts washed mortar sand to one (1) part Portland Cement.
- c) Filter fabric shall be a 3 mil woven, polypropylene fabric or approved equal.

Construction

Cobblestones shall be delivered and handled to prevent soiling and damage. Stack cobblestones off the ground.

- a) Remove and replace damaged cobblestones that are broken, chipped or stained.
- b) Lay filter fabric flat on compacted base course below setting bed. Trim all excess fabric after installation of cobblestones.
- c) Hand set cobblestones in a running bond pattern as shown on landscape plans or as directed by Resident. Maintain a maximum ½" joint spacing between cobblestones and minimum 1" depth of sand cement setting bed.
- d) Minimum cut cobblestone size for radii, corners and infill of running bond pattern shall be 3" long x 5" wide.
- e) 4" deep joints filled with sand cement may be up to 1.5" wide at pattern change locations, radii and corners only.
- f) Once the cobblestones have been set, the sand cement mixture shall be spread on the surface and swept into the joints to within ¼" to ½" of the paver surface. Surplus sand cement mixture shall be swept from the surface.
- g) After cleaning sand cement from the surface, sand only shall be swept onto the surface of the joints.
- h) Cleaning agents and methods for cobblestone surface shall be acceptable to MaineDOT.
- i) Perform cleaning during installation of work and upon completion of work. Remove from site all excess materials, debris, and equipment. Repair damage resulting from cobblestone paving operations.

Method of Measurement

Granite Cobblestone Paving and setting bed will be measured by the square yard, complete and accepted in place.

Basis of Payment

The accepted quantities of cobblestone pavement will be paid for at the Contract Unit per square yard, complete in place. Payment will be full compensation for placing filter fabric, any necessary cutting and hand setting of cobblestones as directed, spreading joint fillers, any necessary cleaning and all other necessary incidentals for satisfactory completion of the work.

Payment will be made under the following item:

Pay Item

430.25 Cobblestone Pavement

Pay Unit

Square Yard

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

CLASS OF CONCRETE	ITEM NUMBER	DESCRIPTION	P	METHOD
A	502.21	Structural Concrete, Abutments and Retaining Walls	\$400	A
A	502.239	Structural Concrete Piers	\$400	A
A	502.35	Structural Concrete, Stamped Colored		C
A	502.412	Structural Concrete Superstructure Special	\$400	A
LP	502.49	Structural Concrete Curbs and Sidewalks	\$450	A
LP	502.55	Structural Concrete Utility Support System		C
LP	526.34	Permanent Concrete Transition Barrier		C
LP	526.3401	Permanent Concrete Transition Barrier – Modified		C
A	530.04	Prefabricated Bridge Structure and Assembly	\$400	A

P values listed above reflect the price per cubic yard (CY) for all pay adjustment purposes.

The quantity used for Pay Adjustment purposes shall be the actual quantity of concrete placed and accepted. This quantity shall be computed by the Contractor and submitted to the Resident for approval.

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Elastomeric Concrete (Link Curb))

502.01 Description The following sentence is added:

This work shall consist of furnishing and placing Elastomeric Concrete as shown on the plans and the requirements of these specifications.

502.03 Materials The following paragraph is added:

The Elastomeric Concrete material for the link curb shall be Delcrete™ as supplied by D.S. Brown or WaboCreteII as supplied by Watson Bowman Acme Corporation or approved equivalent.

502.04 Shipping and Storage The following paragraph is added:

The Contractor shall assure the proper storage of all materials as specified by the Manufacturer.

502.05 Composition and Proportioning The following paragraph is added:

Materials shall be proportioned as specified by the Manufacturer.

502.10 Placing Concrete The following subsection is added:

I. Elastomeric Concrete Elastomeric Concrete shall be placed in full per location in less than 20 minutes to ensure proper setting of materials. Locations shall not be partially placed.

502.18 Method of Measurement The following sentence is added:

Elastomeric Concrete satisfactorily placed and accepted will be measured by the cubic foot, in accordance with the dimensions shown on the Plans or authorized changes in the Plans.

502.19 Basis of Payment The following sentence is added:

All associated labor, materials, tools and equipment necessary to complete the work including the steel curb plate assembly shall be included in the cubic foot cost.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
502.59	Elastomeric Concrete (Link Curb)	Cubic Foot

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE

Add the following paragraphs to Subsection 502.18 Method of Measurement:

10. Structural Concrete Superstructure Special The limit will be the entire expansion joint header concrete as shown in the Plans.

11. Structural Concrete Utility Support System The limit will be the entire light pole pedestal concrete at the Abutment 1 Retaining Walls and Wingwall as shown in the Plans.

12. Drainage System (Downspouts, troughs, etc.) The limit will be the entire steel drainage system affixed to the piers that drain the FRP superstructure drains as shown in the plans.

The following are added to the pay items at the end of Section 502:

<u>Pay Item</u>		<u>Pay Unit</u>
502.412	Structural Concrete Superstructure Special	Lump Sum
502.55	Structural Concrete Utility Support System	Lump Sum
502.704	Drainage System (Downspouts, troughs, etc.)	Lump Sum

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Fiber Reinforced Polymer Bridge Drains)

Description

This work shall consist of design, fabrication and delivery of bridge drains using FRP (Fiber Reinforced Polymer) composite materials in accordance with the plans and this specification.

Applicable Standards and References

The design and construction of FRP composite bridge drain components shall be in accordance with this Methods Specification and the relevant requirements of the following standards and specifications, unless otherwise stipulated in this specification. Standards and specifications specifically cited in the body of the specification establish requirements that shall have precedence over all others. Should the requirements in any reference conflict with those in another, the reference highest on the list shall govern.

Specifications

Work shall be done in general accordance with the following specifications:

- a. AASHTO LRFD Guide Specifications for Design of Concrete-Filled FRP Tubes for Flexural and Axial Members, 2012.
- b. American Composites Manufacturing Association, ACMA Code of Standard Practice, First Edition, 2011.
- c. ISO/IEC Guide 58, Calibration and Testing Laboratory Accreditation Systems - General Requirements for Operation and Recognition.
- d. ISO/IEC 17025 General Requirements for the Competence of testing and Calibration Laboratories.
- e. NBS Voluntary Product Standard PS15-69. Custom Contact-Mold Reinforced Polyester Chemical-Resistant Process Equipment. The Society of the Plastics Industry, Inc., 355 Lexington Ave., N.Y., N.Y. 10017

Standards

- A.) ASTM D 2584. *Standard Test Method for Ignition Loss of Cured Reinforced Resins*. American Society for Testing and Materials, West Conshohocken, PA.
- B.) ASTM D 3039. *Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials*. American Society for Testing and Materials, West Conshohocken, PA.
- C.) ASTM D 3171. *Standard Test Methods for Constituent Content of Composite Materials*. American Society for Testing and Materials, West Conshohocken, PA.

- D.) ASTM D 4385. *Standard Practice for Classifying Visual Defects in Thermosetting Reinforced Plastic Pultruded Products*. American Society for Testing and Materials, West Conshohocken, PA.
- E.) ASTM D 570. *Test Method for Water Absorption of Plastics*. American Society for Testing and Materials, West Conshohocken, PA.
- F.) ASTM E 1356. *Standard Test Method for Assignment of the Glass Transition Temperatures by Differential Scanning Calorimetry*. American Society for Testing and Materials, West Conshohocken, PA.
- G.) ASTM E 1640. *Standard Test Method for Assignment of the Glass Transition Temperature by Dynamic Mechanical Analysis*. American Society for Testing and Materials, West Conshohocken, PA.
- H.) ASTM C 582. *Standard Specification for Contact-Mold Reinforced Thermosetting Plastic (RTP) Laminates for Corrosion-Resistant Equipment*. American Society for Testing and Materials, West Conshohocken, PA.

Material

Materials shall conform to the following requirements:

1. FRP composite drain and pipe material shall meet the requirements of Appendix A.
2. All material and workmanship will meet or exceed the requirements of ASTM.

Construction Requirements

FRP DRAIN MANUFACTURERS

The FRP bridge drains shall be supplied by one of the following companies:

1. Kenway Corporation
2. FRP Bridge Drain Pipe-Westfall Company
3. ACO USA

The above suppliers have been pre-certified by providing materials samples that have been tested in accordance with appendix B. Other suppliers/manufacturers may become certified if FRP bridge drain samples are tested in accordance with the requirements in Appendix B along with the meeting the following requirements.

All manufactures or fabricators of FRP bridge drain systems/components are required to have a minimum of 3 years of experience in providing FRP composite structural grade products to the

general market. Manufacturers need to provide documentation that personnel involved in manufacture/fabrication hold and maintain American Composites Manufactures Association (ACMA) certifications in a minimum of two of the following disciplines; 1) Open Molding, 2) Corrosion, 3) Vacuum Infusion, 4) Closed Molding and that the Manufacturer/Fabricator have an ISO 9001:(current year) or other independent certification to ensure that the Manufacturer's process has been independently audited for conformance.

Design Guide for FRP Composite Scupper Bodies/Drain Inlets

General

The bridge shall use a size **D** offset FRP composite scupper (24" x 12" with 8" diameter downspout)
See Appendix B for details.

Deck/interface drain holes.

Drain holes are required on both sides of the scupper to capture moisture at the interface between the top of the deck and bottom of the asphalt pavement. Three holes one half inch in diameter spaced at 6 inches on center and three and one quarter inches on center below the top of the grate, or pavement thickness, shall be placed on both sides of the scupper. If the holes are created after the molding process by punching, drilling or other mechanical means the holes shall be sealed using a compatible epoxy compound.

Grates

Grates shall be bicycle friendly and designed for HL-93 Live Load unless otherwise specified. Any gaps in grates shall have a maximum clear width of two inches. The minimum clear opening size in any grating shall be 1 1/8" by 1 1/8". Grates shall be galvanized steel (ASTM A123) or FRP specifically designed and meeting the HL-93 Live Load requirements.

- Steel grating shall be commercial heavy - duty grating with 1 1/2" x 5/16" bearing bars spaced at 2 3/8" and 3/8" diameter cross bars spaced at 2". The grating shall be centered in the drain top. The bearing bars shall run parallel to traffic.
- FRP grating if used shall provide an opening area at least 75% of steel grating noted above. FRP gratings that do not meet this requirement are not acceptable and shall not be used.

Grates shall be designed so that they can be removed by mechanical means. Fasteners for grates shall be stainless. Where selected grates require orientation to flow, the grates will have orienting features included as required, i.e. for orders of paired drains one drain would have left hand orientation and the other right hand orientation.

Grate Frames

Grate frames may be either integrated FRP composite or of galvanized steel construction attached to the scupper/inlet body in a matter consistent with the physical design parameters.

Anchoring provisions

Scupper/inlet anchoring shall be bonded to the grate framing in a manner that provides a load path into the concrete decking. Anchor details to be specified as part of the shop drawings for the bridge drains.

Cross and Longitudinal Slope Compensation

The scupper/inlet designs shall provide a means to match the grate to the deck angles while maintaining the downspout in a plumb orientation.

FRP Composite Drain Sections

Drain sections shall comply with the material requirements set forth in Appendix A and maintain a wall thickness of no less than 1/4 inch. The base shall include a flange to allow for a bolted mating flange and extension to be connected to the bottom of deck after the drain is cast in the deck.

FRP Composite Deck Drain Extensions.

Drain extensions shall include a bolted flange that is integrated and bonded to the pipe extension

Transitions through Connections and Components.

All transitions and joints to be manufactured through the use of smooth radius molds. Miter joint and edged transitions are not allowed. All internal joint connections are to be smooth and continuous.

Pigmented FRP Composite Drain Components

Pipes, fittings, bodies and all FRP composite drain system components shall be pigmented through the wall. The color shall be light gray. Paint, gel-coat or any other exterior coating shall not be accepted.

Joint Connections

Joints may be welded using manufacturer recommended adhesives in accordance to the adhesive manufacturer's application procedures. Adhesives must be compatible with the FRP resins, applied in a way that ensures complete bonding and liquid tight sealing of the resins, and be compatible with the environmental conditions such as temperature, freeze thaw conditions, and wet alkaline environments.

Shop Drawings/Inspection

Drawings The Contractor shall prepare shop detail, erection and other necessary working drawings in accordance with Section 105.7 - Working Drawings. Drawings shall include dimensions and tolerances necessary for manufacture and installation, all hardware, orienting features, anchor details, fastener details, gasket details, cross and longitudinal matching features, joint details, transition details, and material lay-up/composition.

Quality Control/Quality Assurance: Within 30 calendar days the Contractor shall submit to the Department a Quality Control Quality Assurance (QCQA) Plan for fabrication of the FRP Bridge Drains. Fabrication shall not commence until the QCQA Plan has been reviewed and approved by the Department.

Notice of Beginning Work The Contractor shall give the Fabrication Engineer a minimum of two weeks notice before the beginning of work. No work shall be performed before the Fabrication Engineer has been notified. Before beginning work, a pre-fabrication meeting may be held at the discretion of the Fabrication Engineer or, if requested, by the Contractor.

The Contractor shall advise the Fabrication Engineer of the production schedule and any changes to it. If the Contractor suspends work on a project, the Fabrication Engineer will require 48 hours notice prior to the resumption of work.

Inspection Quality Control (Q.C.) is the responsibility of the Contractor. The Quality Control Inspector (Q.C.I.) shall inspect all aspects of the work and shall supervise all nondestructive examination (NDE). The Q.C.I. shall record measurements and test results in a clear and legible manner. The Q.C.I. shall reject materials and workmanship that do not meet contract requirements. The Contractor may perform NDE in addition to the minimum required. The results of all measurements and testing shall be made available to the Quality Assurance Inspector (Q.A.I.).

Quality Assurance (Q.A.) is the prerogative of the Fabrication Engineer. The Q.A.I. will ensure that the Q.C. Department is performing properly, verify documentation, periodically inspect workmanship and witness NDE. Q.A. testing deemed necessary by the Fabrication Engineer in addition to the minimum testing requirements shall be scheduled to minimize interference with the production schedule.

Inspector's Authority The Q.A.I. will have the authority to reject material or workmanship that does not meet the contract requirements. The acceptance of material or workmanship by the Q.A.I. will not prevent subsequent rejection, if found unacceptable.

Rejections Rejected material and workmanship shall be corrected or replaced by the Contractor.

Bill of Materials The Contractor shall provide the Fabrication Engineer with copies of all bills of materials used in the fabrication of the FRP bridge drains.

Packaging, Storage and Shipping of Components

FRP drains shall be stored and handled in accordance with the manufacturer's recommendation. The drains shall be stored above the ground not be allowed to come into contact with seawater, mud, grease, dirt or other deleterious materials that may be present on the job site.

Installation

Bath
WIN 19273.00
December 6, 2015

The Contractor shall install the FRP drains in accordance to the manufacturer's installation procedures and in accordance to the Contractor's installation drawings. FRP bridge drains will be accurately placed at the locations shown on the Plans or as authorized by the Resident. Adequate means shall be provided for securely holding the drains in place during placement of concrete. Any damaged drain shall be repaired or replaced at the Resident's discretion and at no additional cost to the Department.

Method of Measurement

FRP Bridge Drains will be measured by the number of units, for fabrication and delivery. Installation for the drains will be incidental to the **superstructure item**.

Basis of Payment

FRP Bridge Drains will be paid for at the contract unit price. Such payment will include compensation for the fabrication and delivery of the drains in accordance with this specification.

Payment will be under:

<u>Pay Item</u>		<u>Pay Unit</u>
502.77	FRP Bridge Drain –Type D	Each

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Fiber Reinforced Polymer Bridge Drains)

APPENDIX A

A.1 Scope

This section specifies the material composition, properties, test requirements and reports that shall be submitted and approved prior to and after product certification of each FRP composite drain component type, e.g. scupper body or pipe component. The manufacturer is responsible for testing using an approved independent lab per section A.5.3. Once certified the approved product may be manufactured with only internal testing provided the manufacturing process and laminate composition do not change. Changes to process and or composition do require additional testing and product certification. The manufacturer shall report the individual test results per section A.5.3. If the strength is less than the required properties certification will not be granted.

A.2 Material/Laminate Composition

A.2.1 Fibers

Fiber sizing and coupling agents shall be compatible with the resin system used to impregnate them.

A.2.2 Matrix Resins

Commercial grades of vinyl ester and epoxy resin systems are permitted provided the finished product meets the material property requirements before and after durability conditioning as set forth in Section A. Styrene is permitted to be added to the polymer resin during processing. Added styrene shall be less than 10 percent by mass of the polymer resin. The amount of styrene, as a mass percentage of the polymer resin, added during processing shall be reported per Section A.5.3.

A.2.3 Fillers and Additives

Commercial grade inorganic fillers such as kaolin clay, calcium carbonate, and alumina tri-hydrate shall not exceed 20 percent by mass of the polymer resin constituent. Commercial grade additives and process-aids, such as release agents, low profile shrink additives, initiators, promoters, hardeners, catalysts, pigments, fire-retardants, and ultra-violet inhibitors are permitted and depend on the processing method. Shrink additives, if used, shall be less than 20 percent by mass of the polymer resin. Commercial grade inorganic or organic non-woven surfacing mats or veils are permitted.

A.2.4 Fiber Content

Fiber content shall be measured by ASTM D 3171 or ASTM D 2584. Fiber content shall be high enough to meet the mechanical property requirements of the FRP system laminate. The manufacturer shall report the fiber content of the end product by volume or by mass in accordance to the method used. If fiber content is not provided by the manufacturer, then the manufacturer shall provide material data sheets with the weight per unit area of the fiber reinforcement used to manufacture the part.

A.2.5 Glass Transition Temperature

The characteristic value of the glass transition temperature of the composite system, determined in accordance with ASTM E1640, shall be at least 40 degrees Fahrenheit higher than the maximum design temperature, $T_{MaxDesign}$, defined in section 3.12.2.2 of the AASHTO LRFD Guide Specifications for Design of Concrete-Filled FRP Tubes for Flexural and Axial Members, 2012. FRP drain systems may not be used in environments with a service temperature higher than the glass transition temperature of the resin used for their manufacturing.

A.2.6 Longitudinal and Transverse Coefficients of Thermal Expansion (CTE)

The coefficient of Thermal Expansion (CTE) of the tube may vary in the longitudinal and circumferential directions of the component depending on the laminate architecture and type of fibers and resins.

A.3 Mechanical Properties

A.3.1 Tensile Properties

The tensile strength, tensile modulus of elasticity, and ultimate tensile strain shall be determined for both the axial and hoop directions of the tubular components or in transverse and longitudinal directions of inlet bodies, see Section A.5.1 Test Samples. The tensile strength as reported by the manufacturer for product certification shall be measured according to ASTM Test Method D 3039, or other tension test method designed to determine tensile properties of composite laminates at the approved frequency and number of specimens as specified in section A.5.

A.3.4 Compressive Properties

The compressive strength and ultimate compressive strain shall be determined for the longitudinal directions of the tube laminate. The compressive strength and ultimate compressive strains shall be derived from specimens tested in accordance with ASTM Test Method D 6641, or other approved compression test method designed to determine compressive properties of the composite.

A.4 Durability Properties

Material properties shall retain 85% of their baseline values for the material properties listed in Section 2.3 after conditioning for all the durability tests listed below. Durability test methods are adopted from AASHTO Guide Specifications for Design of Bonded FRP Systems for Repair and Strengthening of Concrete Bridge Elements.

Durability property testing is only required for initial product certification and not required for subsequent production orders. The testing is the responsibility of the manufacturer and shall be conducted by an approved independent testing lab per section A.5.2.

A.4.1 Moisture Absorption

Samples will be immersed in distilled water having a temperature of 100 +/-3 degrees Fahrenheit and tested after 1,000 hours of exposure.

A.4.2 Resistance to Alkaline Environment

Samples will be immersed in a saturated solution of calcium hydroxide (pH-11) at ambient temperature of 73 +/-3 degrees Fahrenheit for 1,000 hours prior to testing. The pH level will be monitored and the solution will be maintained as needed.

A.4.3 Alternating Ultraviolet Light and Condensation Humidity

Samples will be conditioned in an apparatus under Cycle I-UV exposure condition according to ASTM G154 Standard Practice. Samples will be tested within two hours after removal from the apparatus.

A.4.4 Freeze-Thaw

Samples will be exposed to 100 repeated cycles of freezing and thawing in an apparatus meeting the requirements of ASTM C666.

A.5 Sampling, Testing & Results.

A.5.1 Test Samples.

The manufacturer is responsible for testing and may use samples in accordance to the test methods and needs of test equipment available. Test coupons may be cut from manufactured products or prepared using identical processes e.g. wet lay-up, vacuum infusion, etc. in a flat sheet, or witness plate, in which test coupons may be cut. Approval of the Fabrication Engineer shall be required for acceptance of test specimens produced by a different manufacturing method. Samples derived from special coupon test sheets shall be taken interior to edge sections 1.5x the width of the required coupon width. Samples shall be prepared from samples oriented with the directions illustrated in figures 1 and 2 for scupper body and drain pipes. For samples from filament wound pipes, samples shall be constructed over polygon mandrels allowing for flat panels to be removed for test purposes. Each test shall use a quantity of three samples. See Tables A.5.4 for tests, material requirements and sample breakdown.

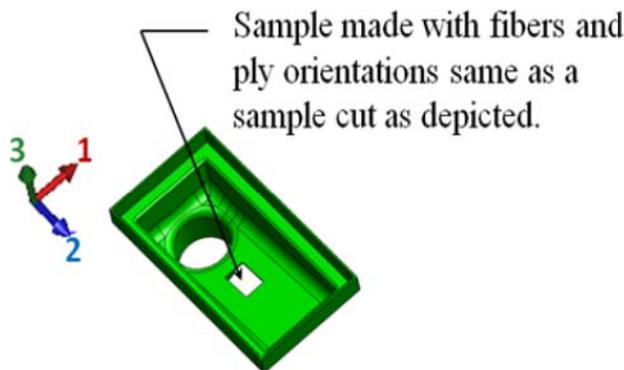


Figure 1.) Scupper Body
Sample Orientations.

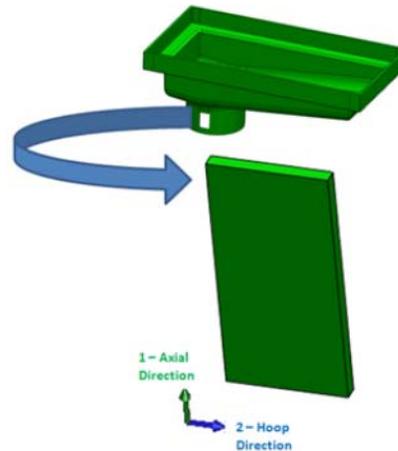


Figure 2.) Drain Pipe
Sample Orientations.

A.5.2 Test Lab Requirements.

All testing of FRP material properties shall be conducted in accordance with specified standards. Internal or external testing is to be conducted through laboratory facilities in accordance to ISO/IEC Guide 58, *Calibration and Testing Laboratory Accreditation Systems - General Requirements for Operation and Recognition* and ISO/IEC 17025 *General Requirements for the Competence of testing and Calibration Laboratories* as related by AASHTO document R18 "Recommended Practice for Establishing and Implementing a Quality System for Construction Materials Testing Laboratories."

A.5.3 Production Validation (PV) Testing.

Certification of materials used in FRP drain products must undergo PV testing of the specified material properties before and after environmental conditioning as set forth in Section A.5.4 by an independent lab. PV tests may be conducted internally by the manufacturer for development but are not acceptable for certification. Reported values for the material composition is be recorded and reported by the manufacturer, no independent audit is required.

A.5.4 Production Validation Sample Quantities, Minimum Material Properties and Reported Values

The following data shall be reported for material certification. Note that the tables shown use orientations related to FRP scupper or inlet bodies as set forth in Figure 1 of Section A.5.1, orientation direction 2 as shown in Figure 2 of Section A.5.1 shall be substituted for orientation direction 3 when evaluating tubular sections. The required number of samples have been reduced from ASTM requirements.

Table A.5.4.a PV reported material composition data. (Recorded by the manufacturer during the manufacturing process)

Section No.	Characteristic	Applicable Test Standard	Number of Samples	Tolerance	Reported
A.2.2	Styrene, mass percentage of polymer resin	per tolerance	N/A	10% max	
A.2.3	Inorganic fillers, mass percentage of polymer resin.	per tolerance	N/A	20% max	
A.2.3	Shrink additives, mass percentage of polymer resin.	per tolerance	N/A	20% max	
A.2.4	Fiber Content	ASTM D3171 or ASTM D2584	3	Sufficient to meet mechanical properties	
A.2.5	Glass Transition Temperature	ASTM E1640	3	> Max Design Temperature	

Table A.5.4.b PV Reported Baseline Mechanical Properties

(Conducted by an independent laboratory. Samples as Manufactured w/o additional conditioning per Section A.3)

Section No.	Direction	Characteristic	Applicable Test Standard	No. of Samples	Minimum Allowable Values	Independent Lab Reported Values			
						Sample 1	Sample 2	Sample 3	Avg Value
A.3.1	1	Tensile Strength	ASTM D3039	3	10000 (psi)				
		Tensile Modulus of Elasticity			800000 (psi)				
		Ultimate Tensile Strain			0.003 in/in				
	2	Tensile Strength		10000 (psi)					
		Tensile Modulus of Elasticity		800000 (psi)					
		Ultimate Tensile Strain		0.003 in/in					
A.3.4	1	Compressive Strength	ASTM D6641	3	22000 (psi)				
		Ultimate Compressive Strain			0.003 in/in				
		Compressive Strength			22000 (psi)				
	3	Compressive Strength		22000 (psi)					
		Ultimate Compressive Strain		0.003 in/in					
		Compressive Strength		22000 (psi)					

Table A.5.4c PV Reported Mechanical Properties after 1000 hr. Moisture Immersion Conditioning per Section A.4.1

(Conducted by an independent laboratory)

Section No.	Direction	Characteristic	Applicable Test Standard	No. of Samples	Minimum Allowable Values	Independent Lab Reported Values			
						Sample 1	Sample 2	Sample 3	Avg Value
A.3.1	1	Tensile Strength	ASTM D3039	3	8500 (psi)				
		Tensile Modulus of Elasticity			680000 (psi)				
		Ultimate Tensile Strain			0.0025 in/in				
	2	Tensile Strength		8500 (psi)					
		Tensile Modulus of Elasticity		680000 (psi)					
		Ultimate Tensile Strain		0.0025 in/in					
A.3.4	1	Compressive Strength	ASTM D6641	3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				
		Compressive Strength			18700 (psi)				
	3	Compressive Strength		18700 (psi)					
		Ultimate Compressive Strain		0.0025 in/in					
		Compressive Strength		18700 (psi)					

Table A.5.4d PV Reported Mechanical Properties after 1000 hr. of Alkaline Environment Conditioning per Section A.4.2

(Conducted by an independent laboratory)

Section No.	Direction	Characteristic	Applicable Test Standard	No. of Samples	Minimum Allowable Values	Independent Lab Reported Values			
						Sample 1	Sample 2	Sample 3	Avg Value
A.3.1	1	Tensile Strength	ASTM D3039	3	8500 (psi)				
		Tensile Modulus of Elasticity			680000 (psi)				
		Ultimate Tensile Strain			0.0025 in/in				
	2	Tensile Strength		8500 (psi)					
		Tensile Modulus of Elasticity		680000 (psi)					
		Ultimate Tensile Strain		0.0025 in/in					
A.3.4	1	Compressive Strength	ASTM D6641	3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				
		Compressive Strength			18700 (psi)				
	3	Compressive Strength		18700 (psi)					
		Ultimate Compressive Strain		0.0025 in/in					
		Compressive Strength		18700 (psi)					

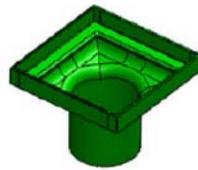
Table A.5.4e PV Reported Mechanical Properties after UV Light Conditioning per Section A.4.3 (ASTM G154).
(Conducted by an independent laboratory)

Section No.	Direction	Characteristic	Applicable Test Standard	No. of Samples	Minimum Allowable Values	Independent Lab Reported Values			
						Sample 1	Sample 2	Sample 3	Avg Value
A.3.1	1	Tensile Strength	ASTM D3039	3	8500 (psi)				
		Tensile Modulus of Elasticity			680000 (psi)				
		Ultimate Tensile Strain			0.0025 in/in				
	2	Tensile Strength		8500 (psi)					
		Tensile Modulus of Elasticity		680000 (psi)					
		Ultimate Tensile Strain		0.0025 in/in					
A.3.4	1	Compressive Strength	ASTM D6641	3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				
	3	Compressive Strength		3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				

Table A.5.4f PV Reported Mechanical Properties after 100 Freeze-Thaw Cycle Conditioning per Section A.4.4 (ASTM C666).
(Conducted by an independent laboratory)

Section No.	Direction	Characteristic	Applicable Test Standard	No. of Samples	Minimum Allowable Values	Independent Lab Reported Values			
						Sample 1	Sample 2	Sample 3	Avg Value
A.3.1	1	Tensile Strength	ASTM D3039	3	8500 (psi)				
		Tensile Modulus of Elasticity			680000 (psi)				
		Ultimate Tensile Strain			0.0025 in/in				
	2	Tensile Strength		8500 (psi)					
		Tensile Modulus of Elasticity		680000 (psi)					
		Ultimate Tensile Strain		0.0025 in/in					
A.3.4	1	Compressive Strength	ASTM D6641	3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				
	3	Compressive Strength		3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
 (Fiber Reinforced Polymer Bridge Drains)
 Standard Details
APPENDIX B



Bridge Drain – Symmetric Inlet

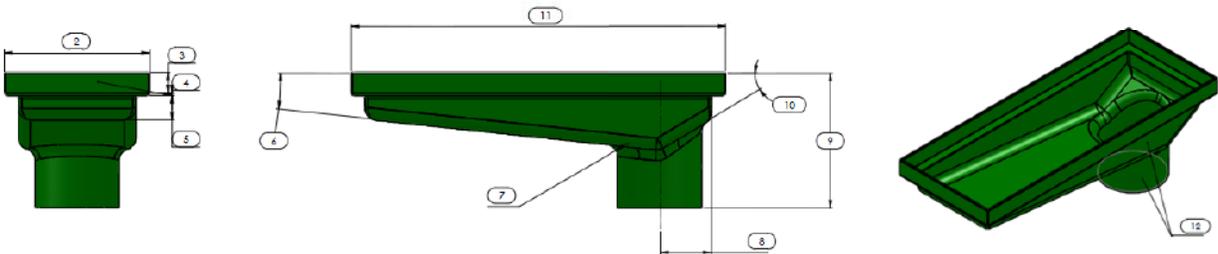
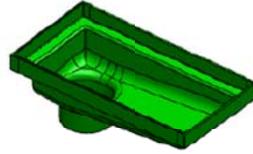


Table B1 Preferred Symmetric FRP Composite Inlet Bodies

Size Designation		A	B	C		
Size Dimensions (Grate Length x Width, Down Spout Diameter)		12x12xØ8	14x14xØ10	18x18xØ12		
Number	Dimension Name	Nominal Dimensions			Nominal Design Tolerance	Manufacturing Tolerance
1	Down Spout Inner Diameter	8"	10"	12"	min	+/- 0.015"
2	Grate Frame Width	12"	14"	18"	+/- 1"	+/- 0.025"
3	Grate Frame Height	As required to contain grate and recessed from deck surface				
4	Grate Frame Flange & Wall Thickness	0.25"	0.25"	0.25"	min	+/- 0.025"
5	Scupper Toe Depth	4"	4"	4"	+1"/-0"	+/- 0.1"
6	Scupper Toe Slope	1:10	1:10	1:10	min	+ 1 degree
7	Scupper Body Radii	2"	2"	2"	min	+0.1"
8	Down Spout Position to Heel	6"	6"	6"	+/- 0.5"	
9	Height	18"	18"	18"	Open	+/- 0.25"
10	Scupper Heel Slope	1:10	1:10	1:10	min	+0.1"
11	Grate Frame Length	12"	14"	18"	+/- 1"	+/- 0.025"
12	Scupper and Down Spout Wall Thickness	0.25"	0.25"	0.25"	min	+0.015"



Bridge Drain-Offset Scupper

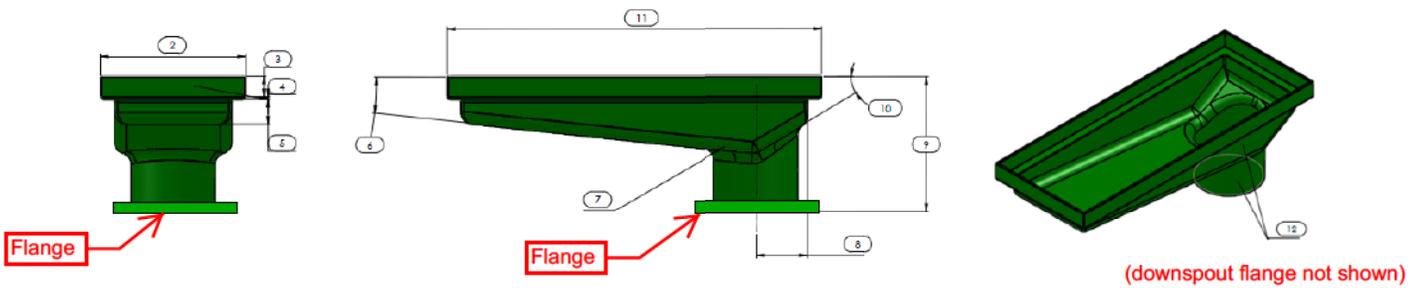


Table B2 Preferred Offset FRP Composite Scupper Bodies

Size Designation		D	E	F	G		
Size Dimensions (Grate Length x Width, Down Spout Diameter)		24x12xø8	30x12xø10	36x12xø10	42x12xø12		
Number	Dimension Name	Nominal Dimensions				Nominal Design Tolerance	Manufacturing Tolerance
1	Down Spout Inner Diameter	8"	10"	10"	12"	min	+/- 0.015"
2	Grate Frame Width	12"	12"	12"	12"	+ 2"/-0"	+/- 0.025"
3	Grate Frame Height	As required to contain grate and recessed from deck surface					
4	Grate Frame Flange & Wall Thickness	0.25"	0.25"	0.25"	0.25"	min	+/- 0.025"
5	Scupper Toe Depth	4"	4"	4"	4"	+1"/-0"	+/- 0.1"
6	Scupper Toe Slope	1:10	1:10	1:10	1:10	min	+ 1 degree
7	Scupper Body Radii	2"	2"	2"	2"	min	+0.1"
8	Down Spout Position to Heel	6"	6"	6"	6"	+/- 0.5"	
9	Height	varies	16"	18"	18"	Open	+/- 0.25"
10	Scupper Heel Slope	1:10	1:10	1:10	1:10	min	+0.1"
11	Grate Frame Length	24"	30"	36"	42"	+ 2"/-0"	+/- 0.025"
12	Scupper and Down Spout Wall Thickness	0.25"	0.25"	0.25"	0.25"	min	+0.015"

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Stamped Colored)

Description This work shall consist of furnishing and placing a Portland cement concrete pavement as shown on the plans, or as directed by the Resident. Except as otherwise specified in this Special Provision, all work shall be in conformity with the applicable provisions of Section 502 - Structural Concrete, Section 503 - Reinforcing Steel, and Section 515 - Protective Coating for Concrete Surfaces.

MATERIALS

Concrete Concrete shall be Class A and installed 6" thick.

Reinforcing Steel Reinforcing steel shall be a 6 x 6, W2.9 x W2.9 Welded Wire Reinforcement 4 inches down from the final surface.

CONSTRUCTION REQUIREMENTS

Preparation of Foundation The foundation bed shall be well graded and compacted, as directed by the Resident. Prior to the concrete placement, the foundation bed shall be thoroughly and uniformly saturated with water. The bed shall be free of puddles and excessive surface water.

Placement of Concrete The concrete mix shall be placed in a continuous placement operation.

Pedestrian walkways within stamped islands will be constructed as described here within and noted on the plans, but shall not be stamped. These areas will be measured and paid for as described below. Concrete in these areas will be finished per Standard Specification 608, subsection 608.031 Portland Cement Concrete Sidewalks.

The Contractor shall submit the proposed stamping pattern and finish for both stamped and pedestrian areas to the Resident for approval and shall not commence this work until approval has been granted. Color treatment, if necessary, will be determined by the Resident.

The curing period for the concrete shall be seven days and shall meet the requirements of Section 502.15 - Curing Concrete. The finished surface of the concrete shall receive a protecting coating in accordance with Section 515 - Protective Coating for Concrete Surfaces.

Method of Measurement Structural Concrete, Stamped Colored, satisfactorily placed and accepted, will be measured for payment by the square yard of finished surface as shown on the plans or authorized by the Resident.

Basis of Payment The accepted quantity of Structural Concrete, Stamped Colored, will be paid for at the contract unit price per square yard, which payment will be full compensation for all labor, materials, coloring admixtures, equipment, and incidentals necessary to complete the work, including the fabrication, delivery, and placement of reinforcement, and the furnishing and the application of the stamping, finish and protective coating.

Excavation for the placement of the Structural Concrete, Stamped Colored, will be paid for under the appropriate 629 or 631 contract pay item.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
502.35 Structural Concrete, Stamped Colored	Square Yard

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Ultra-High Performance)

Concrete) 502.01 Description The following sentence is added:

This work shall consist of field casting of Ultra-High Performance Concrete (UHPC) joints between precast beam/deck components and link slabs as shown in the plans and in accordance with these Special Provision, including batching, transportation, placement, and curing.

502.03 Materials The following paragraph is added:

The UHPC material for the field cast joints and beam to slab connections shall be Ductal® JS1000 or JS1212 supplied by LafargeHolcim of North America. The contact person for obtaining the material is:

Paul White
Bridge Engineering Manager, UHPC/Ductal | U.S.
LafargeHolcim | Building Better Cities
Office 773 355 4464 | Mobile 773 329 6569
E-mail: paul.white@lafargeholcim.com

The material shall be as called for on the Plans with all components supplied by the Manufacturer, LafargeHolcim. Materials commonly used in the UHPC are:

- Fine aggregate
- Cementitious material
- Superplasticizer
- Accelerator
- Steel Fibers

UHPC material shall satisfy the following criteria:

- Minimum Compressive Strength (ASTM C39) for the JS1000:
 - 2 Days $\geq 6,000$ psi
 - 4 days $\geq 14,500$ psi
 - 14 days $\geq 17,600$ psi
 - 28 days $\geq 21,700$ psi
- Minimum Compressive Strength (ASTM C39) for the JS1212:
 - 12 hours $\geq 8,000$ psi
 - 7 days $\geq 15,000$ psi
 - 14 days $\geq 17,600$ psi
 - 28 days $\geq 21,700$ psi

- Surface Resistivity (AASHTO TP-95) < 14 KOhm-cm
- Freeze-Thaw Resistance (ASTM C666A; 600 cycles) RDM > 96%
- Spread (ASTM C1437) 7 -10 inches

502.04 Shipping and Storage The following paragraph is added:

The Contractor shall assure the proper storage of premix, fibers and additives as required by the LafargeHolcim Standard Operating Procedures in order to protect materials against loss of physical and mechanical properties.

502.041 Testing Equipment The following paragraphs are added:

The following equipment will be required for Mock-up Testing and for Production Testing.

- A mini-slump cone shall be provided by the Manufacturer for on-site testing. The mini-slump cone shall meet the requirements of ASTM C1437 as applicable.
- Concrete thermometer
- Three inch diameter by six inch cylinder molds shall be provided, by the Contractor, for making samples for compressive testing in accordance with ASTM C39.

The Contractor shall provide the above equipment for testing the UHPC and shall be available to the Resident at all times.

The following subsections are added:

502.042 Qualification Testing The Contractor shall successfully complete Mockup Testing a minimum of 60 calendar days prior to field production placement. Prior to completing the Mockup Testing, the Contractor shall submit a plan for the work a minimum of three weeks in advance for the Resident's approval. If required the Contractor shall provide a revised plan.

Mock-up Testing A minimum of 60 calendar days prior to the proposed use of UHPC for production placements, the Contractor shall perform Mock-up Testing. Mock-up Testing shall be at the project site or another location approved by the Resident. Batching, mixing, placement, and curing shall be performed in the presence of MaineDOT personnel and shall be in accordance with the Manufacturer's recommendations and the Manufacturer's representative shall be present during the Mock-up to assist the Contractor and approve the mixing and placement procedures. The Contractor shall use the same personnel and equipment that will be used for the production placement. All equipment and materials shall be furnished by the Manufacturer, with the exception of the precast materials which shall be furnished by the Contractor. The quantity of materials shall be sufficient to perform the tests required herein.

The Mock-up shall consist of:

- Joining two precast concrete panels together with the same 8 inch wide longitudinal joint as shown on the Plans. Each of the precast panels shall be a minimum of 8 inches thick, 3 feet wide, 5 feet long. The panels shall be sloped at about 6% to simulate the steeper profile grades of the bridge.
- Joining two precast concrete panels together with the same dapped edges and approximate gap as shown on the Plans for a link slab connection wide joint as shown on the Plans. Each of the precast panels shall be a minimum of 8 inches thick, 3 feet wide, 5 feet long. The panels shall be sloped at about 6% to simulate the steeper profile grades of the bridge.

The concrete mix for the panels shall be the same mix used for the bridge deck. This shall be a simulation of the production placement of the longitudinal joints and link slabs and shall consist of the same UHPC materials, equipment, mixing, batching, forming, surface preparation, placement, making of test cylinders, quality control by the Manufacturer's representative, and curing as for the production placements.

As with the proposed production placements, Mock up joints shall be placed to match the joining panel edges within 1/8 inch \pm . If this cannot be attained, another mock up test shall be conducted where the joints are over-poured 1/4" to 3/8" above the panel edge to account for flow of the UHPC material and to allow for placing forms along the top. Curing of the joint shall be as specified in these special provisions. If necessary, the Contractor shall grind the cured joints to demonstrate the outcome and effective use of the equipment proposed as required for the production placement. Slump testing in accordance with these special provisions shall be performed. A minimum of one slump test per each batch mix required for each Mock-up shall be performed and recorded. The slump flow shall be within the 7 to 10 inch range specified. The slump test shall be performed and accepted prior to placing the mix in the Mock-up joint.

During the Mock-up, concrete compressive testing shall also be performed. A minimum of 20 cylinders, 3 inch diameter by 6 in shall be cast and tested. Four cylinders shall be tested each test day, the Tests shall be a 2 days, 4 days, 14 days, 21 days, and 28 days. The tests will be performed at a MaineDOT specified facility. Cylinder test preparation shall be in accordance with these specifications.

UHPC batch temperatures shall be as recommended by the Manufacturer and shall be representative of the proposed batch temperatures used for production placement. The temperature shall be recorded.

All cylinders shall be cured following the same procedure to be used in the field. The temperature during curing shall be within the anticipated temperature range for curing in the field or as recommended by the Manufacturer.

Within 28 days after placement, but no fewer than 4 days after placement, the joints shall be deconstructed by the Contractor by saw cutting in the presence of the Resident to show the degree of consolidation and general constructability.

The basis of acceptance of the Mock-up testing will include the Department's over-all approval of the Mock-up evaluated for its successful outcome in meeting the criteria set forth in these specifications and that the forms; placement and workability procedures; and curing methods can reliably be used for the joint placements.

Approval for Production Placement No work for the UHPC placements shall commence until Mock-up Testing has been accepted

502.042 Pre-placement Meeting A minimum of 7 Days prior to placement in the field, the Contractor shall arrange an on-site meeting to discuss material mixing, transportation, placement, finishing, and curing with LafargeHolcim, on-site construction personnel, MaineDOT staff, and design team representatives. The objective of the meeting will be to clearly outline the procedures for mixing, transporting, finishing and curing of the UHPC material.

The following subsection is added:

502.051 Submittals The Contractor shall submit the following to the Department for approval at least 30 days prior to the first UHPC placement:

- Work Plan that includes the batching and construction sequence in accordance with the plans and any other construction work schedule prepared by the Contractor for conformance with other contract provisions. The workplan shall outline the proposed sequence of work, the number of mixers on site, the proposed location of the mixing operations, the type and number of power buggies for transporting the UHPC, and the UHPC storage areas.
- Working drawings and calculations for all formwork, including materials, connections, and locations of thermal couplers as required and recommended by the manufacturer.
- Batching procedures for warm and cool environments or weather conditions including any details and procedures for enclosures and heating methods that may be employed to accelerate curing times.

The following subsection is added:

502.061 Batching, Placement, and Curing A minimum of two portable batching units will be supplied by the Manufacturer to the Contractor for mixing of the UHPC material. The Contractor shall follow the batching and placement sequence as specified by the Contract Plans and the Manufacturer, and approved by MaineDOT. The Contractor shall arrange for a representative of the Manufacturer to be on site during placement of all UHPC material. The representative shall be knowledgeable in the supply, mixing, transport, placement, and curing of the UHPC material.

The design and fabrication of forms shall follow approved installation drawings and shall follow the recommendations of the Manufacturer. All forms for UHPC shall be constructed from plywood or steel. The forms shall be coated to prevent absorption of water as per the Manufacturer's recommendations.

The Contractor shall follow the mixing and batching procedures as recommended by the Manufacturer. Concrete mating surfaces shall be moistened to a saturated-surface-dry (SSD) condition prior to placement. The UHPC field joints shall be filled as recommended by the Manufacturer and conclusions of the Mock-up testing to ensure UHPC is within 1/8 inch of the grade of the adjacent concrete surfaces from placement and/or grinding as necessary.

UHPC shall not be placed when ambient temperatures or mating surfaces are below 40 degrees F unless an approved method for temperature and environment control and monitoring is provided and approved by the Manufacturer and the Department.

The UHPC in the form shall be cured according to the Manufacturer's recommendations to attain the required strength specified herein. This shall include but may not be limited to, sealing the area of the joints with a sheet of plastic to protect it from the weather and debris, and to regulate the hydration process. Wet curing is not required. Curing temperatures effect the curing rate. Contractor shall coordinate with the Manufacturer when heaters and/or insulating blankets or glycol lines may be required. The Manufacturer shall be permitted to make any recommendations necessary to ensure compliant curing conditions in accordance with the Manufacturer's Standard Operating Procedures.

No construction vehicles or heavy equipment shall be placed on the superstructure nor shall any materials be stockpiled on top of the superstructure until the UHPC joints have attained a minimum compressive strength of 14.5 ksi.

502.09 Forms and Falsework The following paragraph is added:

UHPC exerts one (1) psi of fluid pressure per vertical foot of head. The Contractor shall ensure all forms are designed by a licensed Professional Engineer in the State of Maine and constructed accordingly to prevent loss of material or formwork failure.

The following subsection is added:

502.1708 Quality Control The contractor shall take four sets of compressive strength test samples for each day of placement. Each set consists of 4 cylinders 3 inch diameter by 6 inches. All sets shall be field cured in an environment similar to the material they represent for four days. After four days the cylinders shall be kept sheltered in open air for the remainder of the curing period. In preparation for compressive testing, the cylinder ends shall be cut and ground in accordance with AASHTO T-22.

Concrete compressive testing in accordance with ASTM C 39 shall be performed as follows: one set 2 days after casting, 4 days after casting, and 28 days after casting. The fourth set shall be treated as a reserve set.

The Manufacturer's Representative shall be present during the casting of the cylinders to ensure they are cast correctly and will be present to evaluate placement in terms of consistency, composition, flow, and placement.

The Contractor or Manufacturer's Representative shall measure and record the slump

for each batch of UHPC. The slump flow will be conducted using a mini-slump cone. The flow of each batch shall be between 7 and 10 inches. If the slump is not within this range the Manufacturer's Representative shall be consulted and a new batch mixed if required. The Contractor shall not add water to increase the slump. Additives to adjust the slump shall only be added as directed by the Manufacturer's on-site Representative. The slump flow for each batch shall be recorded in the QA log. A copy of the log shall be given to the Resident.

The Manufacturer shall provide Quality Assurance on site for the UHPC using the on-site Representatives. The representatives on site shall use English units and measuring devices with English units for consistency.

502.18 Method of Measurement The following sentence is added:

Ultra-High Performance Concrete, including required material, formwork, field demonstration, required testing, and all other labor, materials, equipment and incidentals necessary to complete the work, shall be measured for payment as one lump sum.

502.19 Basis of Payment The following sentence is added:

All associated labor, materials, testing, tools and equipment necessary to complete installation shall be included in the lump sum cost.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
502.58	Ultra-High Performance Structural Concrete	Lump Sum

SPECIAL PROVISION
SECTION 515
PROTECTIVE COATING FOR CONCRETE SURFACES
(Elastomeric Coating)

515.01 Description The following sentence is added:

This work shall consist of furnishing and shop applying an elastomeric coating to provide a waterproof barrier to the ends of the prestressed concrete beams and the tops of pier caps at Piers 6, 10, and 16 and in accordance with the Contract Plans and this specification.

515.02 Materials The following paragraph is added:

The components of the coating system must be supplied by a single manufacturer and sold as a waterproof coating system. The surface preparation and application of the coating system must be applied in strict accordance with the manufacturer's specifications. Upon curing, all coatings and/or coating systems must produce an adherent coating that is visually uniform and capable of performing according to its designated purpose for an extended service life of greater than 20 years. The composition of the coating is left to the discretion of the manufacturer but the finished product must meet all requirements of this special provision. All coatings must be designed for a marine, coastal environment and must be self-curing. Coatings that are multi-component must be prepackaged in required ratios for ease of mixing. Final color shall be gray in appearance.

The following products may be used, or an equal approved by the Resident:

<u>MATERIAL</u>	<u>MANUFACTURER</u>
Master Seal Traffic 1500	BASF C C Building Systems 889 Valley Park Drive Shakopee MN 55379 (952) 496-6000
Uroflex 65	Pilgrim Permocoat Inc 402 S. 22 nd Street Tampa FL 33605 (800) 637-3328

The following sections are added:

Shipping and Storage Ship materials in strong containers plainly marked with user information and lot or batch number. Each lot or batch manufactured must have a unique number. The name and address of the manufacturer must also be shown.

Certification Provide a certification conforming to the requirements of MaineDOT from the manufacturer of the coating materials confirming that the requirements of this special provision are met. Each certification shall cover only one batch of coating.

Physical Properties The use of an epoxy prime coat is dependent upon the requirements of the manufacturer's waterproofing system. The polyurethane chemistry may be either waterborne aromatic (moisture-curing) or aromatic (moisture-sensitive). The minimum thickness of the system must not be less than 30 mils.

515.03 Surface Preparation The following paragraph is added:

Assure concrete or other substrates are structurally sound, clean, and dry. Concrete must be a minimum of 28 days old. Remove all laitance, grease, curing compounds, surface treatments, coatings, and oils by grit blasting or water blasting. Blow surface with compressed air to remove dust or water.

515.04 Application The following paragraphs are added:

Coat the ends of all NEXT beams as shown in the plans (Do not coat the blockouts in the NEXT beam flanges) and the top surface of the pier caps at the following three (3) locations: Piers 6, 10, and 16. Any vertical pedestal surfaces at these pier caps shall also be coated.

Coat the exposed surfaces with an elastomeric coating system meeting requirements of this special provision and having a thickness of 30 mils to 45 mils.

Apply the elastomeric coating within 90 days of arrival at site and prior to setting bearings and superstructure. Apply a manufacturer's approved primer over the elastomeric coating before applying coating, if required. Prior to application of elastomeric coating, construct a 2 foot x 4 foot concrete test block with a similar surface texture to surfaces to be coated. Coat a vertical face with chosen elastomeric coating system. Determine number of coats required to achieve the specified thickness without runs and drips. Mix and apply elastomeric coating as per manufacturer's current standard technical specifications. Spray application is preferred; roller application is permitted. Mask and protect areas that are beyond the coating limits specified as approved by the Resident.

Field apply elastomeric coating at vent holes of the precast pier caps noted herein after vents are filled with grout and cured a minimum of 28 days.

515.05 Method of Measurement The following paragraph is added:

Elastomeric coating will be measured for payment by the lump sum unit as specified, satisfactorily applied and accepted. Multiple applications to a surface will not be measured for payment but shall be incidental.

502.06 Basis of Payment The following sentence is added:

Elastomeric coating will be paid for at the contract unit price per lump sum including any field application areas required.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
515.26	Elastomeric Coating – Shop Applied	Lump Sum

SPECIAL PROVISION
SECTION 520
EXPANSION DEVICES – NON-MODULAR
(Asphaltic Crack Control Joint)

520.01 Description: This work shall consist of all the work, including saw cutting and asphalt removal, as required to furnish and install a water tight asphaltic crack control joint as shown on the plans. The asphaltic crack control joint is a commercial product and must be installed in accordance with the manufacturer's recommendations.

520.02 Materials: The asphaltic materials (hot applied polymer modified asphaltic binder and aggregate) shall be applied by an applicator approved by the Manufacturer and shall meet the requirements of ASTM D6297.

The binder and aggregate from one of the following asphaltic plug joint expansion systems are acceptable for use:

<u>Manufacturer:</u> D.S. Brown	<u>Product:</u> Matrix 502 Asphaltic Expansion Joint System w/ Matrix 502 binder
Watson Bowman Acme	Wabo Expandex Asphaltic Plug Joint w/ Expandex Binder

520.03 Construction Requirements: The treatment of the asphalt and the preparation and installation of material shall be as recommended by the Manufacturer.

All material delivered to the job site shall have a written materials certification provided to the Resident that includes the following: 1) A label clearly showing the manufacturer's name, lot or batch number, date of manufacture, and date of packaging. 2) The date, if any, beyond which the material shall not be used without approval. 3) All the materials have been pretested and will meet the requirements of this specification. 4) The manufacturer's instruction for use and installation. All necessary equipment and manufacturer personnel as recommended shall be on site prior to beginning construction. 5) Certificate of analysis of the asphaltic material.

520.031 Basis of Acceptance: All materials and equipment shall be accepted upon certification by the qualified manufacturer, to the Resident, that all the requirements of this specification have been met.

520.04 Installation: For the asphaltic crack control joint, sawcut and completely remove the asphalt (top layer only) as shown on the plans, to create a neatly formed blockout. The blockout area over approach roadway and bridge binder asphalt shall be blast cleaned to be free of loose asphalt debris. The joint area shall be thoroughly dried using hot compressed air immediately prior to applying the asphaltic material.

520.041 The asphaltic material shall be heated, mixed and placed using machinery and/or equipment supplied or recommended by the Manufacturer.

520.042 Placement, screeding, and compaction of the asphaltic material shall be as recommended by the Manufacturer. Compaction shall be accomplished utilizing plate compactors or rollers.

520.043 A skim coat of liquid asphaltic binder material shall be applied to fill any remaining surface voids.

520.044 To prevent joint damage from tire traffic, shot blast media (clean, unused) shall be broadcast onto the finished joint surface while the asphaltic material is still warm.

520.045 The application of the asphaltic binder and the asphaltic material shall be performed only if 1) The surface temperature is at least 40° F (4° C) and rising, 2) The road surface is dry, 3) Weather conditions are favorable with no signs of imminent rain.

520.046 Protect the joint from traffic until the material has cooled to 125° F (51° C) ± and is able to support traffic.

520.05 Method of Measurement Asphaltic crack control joint will be measured by the Lump Sum as shown on the Plans. Preparation of surfaces including cutting, grinding and cleaning, will not be measured separately for payment but shall be incidental to the Asphaltic Crack Control Joint item.

520.06 Basis of Payment Asphaltic Crack Control Joint will be paid for at the Contract lump sum price that includes full compensation for all labor, materials, equipment and incidentals required for furnishing and installing.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
520.2321	Asphaltic Crack Control Joint	Lump Sum

SPECIAL PROVISION
SECTION 524
TEMPORARY STRUCTURAL SUPPORTS

The last paragraph of Subsection 524.06, Basis of Payment is revised by the addition of the following:

<u>Pay Item</u>		<u>Pay Unit</u>
524.301	Temporary Structural Support	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:

<u>Pay Item</u>		<u>Pay Unit</u>
526.3401	Permanent Concrete Transition Barrier - Modified	Each

SPECIAL PROVISION
SECTION 530
PREFABRICATED BRIDGE STRUCTURE AND ASSEMBLY

530.01 Description This work shall consist of manufacturing, transporting, and erecting concrete/steel composite prefabricated bridge units (PBU's) as shown on the Contract Plans.

The work under this Section shall be performed in accordance with these specifications, the Contract Plans, and applicable Sections 502, 503, 504, 505, 506, and 534 of the Standard Specifications.

530.02 Materials Materials shall meet the requirements of Sections 502.03, 503.02, 504.02, and 505.02.

530.03 Drawings Working drawings shall be prepared and submitted in accordance with Sections 504.03, and 534.03.

The Contractor shall prepare and submit shop details for fabrication, handling and erection, and all other necessary working drawings, for approval. Fabrication and erection shall not begin until the Department's written approval of the submitted shop drawings has been received. All design computations submitted for approval shall be reviewed, checked, and initialed accordingly.

Fabrication drawings shall include:

1. Locations and details of all lifting inserts, blockouts, hardware, or devices.
2. Type and amount of any additional reinforcing required for lifting.
3. Minimum compressive strength to be attained before handling the precast elements.

Working and Erection drawings shall include:

1. Beam Unit erection sequence
2. Crane charts
3. Crane and pick locations
4. Cables and lifting equipment
5. Sequence and methods used to shim units if necessary
6. Form materials, methods, equipment, and procedures for forming the slab, edges, blockouts, joints, and beam haunches.
7. Materials, methods, equipment, and procedures for installing closure pours and link slabs as shown in the plans.

Fabrication and erection drawings include details of lifting and handling the beam units, their storage, transportation, including handling at the production facility and construction site. Units shall not be handled or transported until the full 28-day compressive strength of the concrete is attained as demonstrated with concrete cylinder tests.

530.04 General Fabrication Requirements The structural steel furnished under this Section

shall be fabricated in a plant meeting the requirements of Section 504.04. After steel fabrication, the structural steel may be transported to a location, approved by the Department, where the remainder of the composite structure may be fabricated.

The Fabricator or Contractor constructing the reinforced concrete portion of the Beam Units shall prepare and submit for approval a Quality Control Plan and erection/lifting plan(s) specific to the member detailed.

530.05 Inspection Structural steel shall be inspected by the Department in accordance with Sections 106 and 504.

Concrete elements furnished and the work performed herein shall be inspected by the Department. The inspector shall have the authority to reject any material or work that does not meet the requirements of these Specifications. Advance notice of at least two (2) weeks must be provided by the Contractor to the Department to commence work. A minimum of five (5) working days notification must be provided to the Department by the Contractor to confirm the fabrication start date.

530.06 Fabrication

A. Forming Members Forms shall be well constructed, carefully aligned, clean, substantial, and firm, and securely placed and fastened together to provide a straight, true surface. Any defects or damage due to form work, stripping, or handling may be cause for rejection. Holes, cutouts, anchorage, reinforcement, and any other related details shown on the Contract Plans shall be provided for in the members.

Stay-in-place forms of any type will not be permitted.

All forms shall be inspected and approved by the Department before the placing of any concrete within them. The inside surfaces of forms shall be uniformly coated with form oil or other approved surface treatment. Form surfaces shall be treated before placing the reinforcing steel.

Relative bearing elevations shall be within +/- 0.01' of that shown on the Contract Plans to ensure PBU's are not subject to adverse twisting stresses and to ensure proper seating in their final positions in the field.

Removal of forms and falsework shall be in accordance with applicable paragraphs of subsection 502.09.

B. Structural Steel Structural steel shall be fabricated in conformance with Section 504. All diaphragms shown on the Contract Plans shall be installed prior to placing any

concrete formwork or concrete.

C. Welding All welding shall conform to the applicable subsections of Section 504.

D. Reinforcing Steel Reinforcement shall be furnished and installed in conformance with Section 503.

E. Concrete Concrete mix shall meet the requirements of Section 502.05 for Concrete, Class A. Concrete shall be produced and tested in accordance with Sections 502.1701 through 502.1707.

F. Pre-Production Meeting Unless the Department deems, in writing, that a pre-production meeting is unnecessary, then a pre-production meeting shall be attended by, and including but not limited to, the Crew Supervisor, Contractor Project Manager and/or Designer.

G. Placing Concrete Concrete shall not be deposited in the forms until the Department has approved placement of the reinforcement and inserts. The concrete shall be vibrated internally, externally, or a combination thereof to the required consolidation. The vibrating shall be done with care and in such a manner that:

- a. Concrete is uniformly consolidated.
- b. Displacement of reinforcement and inserts is avoided.
- c. Acceptable finish surfaces are produced.

H. Curing Curing shall meet the requirements of Section 502.14.

I. Removal of Forms Forms shall not be removed until the curing period has ended.

J. Concrete Finishing Finishing shall conform to the requirements of Section 502.13 and the waterproofing membrane manufacturer.

K. Dimensional Tolerances

- a. Geometry of Concrete Deck
 - i. Length (Each Unit). $\pm 3/4$ " (Adjacent unit lengths shall not vary by more than 20 mm (3/4"))
 - ii. Width. $\pm 3/8$ "
 - iii. Deck Thickness $+ 3/8$ ", $- 1/4$ "
 - iv. Deviation from Diagonals. $\pm 3/4$ " (horizontal)
 - v. Deviation from End Squareness or Skew. $\pm 3/4$ " (horizontal)
 - vi. Stringer Spacing. $\pm 1/2$ " (within a unit)
 - vii. Horizontal Alignment. $\pm 3/8$ " (Deviation from straight line parallel

to the centerline of the unit)

viii. Insert Location. +/- 3/8"

b. Reinforcing

i. Spacing. +/- 1" (non-cumulative)

ii. Cover (Top and Bottom Mat). +/- 1/4"

c. Field Installation

i. See Installation Section herein.

ii. Deviation in joint width between units shall be +/- 1/2"

L. Acceptance of Units Individual precast units will not be accepted for any of the following reasons:

- a. Fractures or cracks passing through the deck.
- b. Honeycombed open texture.
- c. Dimensions not within the allowable tolerances as specified.
- d. Separation of the concrete deck from the steel girders.
- e. Defects that indicate proportioning, mixing, and molding not in compliance with the Specifications.
- f. Damaged ends where such damage would prevent making a satisfactory joint.
- g. Units with crack(s) within any part of the concrete that is/are greater than 0.8mm (0.03") in width.
- h. Significant damage to the units during transportation, erection, or construction as determined by the Resident.
- i. Units not fabricated in accordance with the Contract Documents.

M. Repair of Units Units that contain minor defects caused by manufacture or handling may be repaired at the manufacturing site. Repair procedures shall be in accordance with the approved Quality Control Plan and require approval by the Department. Minor defects are defined as holes, honeycombing, or spalls which are 150 mm (6 inches) or less in diameter and do not penetrate deeper than 25 mm (1 inch) into the concrete. Surface voids or "bugholes" that are less than 16 mm (5/8 inch) in diameter and less than 6 mm (1/4 inch) deep need not be repaired. Repairs shall be made using an overhead and vertical concrete repair material satisfactory to the Department. The repair material shall be cured as specified by the manufacturer. The Department shall approve final repairs.

N. Cracking Crack widths less than 0.3 mm (0.01") shall be sealed with a penetrating sealer using Department approved materials and procedures. Crack widths measuring 0.3 mm to 0.8 mm (0.01" to 0.03") shall be epoxy injected using Department approved materials and procedures. At the Department's discretion, cracked members shall be repaired or replaced at the Contractor's expense.

O. Labeling Each Unit shall be clearly and permanently labeled on the underside of the deck (in the vicinity of the up-station end) with the following information:

- d. Manufacturer
- e. Date of Manufacture
- f. Mark Number

P. Production Site Handling Units shall not be lifted, moved, or otherwise disturbed until the concrete has reached full design strength.

Q. Pre-Assembly The units shall be pre-assembled at the fabrication location to assure proper match between adjacent units before shipping to the project site, to the satisfaction of the Department.

R. Shipping Units shall not be shipped until the minimum 28-day strength is attained and they have been approved by the Department. A 48-hour advance notice of the loading and shipping schedule shall be provided. The units shall be secured on the vehicle to ensure cracking will not occur during transport. The Contractor shall secure the necessary hauling permits.

530.07 Installation

A. General. The units shall be fabricated in accordance with the applicable Sections of the Specifications and/or the Special Specifications. Construction procedures and permissible variations other than those contained herein shall be submitted for approval.

B. Erection Plan. Cranes, lifting devices, and other equipment for erecting the prefabricated superstructure units shall be of adequate design and capacity to safely erect, align, and secure all members and components in their final positions without damage. The Contractor is solely responsible for the methods and equipment employed for the erection of the precast concrete/steel composite superstructure units.

The Contractor shall submit Working Drawings in accordance with Section 105 for the methods and sequences of precast concrete/steel composite superstructure unit erection, any temporary bracing, and the equipment to be used for the erection. The erection plan shall include the necessary computations to indicate the magnitude of stress in the segments during erection and to demonstrate that all of the erection equipment has adequate capacity for the work to be performed. The erection plan shall contain provisions for all stages of construction, including temporary stoppages and hourly sequencing information

The prefabricated units may be used to support limited construction equipment and vehicles prior to constructing zipper pours and other closure pours only with written permission of the Department. The proposed use of the precast concrete/steel composite superstructure units for support of equipment/vehicles shall be detailed in the erection plan with location of wheel lines/axles noted and extents of traffic plating and other devices to cover gaps and openings in the deck.

Submittal of the erection plans is for the Department's information only, and shall in no way be construed as approval of the proposed method of erection. Unless otherwise directed by the Department, the Contractor shall follow the erection plans as submitted.

C. Erection of Units. Erection of units shall not proceed until substructure concrete has been cured for the minimum length of time specified in the Specifications. Units shall be installed to the correct line and grade as shown on the approved drawings and as indicated in the approved erection procedures. Prior to setting units and to avoid torsion stresses, bearing elevations within a given unit shall be adjusted as approved by the Resident to match relative elevations used during the deck casting operations. After all the units are erected, they shall be inspected to ensure the correctness of their location.

D. Matching Elevation of Units. Adjacent units shall match elevations within 1/4 inch vertically (along longitudinal edges) and 1/8 inch vertically at the end of units. If the tolerance is not met, the units shall be adjusted as indicated in the procedures shown on the approved Working Drawings.

E. Filling and Sealing Longitudinal Joints. Prior to placement of closure pour concrete, the surface of the joint shall be free of any material, such as oil, grease, or dirt, which may prevent bonding of the sealing materials.

F. Sealing of Lifting Holes. After the units are in their final locations, a bonding agent shall be applied and the lifting holes filled with cementitious grout. A removable form shall be provided at the bottom surface of the deck to retain the grout if required. Grout shall not be placed until ambient temperatures are compatible with grout manufacturer recommendations.

G. Loading. Units may be loaded upon erection and before closure pours are constructed in accordance with the approved erection procedure. Once the closure pours are placed, no further loading of the units will be allowed until closure pour material has properly cured and as approved by the Resident.

H. Final Repairs. After the installation work is complete, remaining concrete defects, holes for inserts, and lifting holes shall be repaired as indicated and approved by the Department.

530.08 Method of Measurement The quantity of Prefabricated Bridge Structure and Assembly will be measured as one lump sum, complete, in place and accepted.

530.09 Basis of Payment The accepted quantity of Prefabricated Bridge Structure and Assembly will be paid for at the Contract lump sum price. Payment will be full compensation for detailing, fabrication, repairing, quality control testing, transportation, handling, and

installing the materials specified, including concrete, reinforcing steel, structural steel, shear studs, connectors, and shims; for designing and installing lift brackets and any other material contained within or attached to the members; for furnishing and implementing the erection plan; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Pay adjustments for compressive strength, permeability, and air content will be determined using the Quality Level Analysis specified in Section 106 and the Pay factors (P F) included in the Contract Special Provisions.

Bearing assemblies and concrete within the longitudinal superstructure closure pours and end closure pours or link slabs will be paid for separately.

Bridge drains will be paid for separately. Curb concrete will be paid for separately.

Protective coatings for structural steel will be paid for separately under the appropriate Section 506 items.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
530.04	Prefabricated Bridge Structure and Assembly	Lump Sum

SPECIAL PROVISION
SECTION 534
PRECAST STRUCTURAL CONCRETE

Section 534, Precast Structural Concrete of the Standard Specifications is replaced as follows:

534.1 Description This work shall consist of fabricating, delivering, and erecting the precast pier columns, pier caps, precast approach slabs, and related material.

534.1 Materials Materials for precast and prestressed concrete products shall meet the requirements of the following Sections:

Water	701.02
Air Entraining Admixture	701.03
Water Reducing Admixture	701.04
High Range Water Reducing Admixture (HRWR)	701.0401
Set-Retarding Admixtures	701.05
Fly Ash	701.10
Calcium Nitrite Solution	701.11
Silica Fume	701.12
Ground Granulated Blast Furnace Slag	701.13
Fine Aggregate for Concrete	703.01
Coarse Aggregate for Concrete	703.02
Reinforcing Steel	709.01
Welded Steel Wire Fabric	709.02
Steel Strand for Concrete Reinforcement	709.03

Portland cement shall conform to the requirements of AASHTO M85 (ASTM C150), Type I, Type II, or Type III. The Contractor shall supply the Department with copies of certified mill tests of the cement. The mill tests shall show the name of the manufacturer, location where produced, silo number and the person or agency conducting the test.

Coarse aggregate shall conform to the requirements of Section 703.02 - Coarse Aggregate for Concrete, Class A, AA or Latex.

534.03 Drawings The Contractor shall prepare shop detail, erection and other necessary working drawings in accordance with Section 105.7 - Working Drawings. The drawings will be reviewed and approved in accordance with the applicable requirements of Section 105.7. Changes and revisions to the approved working drawings shall require further approval by the Fabrication Engineer.

Concrete mix designs shall be part of the shop drawing submittal. Mix designs shall include aggregate specific gravity, absorption, percent fracture, fineness modulus and gradation.

A copy of the Contractor's Quality System Manual (Q.S.M.) shall be submitted when requested by the Fabrication Engineer.

534.05 Inspection Facilities The Contractor shall provide a private office at the fabrication facility for inspection personnel authorized by the Department. The office shall have an area not less than 100 square feet and shall be in close proximity to the work. The office shall be climate controlled to maintain the temperature between 65°F and 85°F, lighted and have the exit(s) closed by a door(s) equipped with a lock and 2 keys which shall be furnished to the Inspector(s). The office shall be equipped with a desk or table having a minimum size of 48 in by 30 in, 2 chairs, a telephone, telephone answering machine, line data port, plan rack and 2-drawer letter size file cabinet with a lock and 2 keys which shall be furnished to the Inspector (s).

The facilities and all furnishings shall remain the property of the Contractor upon completion of the work. Payment for the facilities, heating, lighting, telephone installation, basic monthly telephone charges and all furnishings shall be incidental to the contract.

534.06 Notice of Beginning Work The Contractor shall give the Fabrication Engineer a minimum of two weeks notice prior to beginning work. The Contractor shall advise the Fabrication Engineer of the production schedule and any changes to it. If the Contractor suspends work on a project, the Fabrication Engineer will require 48 hours notice prior to the resumption of work.

534.07 Inspection Quality Control (Q.C.) is the responsibility of the Contractor. Quality Control Inspector s (QCIs) shall have a valid PCI Quality Control Certification Level I, Level II or Level III. Personnel performing concrete testing shall hold a current ACI Field Testing Technician Grade I Certification or equivalent, or work under the direct supervision of an ACI certified technician.

The QCI shall inspect all aspects of the work in accordance with the Contractor's QSM. The QCI shall record measurements and test results on the appropriate forms from APPENDIX E of MNL 116 or an equivalent form prepared by the user. Copies of measurements and test results shall be provided to the Quality Assurance Inspector (QAI) as follows:

Type of Report	When Provided to Q.A.I.*
Material certifications/stressing calculations/calibration certifications	Prior to beginning work (anticipate adequate time for review by QAI)
Pre-pour inspection report	Prior to the concrete placement
Concrete Batch Slips	The morning of the next work day
Results of concrete testing	The morning of the next work day
Results of compressive testing (for release)	The same work day
Concrete temperature records	Provide with compressive testing (for Release)
Non-conformance reports/repairs procedures	Within 24 hours of discovery
Results of compressive testings (for design strength)	Prior to stopping curing/Prior to final Acceptance

Post-pour inspection report	Prior to final acceptance
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*The Contractor and QAI, by mutual agreement, may modify any part of the schedule; however, failure to provide the documentation when required will result in the product being deemed unacceptable.

The QCI shall reject materials and workmanship that do not meet contract requirements. The Contractor may perform testing in addition to the minimum required. The results of all testing shall be made available to the (QAI).

Quality Assurance (Q.A.) is the prerogative of the Fabrication Engineer. The QAI will verify documentation, periodically inspect workmanship, and witness testing. Testing deemed necessary by the Fabrication Engineer in addition to the minimum testing requirements shall be scheduled to minimize interference with the production schedule.

534.08 Inspector's Authority The QAI will have the authority to reject material or workmanship that does not meet the contract requirements. The acceptance of material or workmanship by the QAI will not prevent subsequent rejection, if found unacceptable.

534.09 Rejections Rejected material and workmanship shall be corrected or replaced by the Contractor. In the event that an item fabricated under this Specification does not meet the contract requirements but is deemed suitable for use by the Fabrication Engineer, said item will be paid for in accordance with Section 106.8.1 - Substantially Conforming Work.

534.10 Forms and Casting Beds Form dimensions shall conform to the approved shop drawings. Forms shall be well constructed, carefully aligned and sufficiently tight to prevent leakage of mortar. Forms that do not maintain the plan dimensions within allowable tolerances during concrete placement shall be rejected.

Wood forms, if used, shall be sealed with a material to prevent absorption. The sealer shall be applied and cured in accordance with the manufacturer's recommendation.

Forms shall be cleaned of adherent material before each use. Forms shall be cleaned of all foreign matter and debris immediately prior to placing concrete. New forms shall be free from paint or other protective coatings.

Forms shall be treated with a non-staining bond breaking compound applied in accordance with the manufacturer's recommendations.

If the reinforcing steel has been contaminated with the bond- breaking compound, it shall be cleaned with solvent. No concrete shall be placed until the reinforcing steel and any voids, ducts or vent pipes have been inspected and accepted by the QCI.

534.11 Reinforcing Steel Reinforcing steel shall be fabricated, packaged, handled, sorted, placed, and spliced in accordance with Section 503. Splices shall be avoided unless shown otherwise in the Contract Plans.

Reinforcing steel shall be accurately located and securely anchored to prevent

displacement during concrete placement. All reinforcing steel shall be installed and secured before beginning the concrete placement.

The concrete cover shown on the approved shop drawings shall be the minimum allowable cover. The contractor shall use bar supports and spacers to maintain the minimum concrete cover. The bar supports and spacers shall be made of a dielectric material or other material approved by the Fabrication Engineer.

534.12 Voids and Inserts Voids shall be non-absorbent. The out-to-out dimensions of the voids shall be within 2% of plan dimensions. Damaged voids shall be repaired in manner acceptable to the QAI. Voids shall be stored, handled and placed in a manner that prevents damage. Residue from void placement shall be entirely removed from the forms before beginning or continuing the concrete placement.

Voids shall be located accurately, anchored securely, capped and vented. Any portion of a void that is displaced beyond the allowable dimensional tolerances shall be cause for rejection of the pier segment.

534.13 Concrete Concrete mix designs shall be submitted to the Fabrication Engineer for approval a minimum of 30 days prior to beginning work. Mix designs previously approved for use shall not require qualification by trial batch if the mix design meets all the requirements of this Section.

New concrete mix designs shall be qualified by trial batches prepared in accordance with AASHTO T126 (ASTM C192). The test results shall demonstrate that the concrete meets the requirements of the Plans and this Section. If accelerated curing is to be used in production, the test specimens shall be similarly cured.

No concrete shall be placed until the mix design has been approved. Approval of the mix design does not relieve the Contractor of the responsibility of meeting the requirements of this Section during production.

The concrete mix design shall meet the following requirements:

Table 1

Minimum cement content	650 lb/yd ³
Water-cement ratio	0.40 maximum
Air entrainment	5½ % - 7½ %
Allowable slump	5 in to 10 in
Calcium Nitrite*	3 gal/yd ³
Ground Granulated Blast Furnace Slag (when required)	5% - 10% of cement content by weight
Fly Ash	40% of cementitious material maximum
Permeability	17 KOhm-cm

*The water in the Calcium Nitrite solution shall be included when calculating the water/cement ratio

The batching equipment, mixers and delivery equipment shall be provided by a plant that meets the requirements of AASHTO M-157. Facilities that are certified by the Precast/Prestressed Concrete Institute (PCI) or the National Precast Concrete Association (NPCA) will be considered pre-qualified.

534.14 Concrete Placement The first two loads of concrete from each placement shall be tested by the QCI for temperature, air entrainment, and slump. If the first load is unacceptable, the second load shall be tested as the first. This process shall continue until two consecutive loads are found acceptable. After two consecutive loads are found acceptable, the frequency of testing shall be at the discretion of the QAI.

Concrete shall be tested if there is a change in the dosage rate of any admixture, a change of 2 in or more in slump or a change of more than 5°F in mix temperature.

Any load of 1 yd³ or less from a stationary mixer or 2 yd³ or less from a transit mixer shall be tested for air entrainment, slump, and temperature prior to being placed in the form.

Concrete shall be placed as nearly as possible to its final location. The depth of a lift shall be controlled in order to minimize entrapped air voids in conventional concrete castings. The maximum depth of an unconsolidated lift shall be 18 inches in conventional concrete castings. Concrete shall be vibrated with internal or internal and external vibrators in conventional concrete castings. External vibrators shall not be used alone. Internal vibrators shall be inserted vertically and penetrate the lower layer of concrete by at least 4 in. The vibrators shall be inserted to assure that the radii of action of the vibrators overlap. The vibrators shall be held in position from 5 to 15 seconds. Vibrators shall not be used to move concrete horizontally. In concrete that is made self-consolidating by the addition of a polycarboxylating agent the amount of vibration and maximum depth of lifts shall be determined during the trial batching process with input from the Department, the Manufacturer's Technical Representative, and the Contractor.

When concrete placements are interrupted, no more than 60 minutes shall elapse from the time of the beginning of the placement and the resumption of the concrete placement when the concrete temperature is below 75°F. When the concrete temperature is above 75°F, the elapsed time shall be reduced to 30 minutes. Cold joints shall make the unit subject to rejection.

No water shall be added to the concrete after batching. HRWR may be added to the concrete after batching if that practice conforms to the manufacturer's published recommendations. Concrete that becomes unworkable shall be discarded.

534.15 Process Control Test Cylinders All process control test cylinders shall be made and tested in accordance with the following Standards:

AASHTO T23 (ASTM C31/C31M) Practice for Making and Curing Concrete Test Specimens in Field

AASHTO T22 (ASTM C39) Test Method for Compressive Strength of Cylindrical Concrete Specimens

AASHTO T119 (ASTM C143) Test Method for Slump of Hydraulic Cement Concrete

AASHTO T141 (ASTM C172) Practice for Sampling Freshly Mixed Concrete

AASHTO T152 (ASTM C231) Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method

ASTM C1064 - Test Method for Temperature of Freshly mixed Portland Cement

Concrete

A minimum of 8 concrete test cylinders shall be cast to represent each continuous concrete placement. Six of the cylinders from each test shall be cured under the same conditions as the units. Unit identification, entrained air content, water-cement ratio, slump and temperature of the sampled concrete shall be recorded by the Contractor at the time of cylinder casting. Testing shall be done in the presence of the QAI. The QAI will designate the loads to be tested. Cylinders made to determine handling strength shall be made during the last 1/3 of the placement.

At least once a week, the Contractor shall make four cylinders for use by the Department. They shall be cured in accordance with AASHTO T23 (ASTM C31/C31M).

If the Contractor fails to make enough cylinders to demonstrate that the product meets the contract requirements, the product will be considered unacceptable.

The standard size test cylinder for acceptance shall be 6 in by 12 in. If 4 in by 8 in cylinders are used for acceptance, the compressive strength values shall be reduced by 5%. The compressive strength of the concrete shall be determined by averaging the compressive strength of two test cylinders made from the same load.

Concrete shall have reached design strength prior to handling pier segments. For the purpose of acceptance, the average of two cylinders shall meet or exceed the design strength, and, neither cylinder shall be more than 500 psi below the required strength.

534.16 Curing Immediately after the concrete has been finished, the product shall be covered with an impermeable barrier to prevent moisture loss. The barrier shall be tight to the form and securely fastened. The exposed surface of the concrete shall be kept moist. The Contractor shall monitor and record the concrete temperature during the initial curing cycle.

After the product has been removed from the form, moist curing shall continue until it has reached design strength. All surfaces of the product shall be kept moist and the product shall be placed in a moisture retention enclosure with a relative humidity not less than 80%. The product shall not be exposed to temperatures below 50°F until design strength is achieved.

Membrane curing compounds shall not be used without the approval of the Fabrication Engineer. If approved, the compound shall be applied in strict accordance with the manufacturer's published instructions. The Contractor shall provide the QAI with the product data sheet for the compound prior to application. The compound shall be applied immediately after stripping.

534.17 Accelerated Curing (Optional) Accelerated curing shall begin after the concrete has attained its initial set. Initial set shall be determined in accordance with ASTM C403, Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance. A strength gain of 500 psi indicates initial set. The Contractor shall provide documentation that the mix design being used has been tested in accordance with ASTM

C403. Accelerated curing shall begin after the concrete has attained initial set. Application of heat more than 8 hours after initial set will not be considered accelerated curing.

The enclosure temperature may be increased by a maximum of 10°F/hour prior to initial set. The total temperature gain prior to initial set shall not exceed 40°F.

After initial set, the temperature gain of the concrete shall not exceed 40°F/hour. The concrete temperature shall attain a minimum temperature of 120°F and that temperature shall be maintained for a minimum of 8 hours. The maximum allowable concrete temperature shall be 180°F. Concrete temperature shall be measured near each end of the casting bed and at intervals not to exceed 100 ft.

The cooling rate from maximum accelerated curing temperature shall not exceed 40°F/hour. The cooling rate shall continue until the concrete temperature is within 40°F of the ambient air temperature.

Steam curing shall take place in an enclosure that allows the free circulation of steam. Steam jets shall provide a uniform distribution of steam without discharging directly on the product or the test cylinders.

When radiant heat is used, the Contractor shall take measures to assure that there is no moisture loss from the product. Free water shall be present on all exposed surfaces at all times.

Recording thermometers that indicate the time/temperature relationship shall be used by the Contractor until transfer/stripping strength has been achieved. Copies of the time/temperature records shall be made available to the QAI.

If the units have achieved 80% of design strength during the curing cycle, no further curing will be required.

534.18 Finishing Concrete and Repairing Defects Products fabricated under this Section shall meet Standard Grade finish requirements as defined in MNL 116 when they are hidden from view in their final position by backfill, all other surfaces will be considered exposed to view.

For portions of product not exposed to view in their final position the recommendations of Standard Grade finish requirements shall be mandatory.

Portions exposed to view shall meet the following standards. No projections from the surface along the length of each piece will be allowed, uniform color and texture, no visible form tie holes patched or otherwise, all surface voids filled.

Structural defects shall be repaired by a method approved by the Fabrication Engineer. Structural defects shall include, but not be limited to exposed reinforcing steel, cracks in bearing areas, through cracks and cracks 0.013 in in width that extend more than 12 in. The Contractor shall submit a proposed repair procedure for structural repairs to the Fabrication Engineer. No structural repairs shall be made without the QAI being

present. The QAI shall be given adequate notice before beginning repairs.

Chamfers shall be made smooth and uniform. Keyways shall be sandblasted to remove mortar paste.

On surfaces not exposed to view in their final position honeycombing, ragged or irregular edges and other cosmetic defects shall be repaired using a product from the MDOT Prequalified List for Patching Materials. The repair, including preparation of the repair area, mixing, application, and curing of the patching material shall be in accordance with the manufacturer's published instructions. Edges not exposed in the final product may be ground smooth with no further repair necessary if the depth of the defect does not exceed 1/2 in. Form ties shall be removed to a depth of not less than 1 in from the face of the concrete and patched using a cementitious mortar or patching compound.

Structural defects shall be repaired by a method approved by the Fabrication Engineer. Structural defects shall include, but not be limited to exposed reinforcing steel, cracks in bearing areas, through cracks and cracks 0.013 in in width that extend more than 12 in. The Contractor shall submit a proposed repair procedure for structural repairs to the Fabrication Engineer. No structural repairs shall be made without the QAI being present. The QAI shall be given adequate notice before beginning repairs.

534.19 Tolerances Precast elements shall be fabricated within acceptable industry tolerances and the following tables:

Precast Approach Slab Tolerances

Length	± 1/4"
Width (Overall)	± 1/4"
Depth (Overall)	± 1/4"
Variation from specified end squareness or skew	± 1/2"
Sweep over member length	± 1/4"
Location of Sleeves or Blockouts	± 1/2"

Precast Pier Column and Cap Tolerances

Shim Pack Height	± 1/2"
Location of Column Reinforcing and Footing Dowels	± 1/4"
Length	± 1/2"
Width	± 1/4"
Depth	± 1/4"
Variation from specified end squareness or skew	± 1/2"
Sweep over member length	± 1/4"
Local Smoothness of any Surface	± 1/4" in 10 feet
Erection Elevation of Pier Cap	± 1/4"
Location of Voids or Inserts	± 1/2"

534.20 Transportation and Storage The precast products may only be handled, moved or transported after the 28 day design strength has been attained.

Stored products shall be supported above the ground on dunnage in a manner to prevent twisting or distortion. Products shall be protected from discoloration and aesthetic damage.

Units damaged by improper storing, hoisting or handling shall be replaced by the Contractor.

534.21 Installation and Grouting Lift and erect the units using the devices provided and in accordance with the erection drawings and approved devices cast into them. Support and secure elements as required to prevent movement and overturning and in a manner that assures keyways, inserts, and mechanical connections are in proper alignment

Prior to grouting, ensure mating surfaces are clean and saturated with water to prevent absorption of water from the grout. Seal all edges to prevent loss of grout.

Grout material shall be flowable and have a minimum 28-day compressive strength of 6, 000 psi. Grout material and application procedures shall be submitted for approval with the Working Drawings.

534.22 Method of Measurement Precast structural concrete will be measured by the lump sum.

534.23 Basis of Payment All work done under Precast Structural Concrete will be paid for at the contract lump sum price. Payment will be full compensation for furnishing all materials in the precast unit including, reinforcing steel, sleeves, ducts, voids, inserts and related materials and work. Related materials and work will include, but not be limited to, erecting the products, grouting connections/voids/interfaces,, providing and applying adhesive epoxy, providing and casting of self- consolidated concrete, and concrete admixtures used.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
534.7601	Precast Approach Slab	Lump Sum
534.76021	Precast Pier Columns	Lump Sum
534.76022	Precast Pier Caps	Lump Sum

SPECIAL PROVISION
SECTION 603
PIPE CULVERTS AND STORM DRAINS

603.01 Description The following sentence is added:

This work shall consist of furnishing and installing reinforced concrete pipe with integral steel casing in accordance with the Contract Plans and this Special Provision.

603.02 Materials The following is added:

Steel Casing	711.01
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The concrete for this special pipe shall conform to the requirements of ASTM C 76, Class V, Wall Type B. Elliptical reinforcement shall be provided. Applicable sub-sections of Section 712.061 shall apply to the reinforced concrete pipe with integral steel casing.

603.03 Construction Requirements

603.031 General The following sentence is added:

The Contractor shall furnish a reinforced concrete pipe with integral steel casing. Bell and tongue joints shall be integral to the pipe.

603.11 Method of Measurement The following sentence is added:

Reinforced concrete pipe with integral steel casing will be measured by length in linear feet along the invert, laid as directed, complete in place, and accepted.

603.12 Basis of Payment The following paragraph is added:

The accepted quantity of reinforced concrete pipe with integral steel casing will be paid for at the contract unit price per linear foot, complete in place. Payment will be full compensation for the materials specified, including concrete, integral steel casing, reinforcing steel, and shear studs.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
603.216	36" Special RCP	Linear Foot

SPECIAL PROVISION
SECTION 603
PIPE CULVERTS AND STORM DRAINS

603.12 Basis of Payment: This section shall be amended with the addition of the following:

<u>Pay Item</u>		<u>Pay Unit</u>
603.155	12 inch Reinforced Concrete Pipe Class III	Linear Foot
603.165	15 inch Reinforced Concrete Pipe Class III	Linear Foot
603.195	24 inch Reinforced Concrete Pipe Class III	Linear Foot
603.215	36 inch Reinforced Concrete Pipe Class III	Linear Foot
603.431	36 inch Reinforced Concrete Pipe Class V	Linear Foot

SPECIAL PROVISION
SECTION 604
MANHOLES AND CATCH BASINS

This section is amended by the addition of the following:

Description: This work consists of constructing catch basins and manholes in accordance with the requirements of Section 604 of the Standard Specifications and as shown in the Standard Details.

Method of Measurement: Measurement shall be in accordance with Subsection 604.05.

Basis of Payment: Payment shall be in accordance with Subsection 604.06.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
604.094	72 Inch Catch Basin Type B1	Each

SPECIAL PROVISION
SECTION 606
GUARDRAIL

606.09 Basis of Payment: This section shall be amended with the addition of the following:

<u>Pay Item</u>		<u>Pay Unit</u>
606.791	Remove and Reset 350 Flared Terminal	Each

SPECIAL PROVISION
SECTION 607
FENCES
(Temporary Chain Link Fence – 6’)

Description: This work shall consist of furnishing, erecting, relocating, maintaining and removing temporary chain link fences to control pedestrian traffic along the project work zone. The temporary chain link fence shall be a minimum of six feet tall and shall include sufficient support bases to maintain the fence in a vertical position.

Materials: Materials for the chain link fence shall meet the requirements specified in the following subsections of Division 700 – Materials:

Chain Link Fabric	710.03
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Temporary chain link fence shall not require foundations for support posts. Support bases must have an adequate base to support the fence in windy conditions and be large enough to hold sand bags or other supplemental dead weight if necessary for additional support. Securely attach fence sections to the posts.

Gates shall be composed of chain link fabric braced with rods, bars, or angles of a type similar in construction to the fencing installed. Gates shall be no less than five feet tall.

General: The Contractor shall erect and maintain temporary chain link fences as shown in the Plans and as directed by the Resident. The temporary chain link fence shall be continuous to discourage pedestrian access into or through the work area.

The fencing shall be erected vertically and set plumb and generally straight, following the contour of the ground, with the bottom of the fence structure no more than three inches above the ground surface.

The Contractor shall relocate the fencing as needed throughout the traffic control phasing to control pedestrian traffic along the approved pedestrian detour pathways.

The Contractor shall provide sandbags or other approved removable ballast to support the portable chain link fence under wind, ice, and snow loads.

Fencing shall be maintained in good working condition throughout construction. If sections of fencing are determined to be unserviceable by the Resident, the Contractor shall replace the applicable fencing at no additional cost.

Method of Measurement: Temporary chain link fence will be measured as one lump sum unit as approved by the Resident.

Basis of Payment: The accepted fencing will be paid at the contract lump sum price. Payment shall be full compensation for furnishing and erecting fencing, furnishing support bases, relocating fencing and support bases as directed, and for providing gates, hardware, locks, bracing, and removal of fencing and support bases when no longer required. Payment shall also include the cost of all labor, materials, tools and equipment necessary to erect, maintain, and remove the temporary chain link fencing. Payment shall be made for up to 95 percent of the quantity of fencing erected and accepted, with the balance being paid when the fencing is removed from the project.

Any sandbags or other ballast required for additional support of fence sections shall be considered incidental to the payment for portable chain link fence.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
607.1702	Temporary Chain Link Fence – 6'	Lump Sum

SPECIAL PROVISION
SECTION 607
FENCES
(Chain Link Snow Fence)

607.01 Description

This work shall consist of the furnishing of all materials for, and the construction of, Chain Link Snow Fence. The snow fence shall be 33” tall as shown in the Plans.

607.02 Materials

Materials shall be as noted in the Plans.

607.6 Method of Measurement

Fence will be measured by the lump sum unit accepted in place and in conformity with the details as shown on the Plans or as directed by the Resident.

607.6 Basis of Payment

This work will be paid for at the contract unit price per lump sum, complete and accepted in place. Such price will be full compensation for furnishing all materials, labor, equipment, coatings, and incidentals to complete the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
607.183	Chain Link Snow Fence – 33”	Lump Sum

SPECIAL PROVISION
SECTION 608
SIDEWALKS
(Remove and Reset Existing Cobblestone)

Description This work shall consist of furnishing all materials for and reconstructing cobblestone sidewalks and medians in conformance with this specification and all other applicable Contract Documents.

Materials Materials for sidewalks and medians shall meet the requirements specified in the following Sections of Division 700, Materials:

Aggregate of Untreated Surface Course and Leveling Course 703.10

Dry sand cement setting bed shall be six parts washed mortar sand to one part Portland Cement.

Filter fabric shall be a 3 mil woven, polypropylene fabric or approved equal.

New aggregate required to build new sidewalk or median shall meet the requirements of Standard Specification 703.06(c), Aggregate for Base and Subbase, Type D. New aggregate for regrading existing sidewalk or median shall meet the requirements of Sections 703.10, Aggregate for Untreated Surface course and Leveling Course.

Standard compacting will be required for all sidewalk or median areas where six inches or more of new or disturbed aggregate is placed. Where less than six inches is placed, compaction will be achieved by the use of a plate compactor, hand tamp or other means approved by the Resident.

Construction This work shall consist of the following: Removal, storage, and disposal, as necessary, of existing cobblestone; shaping and compacting the foundation to a firm, even surface, conforming to the section shown in the Contract Documents; all soft and yielding materials shall be removed and replaced with acceptable material; regrading, compacting and furnishing of Aggregate for Untreated Surface course and Leveling Course, as necessary; placing filter fabric, furnishing and cutting of re-used cobblestone; furnishing and applying joint filler material and compacting with water and refilling until joint material is at the same surface as the cobblestone; all necessary grading and restoration at the back edge of sidewalk; removal and disposal of unused materials and debris.

Filter fabric will be laid flat on compacted base course below setting bed and all excess fabric will be trimmed after the installation of the cobblestones. Cobblestones will be placed in a running bond pattern as shown on the landscape plans or as directed by the Resident. The minimum cut cobblestone size for radii, corners and infill of running bond pattern shall be 3" long x 5" wide.

Maximum joint spacing between cobblestones will be ½" and the minimum depth of sand cement setting bed will be 1". Joints may be up to 1 ½" wide at pattern change locations, radii and corners only. Once the cobblestones have been set, the sand cement mixture will be spread on the surface and swept

into the joints to within ¼” to ½” of the paver surface. Surplus sand cement mixture shall be swept from the surface. After cleaning sand cement from the surface, sand only shall be swept on the surface of the joints.

Cleaning operations will be performed during installation of work and upon completion of work. Cleaning agents and methods for cobblestone surface shall be acceptable to MaineDOT. All excess materials, debris, and equipment will be removed from site. All damage resulting from cobblestone paving operations will be repaired.

Method of Measurement This work will be measured by the square yard of finished surface.

Basis of Payment The accepted quantities of remove and reset cobblestone will be paid for at the Contract Unit per square yard, complete in place. There will be no separate payment for the removal of the cobblestones. Removal of material below the cobblestones will be paid for under Section 203, Excavation and Embankment or under the appropriate rental items as directed by the Resident. Base and subbases material will be paid for under Section 304, Aggregate Base and Subbase Course or Section 411, Untreated Aggregate Surface Course, as directed by the Resident.

Pay Item

Pay Unit

608.092	Remove and Reset Existing Cobblestone	Square Yard
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SPECIAL PROVISION
SECTION 608
SIDEWALKS
(Granite Pavers with Sand Base)

Description This work shall consist of furnishing all materials for removing and reconstructing granite crosswalks in conformance with this specification and all other applicable Contract Documents. Crosswalks will be reconstructed in kind or as directed by the Resident.

Materials Materials for crosswalks and medians shall meet the requirements specified in the following Sections of Division 700, Materials:

Aggregate of Untreated Surface Course and Leveling Course 703.10

New aggregate required to build new crosswalks shall meet the requirements of Standard Specification 703.06(c), Aggregate for Base and Subbase, Type D. New aggregate for regrading existing crosswalk or median shall meet the requirements of Sections 703.10, Aggregate for Untreated Surface course and Leveling Course.

Standard compacting will be required for crosswalk areas where six inches or more of new or disturbed aggregate is placed. Where less than six inches is placed, compaction will be achieved by the use of a plate compactor, hand tamp or other means approved by the Resident.

Crosswalk Construction This work shall consist of the following: Removal, storage, and disposal, as necessary, of existing granite pavers; shaping and compacting the foundation to a firm, even surface, in kind and conforming to Contract Documents or as directed by the Resident; all soft and yielding materials shall be removed and replaced with acceptable material; regrading, compacting and furnishing of Aggregate for Untreated Surface course and Leveling Course, as necessary; cutting and furnishing of new or re-used granite to match the existing crosswalk; furnishing and applying joint filler material (sand) and compacting with water and refilling until joint material is at the same surface as the granite; all necessary grading and restoration at the back edge of crosswalk; removal and disposal of unused materials and debris.

Method of Measurement This work will be measured by the square yard of finished surface.

Basis of Payment The accepted quantities of Granite Paver with Sand Base will be paid for at the Contract Unit per square yard, complete in place. There will be no separate payment for the removal of the granite pavers, granite curb or cobblestones. Removal of material below the crosswalk will be paid for under Section 203, Excavation and Embankment or under the appropriate rental items as directed by the Resident. Base and subbase material will be paid for under Section 304, Aggregate Base and Subbase Course or Section 411, Untreated Aggregate Surface Course, as directed by the Resident.

<u>Pay Item</u>	<u>Pay Unit</u>
608.28 Granite Pavers with Sand Base	Square Yard

SPECIAL PROVISION
SECTION 609
Curb

609.10 Basis of Payment: This section shall be amended with the addition of the following:

<u>Pay Item</u>		<u>Pay Unit</u>
609.2341	Terminal Curb Type I – 4 Foot – Circular	Each
609.2381	Terminal Curb Type I – 8 Foot – Circular	Each

SPECIAL PROVISION
SECTION 615
LOAM COMPOST

Description

This work shall consist of furnishing and placing a 50% compost / 50%/loam mix uniformly to fill planting island planting areas as Directed by the Resident/Landscape Architect.

Materials

The compost for the Loam/Compost planting mixture shall meet the following requirements: Compost shall be produced by the aerobic (biological) and biochemical decomposition of source separated organic materials.

Compost shall be derived from a mixture of the following feedstock materials:

1. Green material consisting of chipped, shredded, or ground vegetation, or clean processed recycled wood products (MDEP Type IA, IB)
2. Biosolids (MDEP Type II)
3. Manure
4. Mixed food waste (MDEP Type 1B, IC)

Compost shall not be derived from mixed municipal solid waste and must be reasonably free of visible contaminants. Compost shall not contain paint, petroleum products, pesticides, industrial residuals or any other chemical residues harmful to animal life or plant growth. Compost shall not possess objectionable odors.

The compost shall be produced at a licensed facility as specified under the State of Maine Department of Environmental Protection Chapter 410: Composting Facilities that regulate Solid Waste Facilities. If exempt from State permitting requirements, the composting facility shall certify that it follows guidelines and procedures for production of compost meeting the environmental standards of Chapter 410.

Placing Loam/Compost

The compost shall be placed in the locations as shown in the Plans. Compost shall be placed by the contractor using conventional earthmoving equipment, distributed by hand using a shovel or by mechanical means such as a spreader unit (e.g., bulldozer or manure spreader) or pneumatic blower. It shall be spread to the uniform final depth of 3". Compost shall be spread in a manner as to establish a loose, friable seed bed. To insure adequate finished density, the compost will be rolled with a 100# roller after spreading with one of the aforementioned methods.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
615.086 Loam/Compost	Cubic Yard

**SPECIAL PROVISION
SECTION 621
LANDSCAPING**
(Plant Species Specification and Quantities List)

The following list of items provides the estimated quantities for use on this project. The scientific name of the plant material is provided along with the common name in parenthesis.

The contractor shall follow **MaineDOT** Standard Specifications section 621 for landscape materials and installation procedures.

The MaineDOT Landscape Architect or his designee will be available to inspect plant materials and stake the location of plant materials at the time of planting.

PLANT MATERIALS

<i>ITEM</i>	<i>Description</i>	<i>Unit</i>	<i>Quant.</i>	<i>Total</i>
621.101	Groundcover Plugs Min. 2¼" cont.	Ea.		300
	<i>Vinca minor</i> (Periwinkle/Vinca)		300	
621.389	Evergreen Shrubs 15" – 18" Cont. Group A	Ea.		72
	<i>Juniperus horizontalis</i> 'Bar Harbor' (Bar Harbor Juniper)		36	
	<i>Juniperus pfitzeriana compacta</i> (Dwarf Pfitzer Juniper)		36	
621.397	Evergreen Shrubs 18" – 24" Group C	Ea.		18
	<i>Picea abies nidiformis</i> (Birds Nest Spruce)		18	
621.401	Evergreen Shrubs 2' – 2 ½' Group A	Ea.		3
	<i>Taxus hicksii</i> (Hick's Yew)		3	
621.51	Deciduous Shrubs 15" – 18" cal. Gr .A Cont	Ea.		108
	<i>Spiraea alpinum</i> (Dwarf Alpine Spiraea)		36	
	<i>Potentilla</i> 'Mango Tango' (Dwarf Peach Potentilla)		36	
	<i>Comptonia peregrina</i> (Sweet Fern)		36	
621.54	Deciduous Shrubs 18" – 24" Group A	Ea.		42
	<i>Ilex verticillata</i> 'Red Sprite' (Dwarf 'R.Sprite Winterberry)		36	
	<i>Ilex verticillata</i> 'Jim Dandy'		6	
621.546	Deciduous Shrubs 2' - 3' Group A	Ea.		42
	<i>Cornus sericea</i> (Red Twig Dogwood)		12	
	<i>Myrica pensylvanica</i> (Northern Bayberry)		12	
	<i>Viburnum dentatum</i> (Arrowwood Viburnum)		12	
	<i>Hydrangea paniculata grandiflora</i> /(Pee-Gee Snowball)		6	
621.554	Deciduous Shrubs 3' –4' Group C	Ea.		6
	<i>Fothergilla gardennii</i> (Dwarf Bottlebrush)		6	
621.71	Herbaceous Perennials Group A 1 gallon	Ea.		280
	<i>Hemerocallis</i> Joyful, Yellow Monmouth, Real Wind, Rosy		160	
	<i>Nepeta mussinii</i> 'Blue Wonder'		48	
	<i>Perovskia atriplicifolia</i> 'Little Spires'		48	
	<i>Panicum</i> 'North Wind'		24	
621.71	Herbaceous Perennials Group A 2 quart/cont.	Ea.		132
	<i>Astilbe</i> 'Bridal Veil', <i>Astilbe</i> 'Younique' A. <i>sprite</i>		60	
	<i>Coreopsis</i> 'Moonbeam'		36	
	<i>Amsonia tabernaemontana</i> 'Blue Star'		36	

SPECIAL PROVISION
SECTION 623
MONUMENTS
(Remove and Reset)

Description This work shall consist of removing, any necessary storage and placing the monument in its new location as shown on the plans, or as directed by the Resident.

Method of Measurement Existing monuments that are removed and reset will be measured as one unit each, complete in place and accepted.

Basis of Payment The accepted quantity of Remove and Reset Monument will be paid for at the contract unit price per each, which payment will be full compensation for all labor, materials, equipment, and incidentals necessary to complete the work, including removal, temporary storage, and placement in the new location as shown on the plans or as Directed by the Resident. If the existing foundation material cannot be salvaged or is damaged then a new "in-kind" foundation will be installed at no additional cost. Any damage to the monument that occurs during construction will be repaired to the satisfaction of the Resident at no additional cost.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
623.09 Remove and Reset Monument	Each

SPECIAL PROVISION
SECTION 627
PAVEMENT MARKINGS
(Temporary White Pavement Marking Symbol)

The provisions of Section 627 of the Standard Specifications shall apply with the following additions and modifications.

627.011 Description: This work shall consist of furnishing and placing reflectorized temporary pavement marking words and symbols in reasonably close conformity with the plans or as directed by the Resident Engineer.

627.041 General: All temporary markings shall be applied in accordance with the Manual on Uniform Traffic Control Devices.

Temporary pavement markings will be applied as many times as necessary to maintain visibility during construction. The Resident Engineer will determine the number of re-applications required

Newly painted temporary markings shall be protected from traffic by the use of cones, stationary vehicles, or other approved methods until the paint is dry.

627.091 Method of Measurement: Temporary pavement marking words and symbols will be measured by the square foot for the pavement markings painted and reflectorized.

627.101 Basis of Payment: The temporary pavement markings will be paid for at the contract unit price per square foot. Payment shall be for each application of the marking as directed by the Resident Engineer.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
627.4075	Temporary White Pavement Marking Symbol	Square Foot

Highway Lighting Quality Control Checklist

Subsection 634.09 Field Testing

Project Pin # _____

Location (if multiple services, please be specific)- _____

Grounding Electrode Resistance at service _____

Number of Circuits _____

Hand-Off-Auto Switch? _____

Circuit #1

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation) Leg #1 _____ Leg #2 _____

Operating Voltage at last pole _____

Circuit #2

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation) Leg #1 _____ Leg #2 _____

Operating Voltage at last pole _____

I, _____, certify that this work was done in accordance with subsection 634.09 and current NEC _____ guidelines, and when tested, was functioning as intended. (YEAR)

Electrician's Signature _____

Electrician's License # _____

Highway Lighting Quality Control Checklist

Subsection 634.09 Field Testing

Project Pin # _____

Location (if multiple services, please be specific)- _____

Grounding Electrode Resistance at service _____

Number of Circuits _____

Hand-Off-Auto Switch? _____

Circuit #3

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation) Leg #1 _____ Leg #2 _____

Operating Voltage at last pole _____

Circuit #4

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation) Leg #1 _____ Leg #2 _____

Operating Voltage at last pole _____

I, _____, certify that this work was done in accordance with subsection 634.09 and current NEC _____ guidelines, and when tested, was functioning as intended. (YEAR)

Electrician's Signature _____

Electrician's License # _____

SPECIAL PROVISION
SECTION 638
BRIDGE LIGHTING
(Embedded Work in Structure)

Description. This work shall consist of furnishing and installing all materials and equipment embedded in a bridge structure necessary for a bridge lighting system as shown on the plans and as directed.

MATERIALS

General. All material furnished by the Contractor shall be new unless otherwise specified. All electrical equipment shall conform to NEMA, UL or EIA standards, as applicable. All materials and workmanship shall conform to the requirements of the latest version of the National Electrical Code (NEC), of the local electrical utility company, and of local ordinances that may apply. Materials also shall meet the requirements of Section 700 of the Standard Specifications, as applicable.

Submittals. The Contractor shall submit for review a list of equipment and materials proposed to be embedded in the bridge structure for the bridge lighting system, including detail drawings of locations and methods of proposed embedment. The list shall include the name of the manufacturer, size and identifying number of each item, and other necessary data, including detailed scale drawings and wiring diagrams of special equipment, as appropriate. If requested, the Contractor shall submit sample articles of materials proposed for use. Submittals, other than material samples, shall be provided in duplicate. Following checking, correction and approval, two sets of approved embedment detail drawings shall be submitted. The Department will not be liable for material purchased, labor performed, or work delayed before such review. Upon completion of the work, the Contractor shall submit a set of as-built drawings, in electronic format acceptable to the Department, detailing the materials and equipment embedded in the structure, locations within the structure, and methods of embedment.

CONSTRUCTION REQUIREMENTS

Conduit. Conduit to be embedded within a bridge structure shall be installed in accordance with applicable requirements of Sections 626.031, 626.032 and 626.033 of the Standard Specifications. Conduit shall be sized to be no smaller than required by the NEC and as shown on the Plans.

Cable Installation. Installation of electrical cable in conduit embedded in the bridge structure shall meet the applicable requirements of Section 634.04 of the Standard Specifications.

Bonding, Grounding and Testing. All metal conduit ends and exposed non-current-carrying metal parts of fixed hardware embedded in the structure shall be connected to the grounding conductor. All grounding and bonding shall conform to the requirements of the NEC. Testing of lighting circuits in embedded work shall meet the requirements of Section 634.09 of the Standard Specifications and Special Provision 634 of the contract.

Acceptance. All systems shall be complete and in operation to the satisfaction of the Resident at the time of acceptance of the work. The Contractor shall be responsible for the proper performance in service, in whole or in part, of the various lighting systems and all other electrical installations furnished and installed under this contract and shall correct, at their own expense, all deficiencies in the operation which may arise prior to acceptance of the work. The Contractor shall be responsible for the cost of power until the work is accepted.

Method of Measurement. Embedded Work in Structure, satisfactorily installed and accepted, will be measured for payment by the lump sum.

Basis of Payment. The accepted quantity of Embedded Work in Structure will be paid for at the contract lump sum price, which payment will be full compensation for all labor, materials, equipment and incidentals necessary to complete the work, including but not limited to conduit and support structures embedded in the structure, wiring, embedded and surface-mounted junction boxes and pull boxes in and on the structure, expansion connections, connection of bridge light standards to the structure, attachment hardware for surface-mounted conduit above ground, and other incidental materials, hardware and equipment embedded in the structure. Bonding and grounding of all materials, hardware and equipment embedded in the structure will be incidental to this pay item.

Portions of the lighting system external to the bridge structure are intended to be paid for under the Section 626 and Section 634 pay items of the contract, including conduit attached externally to the structure above ground.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
638.01 Embedded Work in Structure	Lump Sum

**SPECIAL PROVISION
SECTION 643
TRAFFIC SIGNALS**

The provisions of Section 643 of the Standard Specifications shall apply with the following additions and modifications.

643.01 Description The project will result in the provision of upgrades to one existing traffic control signal (controlling three intersections) within the City of Bath. The intersections consist of Centre Street at Washington Street, School Street at Washington Street, and Vine Street/Commercial Street/Leeman Highway at Washington Street. Upgraded equipment includes, but is not limited to: mast arm and pedestal poles, vehicular and pedestrian signal heads with countdown timers, astro-brackets, pedestrian buttons, wiring, signal cable, overhead mast arm mounted signs (subsidiary to Traffic Signals), vehicle detection, emergency vehicle preemption and all appurtenances and incidentals required for complete functioning installations.

All pedestrian signal heads shall be upgraded to countdown type with accessible pedestrian signal (APS) pushbuttons. Pedestrian signal housing shall be painted black and indications shall be energy efficient light emitting diodes (LED's). Pedestrian equipment is to be installed under the guidelines of the Americans with Disabilities Act (ADA) having work integrated with curb ramp and detectable warning field improvements.

Backplates will be provided for all vehicle signal heads. The backplates shall be a minimum of 5-inches with louvers for one-way, three- and four-section, 12-inch signal heads.

All traffic signal controller timing parameters shall be reprogrammed to provide optimized free operations as called for in the plan sheets.

643.0211 Additional Materials Material shall also meet the requirements in the following Special Provision to Section of Division 700 - Materials:

Emergency Vehicle Preemption System	718.13
Pedestrian Crossing System	718.14

643.0411 Foundations The bottom of each mast arm foundation is coincident with the top of bedrock surface as encountered in the test borings. If the actual bedrock surface at the mast arm foundation locations is encountered at depths that vary from those shown, the need to shorten or lengthen the foundations or pin or not pin them to bedrock shall be re-evaluated by the Resident.

643.12 Painting Unless otherwise directed by the City of Bath through the Resident Engineer, all exterior parts of the following equipment shall be delivered to the project finished as follows:

Vehicular Signal Heads – All parts flat black.
Signal Backplates – Black and louvered.
Pedestrian Signal Heads – All parts flat black.
Pedestal Posts and Bases – Black painted aluminum.
Mast Arm Poles and Uprights – Black painted galvanized steel.
Controller Cabinets – Bare metal aluminum

643.19 Basis of Payment Traffic signal modifications (Item 643.71) will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, including, but not limited to vehicle and pedestrian signal heads with countdown timers, accessible pedestrian signal (APS) buttons, emergency vehicle preemption, switches, wiring, signal cable, LED lamps, signs, and all appurtenances and incidentals required for complete functioning installations and for furnishing all tools and labor necessary for completing the installations.

The video detection system (Item 643.83) will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, including, but not limited to video processing unit, video camera, supervisory PC software, and all appurtenances and incidentals required for a complete functioning installation.

Mast arm poles (Item 643.91) and pedestal poles (Item 643.92) will be paid for at the contract unit price each which payment shall be full compensation for furnishing and installing all materials, tools and labor necessary to erect and install the structures.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
643.71 TRAFFIC SIGNAL MODIFICATION: Washington St/Centre St School St/Vine St/Commercial St/Leeman Hwy	Lump Sum
643.83 VIDEO DETECTION SYSTEM: Washington St/Centre St School St/Vine St/Commercial St/Leeman Hwy	Lump Sum

Traffic Signal Quality Control Checklist

Subsection 643.14 Field Testing

Project Pin # _____

Grounding Electrode Resistance at service _____

ID tags on loop amps / detector cards? _____

Location _____

Street Approach	_____		
Loop #	_____	Resistance	_____
Phase #	_____	Meg to ground	_____
L,C, or R Lane	_____	Amount of bondo covering loop	_____
Pulse or Presence	_____		

Street Approach	_____		
Loop #	_____	Resistance	_____
Phase #	_____	Meg to ground	_____
L,C, or R Lane	_____	Amount of bondo covering loop	_____
Pulse or Presence	_____		

Street Approach	_____		
Loop #	_____	Resistance	_____
Phase #	_____	Meg to ground	_____
L,C, or R Lane	_____	Amount of bondo covering loop	_____
Pulse or Presence	_____		

I, _____, certify that this work was done in accordance with subsection 643.14 and current NEC _____ guidelines, and when tested, was functioning as intended. (YEAR)

Electrician's Signature _____

Electrician's License # _____

SPECIAL PROVISION
SECTIONS 647 AND 648
TIMBER AND BALLASTED TRACK CONSTRUCTION

The work under this item shall conform to the applicable sections of the State of Maine Department of Transportation Standard Specifications and Standard Details (Revision of 2014), American Railway Engineering Maintenance-of-Way Association (AREMA), Manual on Uniform Traffic Control Devices (MUTCD), the Plans, Construction Notes and the following:

Description

The work shall include the complete removal of a section of existing railroad track structure including existing rails, ties, other track materials (OTM) and subgrade preparation as identified within and as described on the plans and or construction notes.

The work also includes furnishing and installing a new at-grade crossing with rubber rail seals and pavement as identified within and as described on the plans and or general notes.

General

The Contractor shall be required to conduct and phase all track construction within existing track in a manner that will allow operation of rail freight and passenger service as required by the Railroad.

Track Removal

All rail, railroad track ties, pavement and other track material shall become property of the Contractor and legally disposed of off-site. No track shall be removed without prior permission of the Resident, contingent on conforming that track is out of service and that sufficient time is available to return track to service when required by the Railroad.

Track excavation limits shall be as shown on plans. Suitable excavated material shall be reused within Project limits as determined by the Resident.

Removal of rail, ties, tie plates, spikes, anchors and other track materials shall be incidental to Item 648.53, Remove Existing Track – At Grade.

Removal of pavement and ballast shall be incidental to pay item 202.202 Removing Pavement Surface or 203.20 Common Excavation as directed by the Resident.

At Grade Crossing Installation

Excavate to required depth and place separation geotextiles as per plans and notes. Placement of PVC Schedule 80 4" Conduit shall be placed at a location to be determined by the Resident and be incidental to pay item 203.20 – Common Excavation.

New ballast and track structure will be constructed by Others.

Rubber rail seal shall be installed in accordance with the manufacturer's specifications and shall not

be applied to the rails until the track work has been completed and accepted by the Resident and the Railroad.

Paving shall be in accordance with Project Special Provision 403, and applicable sections of Project plan sheets, and shall be paid for separately under appropriate pavement items. The Contractor must coordinate with the Department and address any necessary detours to complete this work in their traffic control plan. All associated costs for temporary crossing surface or detour road shall be incidental to this item.

Vehicle traffic control is to be coordinated with the Contractor's schedule and shall be in accordance with applicable Project Special Provisions and State of Maine Standard Specification Section 652 – Maintenance of Traffic. All associated costs shall be incidental to these items.

All associated costs for night work and lighting shall be incidental to the 652 items. Pavement markings shall be installed as shown on the plans.

Method of Measurement

Remove Existing Track – At Grade will be measured for payment by the track foot along the centerline of the removed track structure.

Reconstruct Grade Crossing will be measured for payment by the track foot along the centerline of track between stations 2+15 to 3+41 and 3+86 to 4+24.

Basis of Payment

Remove Existing Track Structure will be paid at the contract unit price per track foot along the centerline of the removed track structure. Price includes all labor, materials, handling, equipment and incidental costs to complete the work. Track and roadway excavation shall be incidental to pay item 202.202 or 203.20 as directed.

Reconstruct Grade Crossing will be paid at the contract unit price per track foot. Price includes all labor, materials, handling, equipment and incidental costs to complete the work.

Pay Item

Pay Unit

648.5201	Reconstruct Grade Crossings	Track Foot
648.53	Remove Existing Track – At Grade	Track Foot

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC

Standard Specification Section 652 Maintenance of Traffic is hereby amended to include the following:

During the project, signal timing adjustments at all streets and intersections in the project area shall be done by others.

The Traffic Control Plan (TCP) submitted for approval shall include a description and plan detailing methods and equipment and measures to control and convey pedestrian movement through the project areas.

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(US Route 1 Viaduct Detour)

The provisions of Section 652 of the Standard Specifications shall apply with the following additions and modifications:

652.6.3 Prior to US Route 1 Viaduct Closure Prior to the closure of the viaduct, the Contractor may shift traffic on the frontage roads to conduct portions of the work that do not affect the traffic on the US Route 1 Viaduct and its approaches. The Contractor shall maintain a minimum 11 foot-wide travel lane on each frontage road unless otherwise directed by the Resident.

652.6.4 US Route 1 Viaduct Closure The viaduct closure period shall be as specified in Special Provision Section 107 - TIME unless otherwise directed by the Resident.

The Contractor shall establish a US Route 1 detour using the frontage roads (Vine Street/Leeman Highway westbound and Commercial Street eastbound). Generally, the frontage roads shall be opened to two lanes in each direction during daylight hours beginning when the viaduct closes (See attached figure). Specific lane closures and road closures are permitted as provided in the attached frontage road lane requirement matrix with penalty summary.

When the westbound frontage road will be fully closed during daylight hours, Vine Street shall remain open, detouring traffic to Washington Street and Centre Street.

The Resident shall be informed 48 hours before any desired lane or road closures where lane closures are pre-approved. The Contractor shall request any lane or road closures outside of the pre-approved hours and dates at least one week prior to the closure.

For the nighttime closures of the westbound frontage road, the Contractor shall establish a frontage road detour using the downtown streets of Front Street, Centre Street, and High Street. The eastbound frontage road shall maintain at least a single through lane during the day throughout construction.

Several parking spaces along Front Street and Centre Street will need to be closed to allow appropriate turning radii along the frontage road detour as well as space for a portable changeable message sign (PCMS). The Contractor shall coordinate with the City of Bath Public Works Department to determine the parking spaces that will be closed during construction and to provide appropriate traffic control devices to maintain the parking space closures.

The Contractor shall maintain pedestrian traffic flow under the viaduct along Washington Street at all times in accordance with the pedestrian detour plans. When the established pedestrian path under the viaduct (along the east side of Washington Street) is under construction, the Contractor shall establish a temporary pedestrian path along the west side of Washington Street using traffic officers.

Regular detour will be Washington St., Centre St. and High St. back to U.S. 1 westbound. When Vine St. is closed, detour will be Front St., Centre St. and High St. back to U.S. 1.

Vine St. from Water St. to Front St. changed to one-way, southbound.

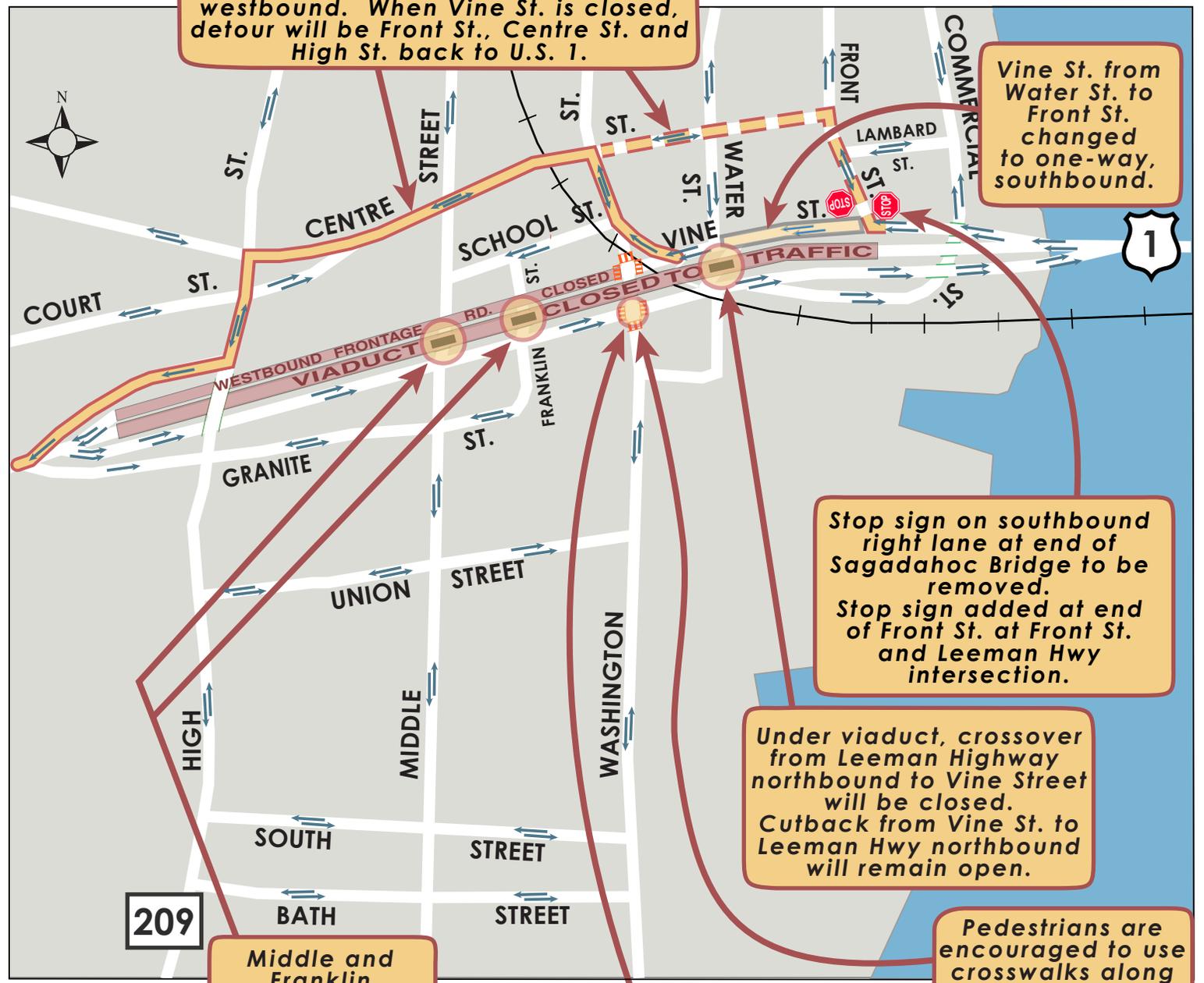
Stop sign on southbound right lane at end of Sagadahoc Bridge to be removed.
Stop sign added at end of Front St. at Front St. and Leeman Hwy intersection.

Under viaduct, crossover from Leeman Highway northbound to Vine Street will be closed.
Cutback from Vine St. to Leeman Hwy northbound will remain open.

Pedestrians are encouraged to use crosswalks along Washington St. to get to downtown locations.

Middle and Franklin Streets blocked off underneath viaduct.

Left turns will not be allowed from Leeman Highway onto Washington St.



SPECIAL
PROVISION SECTION
655
ELECTRICAL WORK
(Embedded Cathodic Protection System)

655.01 Description: The work under this section shall consist of supply, installation, monitoring instrumentation, and quality control services for an alkali-activated zinc embedded galvanic corrosion protection system. The work includes preparation of submittal documents, verification and correction of electrical continuity, and making low voltage electrical connections between the anodes and the reinforcing as shown on the drawings. The objective of the corrosion protection system is to prevent corrosion of the existing reinforcing in the abutment and retaining walls. The corrosion protection system is to be installed in the new concrete facing. The embedded galvanic anode system shall have sufficient mass of sacrificial metal to produce galvanic current for fifty (50) years.

655.02 References:

- A. ACI 222R Protection of Metals in Concrete Against Corrosion
- B. ASTM B6 Standard Specification for Zinc
- C. ASTM B69 Standard Specification for Rolled Zinc
- D. ASTM B418 Standard Specification for Cast and Wrought Galvanic Zinc Anodes
- E. SSPC-10 Near-White Blast Cleaning

655.03 Materials: Galvanic anode units shall be alkali-activated high-purity zinc encased in a mortar shell with pH greater than 14 with an internal alkali-resistant reinforcing mesh and wicking material that completely surrounds the zinc core. The anode units shall have nominal cross-section dimensions of 1.375 inch by 3.25 inch and nominal 6.5-foot length, or as indicated on the drawings. Two steel electrical connection wires shall be provided at each end of the anodes. The anode units shall contain at least 1.1 lb. of high-purity zinc per lineal foot of anode and shall contain no constituents that are corrosive to reinforcing steel as per ACI 222R such as chlorides, sulfates, bromides, or other halides. The zinc anode shall contain a steel core and shall be manufactured in compliance with ASTM B 418 Type II (Z13000) and ASTM B69 Rolled Special High Grade Zinc (Z13004) using zinc in compliance with ASTM B6 Special High Grade (Z13001) with iron content less than 15 ppm.

Electrical connections between the galvanic anodes and the reinforcing steel shall be completed using uncoated steel wire and stainless steel split bolt fasteners where applicable. Any copper wire to steel wire connections must be isolated from the concrete using medium or heavy-walled adhesive-lined heat shrink tubing or 100% coated with epoxy.

Low-voltage copper instrumentation wire shall be coated with high-molecular weight polyethylene (HMWPE) or cross-linked polyethylene (XLP/XLPE) insulation and shall be rated for direct burial in ground, RHW, or USE-2.

Reference electrodes shall be manganese dioxide or silver-silver chloride reference electrodes specifically designed for use in concrete with a minimum design life of 30 years.

Electrical enclosures for monitoring instrumentation shall be non-metallic surface mount enclosures with a hinged lid, grade 316 stainless steel hardware, and NEMA 4X rating. Enclosure dimensions shall be six (6) inches wide by six (6) inches tall by four (4) inches deep. Enclosure shall contain a phenolic test panel with engraved labels, grade 316 stainless steel binding posts, a 0.1 ohm shunt, a sealed toggle switch to disconnect the monitoring circuit, a stainless steel buss bar for terminating individual anode wires, and a stainless steel buss bar for terminating structure wires.

655.04 Submittals: The Contractor shall submit cathodic protection specialist qualifications, installation shop drawings and product data for the galvanic anode system and monitoring instrumentation complete with fasteners intended for use on the project. The basis of design galvanic anode system is the Galvanode DAS distributed anode system supplied by Vector Corrosion Technologies, or approved equal.

Shop drawings shall identify the quantity of anodes located on each individual wall panel, provide details and notes for connection of anodes to the reinforcing, and shall identify the intended location of monitoring hardware, reference electrodes, steel connections, and monitored anodes. Any changes to locations of monitored anodes or instrumentation made during installation shall be identified and included on an as-built drawing.

The galvanic anode submittal shall include verification of the following information:

- A. The high-purity zinc anode contains an alkali-activated mortar with a pH of 14 or greater.
- B. Calculations prepared by a NACE certified cathodic protection specialist showing the anode system delivers sufficient zinc to provide galvanic corrosion protection to the existing interior face reinforcing steel for a minimum of 50 years at a current density of at least 0.5 mA/square foot of steel surface area. The mass of zinc provided shall be at least 25% greater than the theoretical mass calculated based on Faradays law.
- C. The anode unit does not contain any corrosive constituents detrimental to reinforcing steel, e.g. chloride, sulfate, bromide, etc.
- D. Proven track record of the anode technology showing satisfactory field performance with a minimum of three projects of similar size and application.
- E. Independent third party evaluation of the anode technology, e.g. Hitec, Concrete Innovations Appraisal Service, BRE, etc.

655.05 Quality Control: Contractor shall enlist the services of a cathodic protection specialist (CPS) certified by NACE International with a minimum of five (5) years of documented experience in the design and installation of cathodic protection systems for

reinforced concrete. CPS qualifications submittal shall include his/her education, licensure, certifications, and a project reference list for the last five years. The project reference list shall include the project name, location, description, name of owner or client, and owner contact information (address, email, phone number).

The contractor shall coordinate its work schedule with the designated Cathodic Protection Specialist to allow for site support during project startup and initial anode installation.

The CPS shall be responsible for:

- A. Preparing anode calculations and review of shop drawings for compliance with design
- B. Verification of reinforcing steel electrical continuity and electrical continuity corrections
- C. Training workmen and DOT personnel on the anode installation process;
- D. Installation of the anode monitoring instrumentation.
- E. Preparing as-built revisions to the anode installation and instrumentation shop drawings
- F. Preparing a letter report certifying that the system is installed in accordance with the plans and specifications.

655.06 Surface Preparation: Remove all concrete to the extents detailed on the plans. Thoroughly clean concrete surface by abrasive blasting, water blasting or similar approved methods to remove all oil, grease, dirt, loose concrete, and any other material that would prevent proper bonding prior to installing the galvanic anode system. Sandblast exposed reinforcing steel surfaces to SSPC-SP6 Commercial Blast Cleaning / NACE No. 3 before installing the galvanic anode system.

655.07 Electrical Continuity: The existing reinforcing steel shall be confirmed to be electrically continuous prior to anode installation. The CPS shall confirm electrical continuity of the reinforcing steel by conducting tests using a high impedance voltmeter. A difference between two test locations greater than 1 mV or 1 ohm shall be considered discontinuous. Any discontinuous steel may be corrected by resistance welding a solid steel wire or small diameter bars to adjacent continuous steel. Continuity corrections shall be verified by the CPS.

Electrical continuity between the reinforcing steel and galvanic anode system, and within the galvanic anode system, shall be confirmed by the CPS prior to form installation.

655.08 Monitoring Instrumentation: The CPS shall install monitoring stations at locations determined in coordination with the Engineer. Each monitoring station comprises a measuring circuit between the reinforcing steel, and a complete "stack" of galvanic anodes.

The galvanic anodes shall be individually wired to an anode buss bar in the monitoring station.

The monitored galvanic anodes shall be electrically isolated from other galvanic anodes.

The monitoring station shall be electrically connected to the reinforcing steel in at least two locations using pin-brazed or drill and tap connections. Steel to copper wire connections

inside concrete shall be fully coated with 100% solids epoxy.

All copper wires shall be terminated with suitably sized crimp, solder, and heat shrink ring terminals suitable for marine applications. Monitoring wires shall be color coded and neatly routed to the monitoring station location inside the concrete.

Each monitoring station shall contain a water-tight sealed toggle switch to interrupt the monitoring circuit.

Each monitoring station shall contain a 0.1 ohm shunt to allow galvanic current measurement without interrupting the circuit.

Each monitoring station shall contain two reference electrodes that are drilled and grouted into the existing wall so that the tip of the reference electrode is less than 6 inches, but no closer than 1 inch from the interior mat of reinforcing. The reference electrodes shall be located near the horizontal midpoint of the monitored anode stack. One shall be located near the base of the wall and the other shall be located near the top of the anode stack. Use a 2:1 sand:cement grout.

Wire splices shall be avoided inside the concrete. In the event a wire needs to be spliced, the splice shall use a copper crimp barrel, the crimped connection should then be soldered, coated with liquid rubber, and then sealed with medium or heavy wall adhesive-lined heat shrink tubing that overlaps the insulation by at least ½ inch on both sides of the splice.

All connections inside the monitoring station shall be coated with an electrically conductive waterproof grease or liquid rubber compound to prevent condensation-induced corrosion.

655.09 Basis of Payment: All associated labor, materials, tools and equipment necessary to complete the cathodic protection system shall be included in the lump sum cost.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
655.513	Embedded Cathodic Protection System	Lump Sum

SPECIAL PROVISION
SECTION 658
ACRYLIC LATEX COLOR FINISH

658.02 Materials Remove this subsection in its entirety and replace with:

Acrylic Latex Pavement Paint shall be applied to raised asphalt median pavement from station 1385+94 to 1391+55 and from station 1398+16 to 1398+78 following manufacturers recommendations as directed by the Resident.

The color finish shall be grey acrylic latex emulsion type, containing only inert mineral pigment colorants, fade-resistant for exterior use. The color coating shall contain insoluble mineral fillers suitable for uniform application, tack free, and shall show no deterioration due to temperature, salts, moisture, and ultraviolet rays of sun for a period of at least one year.

Paint shall be Fast-dry Acrylic Traffic Paint HOTLINE or equivalent as approved by the Resident. (#8000-03204 SW 7071 Grey per U.S. Federal Specification TT-P152E Type 1,2)

**SPECIAL PROVISION
SECTION 718
TRAFFIC SIGNALS MATERIAL**

The provisions of Section 718 of the Standard Specifications shall apply with the following additions and modifications:

718.13 Emergency Vehicle Preemption System The emergency vehicle preemption systems shall be installed in the same cabinet as the controller.

The emergency vehicle preemption control systems shall consist of a data-encoded phase selector to be installed within the traffic control cabinet. The unit will serve to validate, identify, classify, and record the signal from the optical detectors located on support structures at the intersections. Upon receiving a valid signal from the detectors, the phase selector shall generate a preempt call to the controllers initiating preemption operations as shown on the plans. The phase selector shall have full ID and logging capabilities and be a rack-mounted plug-in four channel, dual priority devices. The phase selector shall plug into shelf-mounted single card chasses. Programming the phase selector shall be via a PC-based computer utilizing unit specific software. One copy of the software, shall be supplied and licensed to the City of Bath. A hard copy of final programming data shall be left in the control cabinet. The Contractor shall supply a complete set of interface cables for phase selector to laptop connection in the controller cabinet. If applicable, the phase selector shall be connected to an Ethernet Switch in the cabinet, if and as shown in the Plans, such that the phase selector logs and configuration can be remotely accessed through the communications system. The Contractor shall supply and install any required converters, such as device servers or other devices, to interface the phase selector to the Ethernet switch in the cabinet. The Contractor shall also supply any required cables.

The optical detectors shall be single input, single output units used to control one approach. All traffic signal installations shall be supplied with a single optical detector for each approach to the intersection unless otherwise noted in the major items list or as shown on the plans.

The Contractor shall install the quantity of confirmation strobes as shown in the plans or as directed by the Engineer. The confirmation strobe shall serve to validate to the driver of the emergency vehicle that the traffic signal has recognized the preemption call and will initiate the proper preemption sequence. The confirmation strobe shall be illuminated whenever any emergency vehicle preemption green is on. The confirmation strobe shall be a red lens Whelan model 1500 or approved equivalent.

The Contractor shall be responsible for the proper programming of the phase selector, orientation of the optical detectors, and all other work necessary to provide a complete and operating emergency vehicle preemption system. The Contractor may be required to field adjust the location of the optical detectors in the presence of the Engineer and the City of Bath Fire Department to properly detect preemption calls from

approaching vehicles.

718.14 Pedestrian Crossing System Pedestrian crossings must have 16-inch by 18-inch countdown pedestrian signals that count down during the pedestrian clearance interval. The pedestrian countdown modules shall be GE Lumination GT1 Series in 16 inch – McCain Model 1000 Series (black finish) housings or approved equivalent.

The Accessible Pedestrian Signal (APS) push buttons with locator tones shall be Campbell Company Advisor Model A915 or approved equivalent. Signs shall be posted at each audible signal push button stating which street may be crossed based upon the related push button. The audible walk interval messages used should be as follows:

- For proposed exclusive pedestrian phase – “Walk sign is on for all crossings”

The audible push button identification information messages used during the non-walk phases should be as follows:

- For proposed exclusive pedestrian phase – “Wait” or “Wait to cross”

All controllers are initially to have “Stop in Walk” set to on.

SPECIAL PROVISION
SECTION 801
SANITARY SEWER

Description This work shall consist of constructing cellar drain inspection standpipes, in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans and as directed by the resident in the field.

Materials Meet Sections:

Sewer Line Bedding and Initial Backfilling Stone	703.02 for class AA
PVC Pipes & Fittings (4 in)	ASTM D3034 (SDR 35)

Construction Requirements

Excavation Trenches shall be excavated in accordance with the requirements of Section 206 - Structural Excavation and wide enough to allow joining the pipe and compacting the bedding and backfill material under and around the pipe. Unless otherwise designated, trench walls shall be as nearly vertical as possible and the trench width no greater than necessary for installation of the pipe.

Bedding The inspection standpipe and pipe line shall be bedded in original material.

Laying The Contractor shall not install nor backfill cellar drain inspection standpipes between December 15th and April 1st without written permission. Installing shall begin at the downhill end of the cellar drain line. Bell or groove ends shall be placed facing uphill.

Joining The pipe ends shall be thoroughly cleaned before the joint is made. Joints shall be made in accordance with the manufacturer's recommended procedures.

Backfilling After the inspection standpipe and pipe are installed, it will be inspected before any backfill material is placed. All pipe found to be out of alignment, unduly settled or damaged to the extent that full performance is impaired, shall be taken up and re-laid or replaced. One bag of concrete mix shall be installed around the foot of the standpipe, placement as per manufacturer's recommendations.

Trenches shall be backfilled in accordance with Section 206.03 and as follows. The backfill shall be original excavation in 12 in maximum lifts and shall be thoroughly compacted with power tampers or vibratory compactors or other approved equipment or combination of equipment.

Method of Measurement PVC pipe will be measured by the length in meter [foot] along the invert, horizontally and vertically, including fittings and caps, laid as directed, complete

in place, and accepted. Pipe laid in excess of the authorized length will not be included. Pipe installed inside a manhole will not be measured for payment.

Basis of Payment The accepted quantities of pipe will be paid for at the contract unit price per meter [linear foot], for the types and sizes specified, complete in place and shall be full compensation for all labor, materials, equipment, excavation, dewatering, bedding, furnishing and installing pipe, removal and disposal of existing pipes, connecting to manholes, connecting to existing cellar drain, concrete footing, backfill, compacting, cleaning, testing, maintaining existing flows, and all other incidental required.

No payment will be made for pipe ordered without written approval of the Resident when such pipe is not required to be installed for completion of the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
801.141 4" PVC Sanitary Sewer (SDR-35)	Linear Foot
801.16 6" PVC Sanitary Sewer (SDR-35)	Linear Foot

STANDARD DETAIL UPDATES

Standard Details and Standard Detail updates are available at:
<http://maine.gov/mdot/contractors/publications/standarddetail/>

<u>Detail #</u>	<u>Description</u>	<u>Revision Date</u>
501(02)	Pipe Pile Splice	3/05/2015
501(03)	H – Pile Splice	3/05/2015
504(07)	Diaphragm & Crossframe Notes	10/13/2015
507(13)	Steel Bridge Railing	6/03/2015
507(14)	Steel Bridge Railing	6/03/2015
507(31)	Barrier – Mounted Steel Bridge	8/06/2015
526(02)	Temporary Concrete Barrier	8/06/2015

SUPPLEMENTAL SPECIFICATIONS
(Corrections, Additions, & Revisions to Standard Specifications - November 2014)

SECTION 101
CONTRACT INTERPRETATION

101.2 Definitions

Page 1-5 – Remove the definition of Bridge in its entirety and replace with:

“Bridge A structure that is erected over a depression or an obstruction, such as water, a highway or a railway, and has an opening measured along the centerline of the Roadway of more than 20 feet between: The faces of abutments; spring line of arches; extreme ends of openings of box culverts, pipes or pipe arches; or the extreme ends of openings for multiple box culverts, pipes or pipe arches.”

Page 1-12 – Remove the definition of Large Culvert in its entirety and replace with:

“Large Culvert Any structure not defined as a Culvert or Bridge that provides a drainage or non-drainage opening under the Roadway or Approaches to the Roadway, with an opening that is 5 feet but less than 10 feet.”

Remove the definition of Minor Span in its entirety and replace with:

“Minor Span Same definition as Bridge, except having an opening of between 10 feet and 20 feet, inclusive.”

SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

104.5.5 Prompt Payment of Subcontractors Add the following paragraph to this subsection:

C. Payment Tracking Federal Projects On federally funded projects, the prime contractor, subcontractors and lower-tier subcontractors will track and confirm the delivery and receipt of all payments through the Elation System. They will be responsible for entering all payments to all sub and lower tier contractors. MaineDOT will run a query monthly to ensure that contractors are complying and generate an e-mail to contractors who have not responded to confirm receipt of MaineDOT payment or contractor payment to lower tier subcontractors.

SECTION 105
GENERAL SCOPE OF WORK

105.4.5 Special Detours Remove this subsection in its entirety and replace with:

“105.4.5 Maintenance of Existing Structures When a new Bridge or Minor Span is being installed on a new alignment and the existing structure is to remain in service, the Department will maintain the existing structure and the portions of the roadway required for maintaining traffic until such time that the new structure is opened to traffic and the existing structure is taken out of service. A similar situation exists when a new Bridge or Minor Span is being installed on the same alignment as the existing structure, requiring a temporary detour to be installed by the Contractor per Section 510, Special Detours,

prior to removal of the existing structure. In this case, the Department will maintain the existing structure and the portions of the existing roadway required for maintaining traffic until such time that either the temporary detour is opened to traffic or the Contractor begins any work on the existing structure, including, but not limited to, repairs, modifications, moving, demolition or removal. In either case, once the new structure or temporary detour is opened to traffic, or the Contractor begins any work on the existing structure, the Contractor shall be solely responsible for all maintenance of the existing structure and the portions of the existing approaches that lie outside the new roadway or the temporary detour, respectively. This specification is not intended to supersede Standard Specification Section 104.3.11, Responsibility for Property of Others.”

105.6.2.4 Department Verification Add the following to the end of the first sentence: **“or other approved method, such as reference staking, to allow the Department to independently verify the accuracy of the work, as approved by the Department.”**

SECTION 106 **QUALITY**

106.4.1 General - In the first sentence, remove “When required by Special Provision,” and replace with **“When required elsewhere in the Contract,”**

SECTION 108 **PAYMENT**

108.3 Retainage - Remove the paragraph beginning with “ The Contractor may withdraw...” in its entirety.

SECTION 109 **CHANGES**

109.5.1 Definitions - Types of Delays
Delete Paragraph ‘A’ in its entirety and replace with:

“A. Excusable Delay Except as expressly provided otherwise by this Contract, an "Excusable Delay" is a Delay to the Critical Path that is directly and solely caused by (1) a weather related Event of such an unusually severe nature that a Federal Emergency Disaster is declared. The Contractor will only be entitled to an adjustment of time if the Project falls within the geographic boundaries prescribed under the disaster declaration. or (2) a flooding event at the effected location of the Project that results in a Q25 headwater elevation, or greater, but less than a Q50 headwater elevation. Theoretical headwater elevations will be determined by the Department; actual headwater elevations will be determined by the Contractor and verified by the Department or (3) An Uncontrollable Event.”

APPENDIX A TO DIVISION 100

Remove Section D in its entirety as this is now covered in Section 105.10 EQUAL OPPORTUNITY AND CIVIL RIGHTS.

SECTION 203 **EXCAVATION AND EMBANKMENT**

203.02 Materials

At the bottom of page 2-12, add as the first item in the list:

Crushed Stone, ¾ inch 703.13

203.042 Rock Excavation and Blasting

On page 2-16, add the word “**No**” to the third sentence in Section 5 Submittals, Subsection V, 1 so that it reads:

“No blasting products will be allowed on the job site if the date codes are missing.”

SECTION 304 **AGGREGATE BASE AND SUBBASE COURSE**

304.02 Aggregate

Remove the sentence “Aggregate for base and subbase courses shall be material meeting the aggregate type requirements specified in the following table” in its entirety and the table that follows it with headings of ‘Material’ and ‘Aggregate Type’.

304.02 – Aggregate Add the following sentence before the sentence starting with “When designated on the plans...”: **“Aggregate Base Course – Type C will be capped with 2” of millings or Untreated Aggregate Surface Course – Type B. Payment for this material will be made under 304.16”**

SECTION 307 **FULL DEPTH RECYCLED PAVEMENT**

Remove this Section in its entirety and replace with:

SECTION 307 **FULL DEPTH RECYCLING** **(UNTREATED OR TREATED WITH EMULSIFIED ASPHALT STABILIZER)**

307.01 Description This work shall consist of pulverizing a portion of the existing roadway structure into a homogenous mass, adding an emulsified asphalt stabilizer (if required) to the depth of the pulverized material specified in the contract, placing and compacting this material to the lines, grades, and dimensions shown on the plans or established by the Resident.

MATERIALS

307.02 Pulverized Material Pulverized material shall consist of the existing asphalt pavement layers and one inch or more as specified of the underlying gravel, pulverized and blended into a homogenous mass. Pulverized material will be processed to 100% passing a 2 inch square mesh sieve.

307.021 New Aggregate and Additional Recycled Material New aggregate, if required by the contract, shall meet the requirements of Subsection 703.10 - Aggregate for Untreated Surface Course and Leveling Course, Type A. Aggregate Subbase Course Gravel Type D processed to 100 percent passing a 2 inch square mesh sieve and meeting the requirements of 703.06 – Aggregate for Base and Subbase may be used in areas requiring depths greater than 2 inches. New aggregate, will be measured and paid for under the appropriate item.

Recycled material, if required, shall consist of salvaged asphalt material from the project or from off-site stockpiles that has been processed before use to 100 percent passing a 2 inch square mesh sieve. Recycled material shall be conditionally accepted at the source by the Resident. It shall be free of winter sand, granular fill, construction debris, or other materials not generally considered asphalt pavement.

Recycled material generated and salvaged from the project shall be used within the roadway limits to the extent it is available as described in 307.09. No additional payment will be made for material salvaged from the project.

Recycled material supplied from off-site stockpiles shall be paid for as described in the contract, or by contract modification.

307.022 Emulsified Asphalt Stabilizer. If required, the emulsified asphalt stabilizer shall be grade MS-2, MS-4, SS-1, or CSS-1 meeting the requirements of Subsection 702.04 Emulsified Asphalt.

307.023 Water Water shall be clean and free from deleterious concentrations of acids, alkalis, salts or other organic or chemical substances.

307.024 Portland Cement If required, Portland Cement shall be Type I or II meeting the requirements of AASHTO M85.

307.025 Hydrated Lime If required, Hydrated Lime shall meet the requirements of AASHTO M216.

EQUIPMENT

307.03 Pulverizer The pulverizer shall be a self-propelled machine, specifically manufactured for full-depth recycling work and capable of reducing the required existing materials to a size that will pass a 2 inch square mesh sieve. The machine shall be equipped with standard automatic depth controls and must maintain a consistent cutting depth and width. The machine also shall be equipped with a gauge to show depth of material being processed.

307.04 Liquid Mixer Unit or Distributor. If treatment of the recycled layer with emulsified asphalt is required by the contract, a liquid mixing unit or distributor shall be used to introduce the emulsified asphalt stabilizer into the pulverized material. The mixing unit shall contain a liquid distribution and mixing system which has been specifically manufactured for full-depth recycling work, capable of mixing the pulverized material with an evenly metered distribution of emulsified asphalt into a homogeneous mixture, to the depth and width required.

The mixing unit shall be designed, equipped, maintained, and operated so that emulsified asphalt stabilizer at constant temperature may be applied uniformly on variable widths of pulverized material up to 6 feet at readily determined and controlled rates from 0.01 to 1.06 gal/yd² with uniform pressure and with an allowable variation from any specified rate not to exceed 0.01 gal/ yd². Mixing units shall include a tachometer, pressure gages, and accurate volume measuring devices or a calibrated tank and a thermometer for measuring temperatures of tank contents.

307.041 Cement or Lime Spreader If required by the contract, spreading of the Portland Cement or Hydrated Lime shall be done with a spreader truck designed to spread dry particulate (such as Portland Cement or Lime) or other approved means to insure a uniform distribution across the roadway and minimize fugitive dust. Pneumatic application, including through a slotted pipe, will not be permitted. Other systems that have been developed include fog systems, vacuum systems, etc. Slurry applications may also be accepted. The Department reserves the right to accept or reject the method of spreading cement. The Contractor shall provide a method for verifying that the correct amount of cement is being applied.

307.05 Placement Equipment Placement of the Full Depth recycled material to the required slope and grade shall be done with an approved highway grader or by another method approved by the Resident.

307.06 Rollers The full depth recycled material shall be rolled with a vibratory pad foot roller, a vibratory steel drum soil compactor and a pneumatic tire roller. The pad foot roller drum shall have a minimum of 112 tamping feet 3 inches in height, a minimum contact area per foot of 17 inch², and a minimum width of 84 inches. The vibratory steel drum roller shall have a minimum 84 inch width single drum. The pneumatic tire roller shall meet the requirements of Section 401.10 and the minimum allowable tire pressure shall be 85 psi.

MIX DESIGN

If treatment of the recycled layer with emulsified asphalt is required by the contract, the Department will supply a mix design for the emulsified asphalt stabilized material based on test results from pavement and soil analysis taken to the design depth. The Department will provide the following information prior to construction:

1. Percent of emulsified asphalt to be used.
2. Quantity of lime or cement to be added.

3. Optimum moisture content for proper compaction.
4. Additional aggregate (if required).

After a test strip has been completed or as the work progresses, it may be necessary for the Resident to make necessary adjustments to the mix design. Changes to compensation will be in accordance with the Mix Design Special Provision.

CONSTRUCTION REQUIREMENTS

307.06 Pulverizing The entire depth of existing pavement shall be pulverized together with 1 inch or more of the underlying gravel into a homogenous mass. All pulverizing shall be done with equipment that will provide a homogenous mass of pulverized material, processed in-place, which will pass a 2 inch square mesh sieve.

307.07 Weather Limitations Full depth recycled work shall be performed when;

- A. Recycling operations will be allowed between May 15th and September 15th inclusive in Zone 1 - Areas north of US Route 2 from Gilead to Bangor and north of Route 9 from Bangor to Calais.
- B. The atmospheric temperature, as determined by an approved thermometer placed in the shade at the recycling location, is 50°F and rising.
- C. When there is no standing water on the surface.
- D. During generally dry conditions, or when weather conditions are such that proper pulverizing, mixing, grading, finishing and curing can be obtained using proper procedures, and when compaction can be accomplished as determined by the Resident.
- E. When the surface is not frozen and when overnight temperatures are expected to be above 32°F.
- F. Wind conditions are such that the spreading of lime or cement on the roadway ahead of the recycling machine will not adversely affect the operation.

307.08 Surface Tolerance The complete surface of the Full Depth Recycled course shall be shaped and maintained to a tolerance, above or below the required cross sectional shape, of 3/8 inch.

307.09 Full Depth Recycling Procedure New aggregate or recycled material meeting the requirements of Section 307.021 - New Aggregate and Additional Recycled Material, shall be added as necessary to restore cross-slope and/or grade before pulverizing. Locations will be shown on the plans or described in the construction notes. The Resident may add other locations while construction of the project is in progress. The Contractor will use recycled material to the extent it is available, in lieu of new aggregate. The material shall then be pulverized, processed, and blended into a homogeneous mass passing a 2 inch square mesh sieve. Material found not pulverized down to a 2 inch size will be required to be reprocessed by the recycler with successive passes until approved by the Resident.

Should the Contractor be required to add new aggregate or recycled material to restore cross-slope and/or grade after the initial pulverizing process, those areas will require re-processing to blend into a homogenous mass passing a 2 in square mesh sieve.

Sufficient water shall be added during the recycling process to maintain optimum moisture for compaction.

The resultant material from the initial pulverizing processes shall be graded and compacted to the cross-slope and profile shown on the plans or as directed by the Resident. The Contractor will also be responsible for re-establishing the existing profile grade. The completed surface of the full depth recycled course shall be shaped and maintained to a tolerance, above or below the required cross sectional shape, of $\frac{3}{8}$ inch. Areas not meeting this tolerance will be repaired as described in Section 307.091. The initial pulverizing process density requirements will be the same as Section 307.101 unless otherwise directed by the Resident.

Additives, if required, shall be introduced following completion of the initial pulverizing and blending process. Emulsified asphalt stabilizer shall be incorporated into the top of the processed material as specified in section 307.04 to the depth specified in the contract by use of the liquid mixer unit or a distributor, at the rate specified in the mix design. The emulsified asphalt shall then be uniformly blended into a homogeneous mass until an apparent uniform distribution has occurred. The rate of application may be adjusted as necessary by the Resident. Cement or lime shall be introduced as described in section 307.041. The resultant material shall be graded and compacted to the cross-slope and profile shown on the plans or as directed by the Resident. The Contractor will also be responsible for re-establishing the existing profile grade.

After final compaction, the roadway surface shall be treated with a light application of water, and rolled with pneumatic-tired rollers to create a close-knit texture. The finished layer shall be free from:

- A. Surface laminations.
- B. Segregation of fine and coarse aggregate.
- C. Corrugations, centerline differential, potholes, or any other defects that may adversely affect the performance of the layer, or any layers to be placed upon it.

The Contractor shall protect and maintain the recycled layer until a lift of pavement is applied. Any damage or defects in the layer shall be repaired immediately. An even and uniform surface shall be maintained. The recycled surface shall be swept prior to hot mix asphalt overlay placement.

307.091 Repairs Repairs and maintenance of the recycled layers, resulting from damage caused by traffic, weather or environmental conditions, or resulting from damage caused by the Contractor's operations or equipment, shall be completed at no additional cost to the Department.

For recycled layers stabilized with emulsified asphalt, low areas will be repaired using a hot mix asphalt shim. Areas up to 1 inch high can be repaired by milling or shimming with hot mix asphalt. Areas greater than 1 inch high will be repaired using a hot mix asphalt shim. All repair work will be done with the Resident's approval at the Contractor's expense.

TESTING REQUIREMENTS

307.10 Quality Control 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 106.4 - Quality Control and this Section. The Contractor shall not begin recycling operations until the Department approves the QCP in writing.

Prior to performing any recycling process, the Department and the Contractor shall hold a Pre-recycle conference to discuss the recycling schedule, type and amount of equipment to be used, sequence of operations, and traffic control. A copy of the QC random numbers to be used on the project shall be provided to the Resident. All field supervisors including the responsible onsite recycling process supervisor shall attend this meeting.

The QCP shall address any items that affect the quality of the Recycling Process including, but not limited to, the following:

- A. Sources for all materials, including New Aggregate and Additional Recycled Material.
- B. Make and type of rollers including weight, weight per inch of steel wheels, and average contact pressure for pneumatic tired rollers.
- C. Testing Plan.
- D. Recycling operations including recycling speed, methods to ensure that segregation is minimized, grading and compacting operations.
- E. Methods for protecting the finished product from damage and procedures for any necessary corrective action.
- F. Method of grade checks.
- G. Examples of Quality Control forms.
- H. Name, responsibilities, and qualifications of the Responsible onsite Recycling Supervisor experienced and knowledgeable with the process.
- I. A note that all testing will be done in accordance with AASHTO and MDOT/ACM procedures.

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 the full depth reclamation process in accordance with the following minimum frequencies:

MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Density	1 per 1000 feet / lane	AASHTO T 310
Air Temperature	4 per day at even intervals	
Surface Temperature	At the beginning and end of each days operation	
Yield of all materials (Daily yield, yield since last test, and total project yield.)	1 per 1000 ft/lane	

The Department may view any QC test and request a QC test at any time. The Contractor shall submit all QC test reports and summaries in writing, signed by the appropriate technician, to the Department's onsite representative by 1:00 P.M. on the next working day, except when otherwise noted in the QCP due to local restrictions. The Contractor shall make all test results, including randomly sampled densities, available to the Department onsite.

The Contractor shall cease recycling operations whenever one of the following occurs:

- A. The Contractor fails to follow the approved QCP.
- B. The Contractor fails to achieve 98 percent density after corrective action has been taken.
- C. The finished product is visually defective, as determined by the Resident.
- D. The computed yield differs from the mix design by 10 percent or more.

Recycling operations shall not resume until the Department approves the corrective action to be taken.

307.101 Test Strip The contractor shall assemble all items of equipment for the recycling operation on the first day of the recycling work. The Contractor shall construct a test strip for the project at a location approved by the Resident. The Responsible onsite Recycling Supervisor will work with Department personnel to determine the suitability of the mixed material, moisture control within the mixed material, and compaction and surface finish. The test strip section is required to:

- A. Demonstrate that the equipment and processes can produce recycled layers to meet the requirements specified in these special provisions.
- B. Determine the effect on the gradation of the recycled material by varying the forward speed of the recycling machine and the rotation rate of the milling drum.
- C. Determine the optimum moisture necessary to achieve proper compaction of the recycled layer.
- D. Determine the sequence and manner of rolling necessary to obtain the compaction requirements and establish a target density. The Contractor and the Department will both conduct testing with their respective gauges at this time.

The test strip shall be at least 300 feet in length of a full lane-width (or a half-road width). Full recycling production will not start until a passing test strip has been accomplished. If a test strip fails to meet the requirements of this specification, the Contractor will be required to repair or replace the test strip to the satisfaction of the Resident. Any repairs, replacement, or duplication of the test strip will be at the Contractor's expense.

After the test strip has been pulverized, and the roadway brought to proper shape, the Contractor shall add water until it is determined that optimum moisture has been obtained. The test strip shall then be rolled using the specified compaction equipment as directed until the density readings show an increase in dry density of less than 1 pcf for the final four roller passes of each roller. The Contractor and Department will each determine a target density using their respective gauges by performing several additional density tests and averaging them. The average of these tests will be used as the target density of the recycled material for QC and Acceptance purposes.

Following completion of the test strip, compaction of the material shall continue until a density of not less than 98 percent of the test strip target density has been achieved for the full width and depth of the layer. During the construction and compaction of the Full Depth Recycled base, should three consecutive Acceptance test results for density fail to meet a minimum of 95 percent of the target density, or exceed 102 percent of target density, a new test strip shall be constructed.

ACCEPTANCE TEST FREQUENCY

Property	Frequency	Test Method
In-place Density	1 per 2000 ft / lane	AASHTO T 310

308.102 Curing. No new pavement shall be placed on the full depth recycled pavement until curing has reduced the moisture content to 1 percent or less by total weight of the mixture, or a curing period of 4 days has elapsed, whichever comes first.

307.11 Method of Measurement Full Depth Recycled Pavement (Untreated or Treated with Emulsified Asphalt Stabilizer) will be measured by the square yard.

307.12 Basis of Payment The accepted quantity of Full Depth Recycled Asphalt Pavement (Untreated or Treated with Emulsified Asphalt Stabilizer) will be paid for at the contract unit price per square yard, complete in-place which price will be full compensation for furnishing all equipment, materials and labor for pulverizing, blending, placing, grading, compacting, and for all incidentals necessary to complete the work.

The addition of materials to restore profile grade and/or cross-slope in areas shown on the plans or described in the construction notes will be paid separately under designated pay items within the contract. No additional payment will be made for materials salvaged from the project.

Payments will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
307.331 Full Depth Recycled Pavement (Untreated) Yard	Square
307.332 Full Depth Recycled Pavement (with Emulsified Asphalt Stabilizer) 5 in. depth Yard	Square
307.333 Full Depth Recycled Pavement (with Emulsified Asphalt Stabilizer) 6 in. depth Yard	Square

SECTION 411
UNTREATED AGGRAGATE SURFACE COURSE

411.02 – Aggregate Add the following to the end of the first sentence: “- Type A”

SECTION 502
STRUCTURAL CONCRETE

502.05 Composition and Proportioning
Replace Table 1 with

TABLE 1

Concrete CLASS	Minimum Compressive Strength (PSI)	Permeability as indicated by Surface Resistivity (KOhm-cm)	Entrained Air (%)		Notes
			LSL	USL	
S	3,000	LSL N/A	LSL N/A	USL N/A	4,5
A	4,000	14	6.0	9.0	1,4,5
P	-----	-----	5.5	7.5	1,2,3,4
LP	5,000	17	6.0	9.0	1,4,5
Fill	3,000	N/A	6.0	9.0	4,5

In the list of information submitted by the contractor for a mix design:
Item J Replace “Target Coulomb Value.” with “Target KOhm-cm Value.”

Note #1 - Remove, “...**Standard Specification Section 711.05, Protective Coating for Concrete Surfaces, and per the manufacturer’s recommendations, at no additional cost to the Department.**” and replace with, “...**Standard Specification Section 515, Protective Coating for Concrete Surfaces, at no additional cost to the Department.**”

502.1703 Acceptance Methods A and B

In the paragraph that starts with “The Department will take Acceptance...” Remove the word chloride from chloride permeability in the last sentence.

Replace the paragraph starting with “Rapid Chloride Permeability specimens...” With the following:

“Surface Resistivity specimens will be tested by the Department in accordance with AASHTO TP-95 at an age \geq 56 days. Four 4 inch x 8 inch cylinders will be cast per subplot placed. The average of three concrete specimens per subplot will constitute a test result and this average will be used to determine the permeability for pay adjustment computations.”

502.1706 Acceptance Method C

Remove in its entirety and Replace with:

502.1706 Acceptance Method C The Department will determine the acceptability of the concrete through Acceptance testing. Acceptance tests will include compressive strength, air content and permeability. Method C concrete with a failing permeability as indicated by the surface resistivity test may be tested for permeability in accordance with the Rapid Chloride Permeability Test AASHTO T-277 averaging the results from two specimens cut from the samples prepared for the surface resistivity test. Method C concrete not meeting the requirements listed in Table 1 or if the Rapid Chloride Permeability test results in values exceeding 2000 coulombs for Class LP or 2400 for Class A, shall be removed and replaced at no cost to the Department. At the Department’s sole discretion, material not meeting requirements may be left in place and paid for at a reduced price as described in Section 502.195.

502.1707 Resolution of Disputed Acceptance Test Results

Section B

Remove “Rapid Chloride” from the section heading.

In paragraph 4 replace T-277 with TP-95

502.192 Pay Adjustment for Chloride Permeability

Remove “Chloride” from the heading and from the first sentence.

Replace the sentence that starts with “values greater than...” and replace with “values less than 10 KOhms-cm for Class A concrete or 11 KOhms-cm for Class LP concrete shall be subject to rejection and replacement, at no additional cost to the Department.”

502.194 Pay Adjustments for Compressive Strength, Chloride Permeability and Air Content, Methods A and B

Remove the word “Chloride” from the section heading and from the equation for CPF.

502.195 Pay Adjustment Method C

Table 6: Method C Pay Reductions (page 5-53)
Under “Entrained Air” for “Class Fill”, in the first line,
change from “< 4.0 (Removal)” to “< **4.5 (Removal)**”

In Table 6: Method C PAY REDUCTIONS remove the word ‘Chloride’ from ‘Chloride Permeability’.

SECTION 619
MULCH

619.07 Basis of Payment

In the list of Pay Items add “**619.12 Mulch**” with a Pay Unit of “ **Unit** ”.
Change the description of 619.1201 from “Mulch” to “**Mulch – Plan Quantity**”

In the list of Pay Items add “**619.13 Bark Mulch**” with a Pay Unit of “ **CY** ”.
Change the description of 619.1301 from “Bark Mulch” to “**Mulch – Plan Quantity**”

In the list of Pay Items add “**619.14 Erosion Control Mix**” with a Pay Unit of “ **CY** ”.
Change the description of 619.1401 from “Erosion Control Mix” to “**Mulch – Plan Quantity**”

SECTION 621
LANDSCAPING

621.0002 Materials - General

In the list of items change “Organic Humus” to “**Humus**”.

621.0019 Plant Pits and Beds

c Class A Planting

In the third paragraph beginning with “ The plant pit...” change “½ inch” to “**1 inch**”

SECTION 626
**FOUNDATIONS, CONDUIT AND JUNCTION BOXES FOR HIGHWAY
SIGNING, LIGHTING AND SIGNALS**

626.034 Concrete Foundations

On Page 6-85, add the following paragraph before the paragraph beginning with “Drilled shafts shall not be...”.

No foundation design will be required for 18- and 24-inch diameter foundations for structures less than 30-feet tall and with no projecting arms. A foundation design prepared by a Professional Engineer licensed in accordance with the laws of the State of

Maine will be required for all other foundations. Precast foundations will be permitted for 18 and 24-inch diameter foundations for structures less than 30-feet tall and with no projecting arms. Where precast foundations are permitted flowable concrete fill shall be used as backfill in the annular space, and placed from the bottom up. Construction of precast foundations shall conform to the Standard Details and all requirements of Section 712.061 except that the concrete shall have a minimum permeability of 17 kOhm-cm and the use of calcium nitrite will not be required.

On Page 6-86, add the following to the paragraph beginning with “Concrete for drilled shafts...” so that it reads as follows:

“...The Contractor shall provide temporary dewatering of excavations for foundations such that concrete is placed in the dry. **Concrete for drilled shafts shall be placed in accordance with Section 502.10 as temporary casing is withdrawn to prevent debris from contaminating the foundation and to ensure concrete is cast against the surrounding soil. Concrete for drilled shafts and spread footings shall be Class A in accordance with Section 502 - Structural Concrete. Precast foundations will not be permitted except as specified above in this Section.** Backfill for spread footing foundations shall be Gravel Borrow meeting the requirements of Section 703.20 - Gravel Borrow.....”

SECTION 652 **MAINTENANCE OF TRAFFIC**

652.3 Submittal of Traffic Control Plan On page **6-148**, note **f**, in the last sentence change the 105.2.2 to 105.2.3 so that the last sentence reads, “**For a related provision, see Section 105.2.3 – Project Specific Emergency Planning.**”.

652.4 Flaggers In the first paragraph, change the fifth sentence which says:

For nighttime conditions, Class 3 apparel, meeting ANSI 107-2004, shall be worn along with a hardhat with 360° retro-reflectivity.

So that it reads:

For nighttime conditions, Class 3 apparel, meeting ANSI 107-2004, including a Class 3 top (vest, shirt or jacket) and a Class E bottom (pants or coveralls), shall be worn along with a hardhat with 360 ° retro-reflectivity.

SECTION 656
TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

656.5.2 If No Pay Item Add the following to the end of the first paragraph:

“Failure by the Contractor to follow Standard Specification or Special Provision - Section 656 will result in a violation letter and a reduction in payment as shown in the schedule list in 656.5.1. 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 660
ON-THE-JOB TRAINING

660.06 Method of Measurement

Remove the first sentence in its entirety and replace with **“ The OJT item will be measured by the number of OJT hours by a trainee who has successfully completed an approved training program.”**

660.07 Basis of payment to the Contractor

Remove the last word in the first sentence so that the first sentence reads **“ The OJT shall be paid for once successfully completed at the contract unit price per **hour.**”**

Payment will be made under

Change the Pay Item from **“660.22”** to **“660.21”** and change the Pay Unit from **“Each”** to **“Hour”**.

SECTION 677

On page 6 - 203 change **“636.041”** to **“677.041”**

SECTION 703 **AGGREGATES**

703.0201 Alkali Silica Reactive Aggregates

Remove this section in its entirety and replace with the following:

703.0201 Alkali Silica Reactive Aggregates. All coarse and fine aggregates proposed for use in concrete shall be tested for Alkali Silica Reactivity (ASR) potential under AASHTO T 303 (ASTM C 1260), Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction, prior to being accepted for use. Acceptance will be based on testing performed by an accredited independent lab submitted to the Department. Aggregate submittals will be required on a 5-year cycle, unless the source or character of the aggregate in question has changed within 5 years from the last test date.

As per AASHTO T 303 (ASTM C 1260): Use of a particular coarse or fine aggregate will be allowed with no restrictions when the mortar bars made with this aggregate expand less than or equal to 0.10 percent at 30 days from casting. Use of a particular coarse or fine aggregate will be classified as potentially reactive when the mortar bars made with this aggregate expand greater than 0.10 percent at 30 days from casting. Use of this aggregate will only be allowed with the use of cement-pozzolan blends and/or chemical admixtures that result in mortar bar expansion of less than 0.10 percent at 30 days from casting as tested under ASTM C 1567.

Acceptable pozzolans and chemical admixtures that may be used when an aggregate is classified as potentially reactive include, but are not limited to the following:

Class F Coal Fly Ash meeting the requirements of AASHTO M 295.

Ground Granulated Blast Furnace Slag (Grade 100 or 120) meeting the requirements of AASHTO M 302.

Densified Silica Fume meeting the requirements of AASHTO M 307.

Lithium based admixtures

Metakaolin

Pozzolans or chemical admixtures required to offset the effects of potentially reactive aggregates will be incorporated into the concrete at no additional cost to the Department.

703.06 Aggregate for Base and Subbase - Remove the first two paragraphs in their entirety and replace with these:

“The following shall apply to Sections (a.) and (c.) below. The material shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro- Deval value exceeds 25.0, the Washington State Degradation DOT Test Method T113, Method of Test for Determination of Degradation Value (January 2009 version) shall be performed, except that the test shall be performed on the portion of the sample that

passes the 1/2 in sieve and is retained on the No. 10 sieve. If the material has a Washington Degradation value of less than 15, the material shall be rejected.

The material used in Section (b.) below shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0 the material may be used if it does not exceed 25 percent loss on AASHTO T 96, Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine. “

703.19 Granular Borrow

Remove the gradation requirements table, and replace with the following:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Material for Underwater Backfill	Material for Embankment Construction
6 inch	100	
No. 40	0-70	0-70
No. 200	0-7.0	0-20.0

703.33 Stone Ballast - In the third paragraph, remove the words “less than” before 2.60 and add the words “**or greater**” after 2.60.

SECTION 717
ROADSIDE IMPROVEMENT MATERIAL

717.02 Agricultural Ground Limestone

In the table after the third paragraph which starts with “Liquid lime...” change the Specification for Nitrogen (N) from “15.5 percent of which 1% is from ammoniac nitrogen and 14.5 /5 is from Nitrate Nitrogen” to read “**15.5 % of which 1% is from Ammoniacal Nitrogen and 14.5 % is from Nitrate Nitrogen**”

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.

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."

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.

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:

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Validate all tests and other selection requirements.

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.

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.

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.

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.

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.

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

D. Section '**D Disadvantaged Business Enterprise (DBE) Requirements**' is removed in its entirety. The DBE material is in:

Section 105.10 EQUAL OPPORTUNITY AND CIVIL RIGHTS.

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 MaineDOT 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 MaineDOT or from sources designated by MaineDOT. 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 MaineDOT 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 MaineDOT 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 MaineDOT, 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.

Start of FHWA 1273 REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS (As revised through May 1, 2012)

FHWA-1273 -- Revised May 1, 2012

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in

all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, 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.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

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, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) 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 provisions of the Americans with 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 contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its 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, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program 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 minorities and women.

- 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 minorities and women 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 minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women 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, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.
- c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such 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 its 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 their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

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. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

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 employees who are minorities and women 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 good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women.

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 good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith 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 contracting agency 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 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 minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. 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 contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. 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. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor 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 contracting agency deems appropriate.

11. 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 the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours 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; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of 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 FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified

as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics 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 issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, 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 29 CFR 5.5(a)(4). 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. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) 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.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (ii) The classification is utilized in the area by the construction industry; and
- (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), 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 Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The 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.

(3) In the event the contractor, the laborers or mechanics to be employed in the 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. The Wage and Hour 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.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. 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 shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as 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.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor 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, so 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 contracting agency 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.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of 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. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) 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 shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each 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 Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) 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 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, 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 FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action 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.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

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 U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or 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 Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen 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 worker 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 on 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 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's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

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 journeymen 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 determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

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 U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman 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 wage rate on the wage determination which provides for less than full fringe benefits for apprentices. 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.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor 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. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. 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.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 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 U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR

5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the 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 or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys 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 (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

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 contracting agency. 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 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased 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 or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

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 or propose 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 VI 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 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 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 contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

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 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. 3704).
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.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

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, Form FHWA-1022 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:

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 under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier 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 first tier 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 first tier 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 contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier 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," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first 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 entering into this transaction.

g. The prospective first tier 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 Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

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 is responsible for ensuring that its principals are not suspended,

debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective 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.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-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;

(3) 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 (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

- 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," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).
- 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 exceeding the \$25,000 threshold.
- 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 is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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.

* * * * *

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--
Lower Tier Participants:**

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 participating in covered transactions 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.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is 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 its bid or proposal that the participant 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.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

End of FHWA 1273

The United States Department of Transportation (USDOT)

FHWA STANDARD TITLE VI/NONDISCRIMINATION ASSURANCES

DOT Order No. 1050.2A

The Maine Department of Transportation (herein referred to as the "Recipient"), **HEREBY AGREES THAT**, as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation (DOT), through The Federal Highway Administration (FHWA), is subject to and will comply with the following:

Statutory/Regulatory Authorities

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 C.F.R. Part 21 (entitled *Nondiscrimination In Federally-Assisted Programs Of The Department Of Transportation—Effectuation Of Title VI Of The Civil Rights Act Of 1964*);
- 28 C.F.R. section 50.3 (U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964);

FHWA may include additional Statutory/Regulatory Authorities here.

The preceding statutory and regulatory cites hereinafter are referred to as the "Acts" and "Regulations," respectively.

General Assurances

In accordance with the Acts, the Regulations, and other pertinent directives, circulars, policy, memoranda, and/or guidance, the Recipient hereby gives assurance that it will promptly take any measures necessary to ensure that:

No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity," for which the Recipient receives Federal financial assistance from DOT, including FHWA..

The Civil Rights Restoration Act of 1987 clarified the original intent of Congress, with respect to Title VI and other Nondiscrimination requirements (The Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973), by restoring the broad, institutional-wide scope and coverage of these nondiscrimination statutes and requirements to include all programs and activities of the Recipient, so long as any portion of the program is Federally assisted.

FHWA may include additional General Assurances in this section, or reference an addendum here.

Specific Assurances

More specifically, and without limiting the above general Assurance, the Recipient agrees with and gives the following Assurances with respect to its federally assisted programs:

1. The Recipient agrees that each "activity," "facility," or "program," as defined in §§ 21.23 (b) and 21.23 (e) of 49 C.F.R. § 21 will be (with regard to an "activity") facilitated, or will be (with regard to a "facility") operated, or will be (with regard to a "program") conducted in compliance with all requirements imposed by, or pursuant to the Acts and the Regulations.
2. The Recipient will insert the following notification in all solicitations for bids, Requests For Proposals for work, or material subject to the Acts and the Regulations made in connection with all Federal Highway Programs and, in adapted form, in all proposals for negotiated agreements regardless of funding source:

The (Agency), in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively insure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

3. The Recipient will insert the clauses of Appendix A and E of this Assurance in every contract or agreement subject to the Acts and the Regulations.
4. The Recipient will insert the clauses of Appendix B of this Assurance, as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a Recipient.
5. That where the Recipient receives Federal financial assistance to construct a facility, or part of a facility, the Assurance will extend to the entire facility and facilities operated in connection therewith.
6. That where the Recipient receives Federal financial assistance in the form, or for the acquisition of real property or an interest in real property, the Assurance will extend to rights to space on, over, or under such property.
7. That the Recipient will include the clauses set forth in Appendix C and Appendix D of this Assurance, as a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the Recipient with other parties:
 - a. for the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and
 - b. for the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.
8. That this Assurance obligates the Recipient for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the Assurance obligates the Recipient, or any transferee for the longer of the following periods:

- a. the period during which the property is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or
 - b. the period during which the Recipient retains ownership or possession of the property.
9. The Recipient will provide for such methods of administration for the program as are found by the Secretary of Transportation or the official to whom he/she delegates specific authority to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Acts, the Regulations, and this Assurance.
10. The Recipient agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the Acts, the Regulations, and this Assurance.

FHWA may include additional Specific Assurances in this section.

By signing this ASSURANCE, Maine Department of Transportation also agrees to comply (and require any subrecipients, sub-grantees, contractors, successors, transferees, and/or assignees to comply) with all applicable provisions governing the FHWA access to records, accounts, documents, information, facilities, and staff. You also recognize that you must comply with any program or compliance reviews, and/or complaint investigations conducted by FHWA. You must keep records, reports, and submit the material for review upon request to FHWA, or their designees in a timely, complete, and accurate way. Additionally, you must comply with all other reporting, data collection, and evaluation requirements, as prescribed by law or detailed in program guidance.

Maine Department of Transportation gives this ASSURANCE in consideration of and for obtaining any Federal grants, loans, contracts, agreements, property, and/or discounts, or other Federal-aid and Federal financial assistance extended after the date hereof to the recipients by the U.S. Department of Transportation. This ASSURANCE is binding on Maine Department of Transportation, other recipients, sub-recipients, sub-grantees, contractors, subcontractors and their subcontractors', transferees, successors in interest, and any other participants in it programs. . The person(s) signing below is authorized to sign this ASSURANCE on behalf of the Recipient.

Name of Recipient: Maine Department of Transportation



David Bernhardt, Commissioner

DATED: 9/18/14

APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Nondiscrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations as set forth in Appendix E, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor’s obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration**, to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor’s noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration**, may determine to be appropriate, including, but not limited to:
 - a. withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. cancelling, terminating, or suspending a contract, in whole or in part.

Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration**, may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

(APPENDIX C TO MAINEDOT TITLE VI ASSURANCE)

FEDERAL HIGHWAY ADMINISTRATION ASSISTED PROGRAMS

The following clauses shall be included in all deeds, licenses, leases, permits, or similar instruments entered into

by the Maine Department of Transportation pursuant to the provisions of Assurance 7(a).

The (grantee, licensee, lessee, permittee, etc., as appropriate) for herself/himself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that in the event facilities are constructed, maintained, or otherwise operated on the said property described in this (deed, license, lease, permit, etc.) for a purpose for which a Department of Transportation program or activity is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee lessee, permittee, etc.) shall maintain and operate such facilities and services in compliance with all other requirements imposed pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination of Federally-Assisted Programs of the Department of Transportation - Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended.

[Include in licenses, leases, permits, etc.]*

That in the event of breach of any of the above nondiscrimination covenants, Maine Department of Transportation shall have the right to terminate the [license, lease, permit, etc.] and to re-enter and repossess said land and the facilities thereon, and hold the same as if said [licenses, lease, permit, etc.] had never been made or issued.

[Include in deeds]*

That in the event of breach of any of the above nondiscrimination covenants, Maine Department of Transportation shall have the right to re-enter said lands and facilities thereon, and the above described lands and facilities shall thereupon revert to and vest in and become the absolute property of Maine Department of Transportation and its assigns.

The following shall be included in all deeds, licenses, leases, permits, or similar agreements entered into by Maine Department of Transportation pursuant to the provisions of Assurance 7(b).

The (grantee, licensee, lessee, permittee, etc., as appropriate) for herself/himself, his/her personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in case of deeds, and leases add "as a covenant running with the land") that (1) no person on the grounds of race, color, or national origin shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over or under such land and the furnishing services thereon, no person on the grounds of race, color, or national origin shall be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination, and (3) that the (grantee, licensee, lessee, permittee, etc.) shall use the premises in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation - Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended.

[Include in licenses, leases, permits, etc.]*

That in the event of breach of any of the above nondiscrimination covenants, Maine Department of Transportation shall have the right to terminate the [license, lease, permit, etc.] and to re-enter and repossess said land and the facilities thereon, and hold the same as if said [license, lease, permit, etc.] had never been made or issued.

[Include in deeds]*

That in the event of breach of any of the above nondiscrimination covenants, Maine Department of Transportation shall have the right to re-enter said land and facilities thereon, and the above described lands and facilities shall thereupon revert to and vest in and become the absolute property of Maine Department of Transportation and its assigns.

* Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to effectuate the purpose of Title VI of the Civil Rights Act of 1964.

APPENDIX D

CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by The Maine Department of Transportation pursuant to the provisions of Assurance 7(b):

- A. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, “as a covenant running with the land”) that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discriminations, (3) that the (grantee, licensees, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.
- B. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non-discrimination covenants, (**The Maine Department of Transportation**) will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.*
- C. With respect to deeds, in the event of breach of any of the above Non-discrimination covenants, (**The Maine Department of Transportation**) will there upon revert to and vest in and become the absolute property of (**The Maine Department of Transportation**) and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. §2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. §4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. §324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. §794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. §6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 U.S.C. §471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. Parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. §47123) (prohibits discrimination on the basis of race, color, national origin and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating of sex in education programs or activities (20 U.S.C. 1681 *et seq.*).



Environmental Summary Sheet

WIN: 19273.00
 Town: Bath
 CPD Team Leader: Kristen Chamberlain
 ENV Field Contact: Mike Clark

Date Submitted: 12/2/15

NEPA Complete: 5/29/15-Individual Categorical Exclusion

Section 106
SHPO Concurrence-Adverse Effect to West Approach Bridge as contributing feature of US Route 1 Historic District.
Section 106 Resources: Bath Historic District; U.S. Custom House at 1 Front Street; Bath Railroad Station at 15 Commercial Street; US Route 1 Historic District; Middle Street Historic District

Section 4(f) and 6(f)
Section 4(f)
 Review Complete-Programmatic 4f (use: Adverse Effect to US Route 1 Historic District)
Section 6(f)
 Not Applicable

Maine Department of Inland Fisheries and Wildlife Essential Habitat
 Not Applicable **Timing Window: Not Applicable**

Section 7
Species of Concern: Northern Long-Eared Bat- No Effect
Comments/References: No tree removal proposed.
Species of Concern: Atlantic salmon; Atlantic and Shortnose Sturgeon-No Effect
Comments/References: No in-water work proposed.

Essential Fish Habitat
 No Effect-No in-water work

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

Stormwater Review
 N/A

Special Provisions Required

Special Provision 105-Timing of Work Restriction	N/A <input checked="" type="checkbox"/>	Applicable <input type="checkbox"/>
Special Provision 656-Minor Soil Disturbance	N/A <input type="checkbox"/>	Applicable <input type="checkbox"/>
Standard Specification 656-Erosion Control Plan	N/A <input type="checkbox"/>	Applicable <input checked="" type="checkbox"/>
Special Provision 203-Dredge Spec	N/A <input checked="" type="checkbox"/>	Applicable <input type="checkbox"/>
General Note for Hazardous Waste	N/A <input type="checkbox"/>	Applicable <input checked="" type="checkbox"/>
Special Provision 203-Hazardous Waste	N/A <input type="checkbox"/>	Applicable <input type="checkbox"/>
Special Provision 105.9	N/A <input type="checkbox"/>	Applicable <input type="checkbox"/>

*All permits and approvals based on plans/scope as of:5/29/15

