

**Updated 9/6/2024**

# **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:

**NOTE: Not all projects accept Electronic Bids. Please review the Notice to Contractors and see if it specifically states that Electronic Bids will be accepted.**

- 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, March 2020 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](mailto:MDOT.contracts@maine.gov). Each bid package will require a separate request.

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

The downloading of bid packages from the MDOT website is not the same as providing an electronic bid to the Department. Electronic bids must be submitted via <http://www.BIDX.com>. For information on electronic bidding contact David Oakes at [david.oakes@maine.gov](mailto:david.oakes@maine.gov) or Guy Berthiaume at [guy.berthiaume@maine.gov](mailto:guy.berthiaume@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](mailto: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.

## RFI No: \_\_\_\_\_

**Date** \_\_\_\_\_ **Time** \_\_\_\_\_

**WIN(S):** \_\_\_\_\_ **Town(s):** \_\_\_\_\_ **Bid Date:** \_\_\_\_\_

**Question(s):**\_\_\_\_\_

**Company Name:** \_\_\_\_\_ **Phone: ( )** \_\_\_\_\_

**Email:** \_\_\_\_\_ **Fax:** (\_\_\_\_) \_\_\_\_\_

7

# NOTICE

## Disadvantaged Business Enterprise Commitment Confirmation

**All** Bidders must submit the Commitment Confirmation form with their bid.

The Commitment Confirmation form contains information required by USDOT.

The Commitment Confirmation form must be completed by each Prime Contractor.

A copy of the new Commitment Confirmation form and instructions for completing it are attached.

The DBE Directory can be found on the MaineDOT Website at: <https://www.maine.gov/mdot/civilrights/dbe/>

Questions about the Directory or this form should be sent to the Civil Rights Office at [mary.bryant@maine.gov](mailto:mary.bryant@maine.gov) or by calling 207-624-3056.

## INSTRUCTIONS FOR PREPARING THE MAINE DOT COMMITMENT CONFIRMATION 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.

Each prime contractor submitting a bid on a federally funded project must complete each section of the Commitment Confirmation form in its entirety for itself and each subcontractor on that project.

### SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

#### Section A:

1. Insert Contractor Name
2. Insert WIN for the Federal Project bidding on
3. Insert Bid Date
4. Insert Project Location
5. Insert Email address of Contact Person

#### Section B:

- A. Enter each Contractor's and Sub-Contractor's name and address (including zip code) – Prime Contractor's name should be listed in first box of this section; then each additional line would be proposed subcontractors – DBE or NonDBE
- B. Enter each Contractor's and Sub-Contractor's annual gross receipts bracket (see the legend on the form)
- C. Enter DBE status (DBE or non-DBE) for each contractor/sub-contractor
- D. Enter each Contractor's and Sub-Contractor's NAICS (North Amer. Industry Classification System) code (may be more than one) and Scope of Work
- E. For each Contractor and Sub-Contractor enter the Race and Gender of the firm's majority owner
- F. Enter the Age of each Contractor/Sub-Contractor
- G. Enter the Proposed amount of payment (Bid amount) for each Contractor/Sub-Contractor.

Maine Department of Transportation  
COMMITMENT CONFIRMATION

Section A. Bidder/Prime Contractor Information.

This section must be completed by the Bidder/Prime Contractor.

1. Prime Contractor Name:		2. Federal Project WIN:		3. Bid Date:	
4. Project Location:		5. Email Address:			

Section B. Commitment Details - Prime Contractor and all Proposed Subcontractor Information is Required in This Section

A. Firm's Name & Address, Including Zip Code Prime must be listed first	B. Annual Gross Receipt Bracket Select 1 to 7*	C. Status DBE or Non-DBE	D. NAICS Code(s) and Scope of Work	E. Race & Gender of each Firm's Majority Owner	F. Age of Each Firm	G. Proposed Amount

\*1) Less Than \$1M, 2) \$1 - \$3M, 3) \$3 - \$6M, 4) \$6 - \$10M, 5) \$10 - \$20M, 6) \$20 - \$50M, 7) Greater Than \$50M - More than 5 Subs use a new form

MaineDOT Use Only:

Form Received: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Verified by: \_\_\_\_ FHW A ☐ FTA ☐ FAA ☐

For a complete list of certified DBE firms please visit: <http://www.maine.gov/mdot/civilrights/>

Note: This information is required pursuant to 49 CFR §26.11 and is used to track data in all federally funded MaineDOT contracts.

**DBE GOAL NOTICE**  
**Maine Department of Transportation**  
**Disadvantaged Business Enterprise Program**

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

Beginning September 1, 2024, MaineDOT has established an annual DBE participation goal of **1.43%** to be achieved through race/gender neutral means. This goal has been approved by the Federal Highway Administration through August 31, 2027. MaineDOT 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 1.43% goal without the need to impose contract goals. DBE firms are listed on the MaineDOT website at:

<http://www.maine.gov/mdot/disadvantaged-business-enterprises/pdf/directory.pdf>

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](mailto:sherry.tompkins@maine.gov)

**Maine Department of Transportation Civil Rights Office**

**Directory of Certified Disadvantaged Business Enterprises**

**Listing can be found at:**

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

**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 **Highway Rehabilitation & Mill and Fill** in the Towns of **Milbridge & Cherryfield**" will be received from contractors at the Reception Desk, MaineDOT Building, Capitol Street, Augusta, Maine, until 11:00 o'clock A.M. (prevailing time) on January 8, 2025 and at that time and place, publicly opened and read. Bids will be accepted from all bidders. The lowest responsive bidder must have completed, or successfully complete, a **Highway Construction, Paving, or project specific prequalification** to be considered for the award of this contract. **We now accept electronic bids for 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 Nos. STP-2040(500) & 2772800, WINs 020405.00 & 022728.00

Location: In Washington County,  
**WIN 020405.00** begins 0.07 of a mile south of Spruce Street in Milbridge and extends north 5.05 miles to the intersection of Wilson Hill Road in Cherryfield.  
**WIN 027728.00** is in Milbridge, beginning 0.62 of a mile north of the Steuben town line and extends north 1.26 miles.

Outline of Work: Highway Rehabilitation with Drainage and Safety Improvements, Mill and Fill, and other incidental work.

The basis of award will be Section 1 combined with contractor chosen Alternate 1 (Section 2), or Section 1 combined with contractor 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 Laurie Rowe at (207) 624-3431, use electronic RFI form or email questions to [RFI-Contracts.MDOT@maine.gov](mailto:RFI-Contracts.MDOT@maine.gov), project name and identification number should be in the subject line. Questions received after 12:00 noon of Monday (or if that Monday is a state holiday, 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.

Bid Documents, specifications and bid forms can be viewed and obtained digitally at no cost at <http://www.maine.gov/mdot/contractors/>. They may be purchased from the Department between the hours of 7:00 a.m. to 3:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 24 Child Street, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207) 624-3536 between the hours of 7:00 a.m. to 3:30 p.m. Full size plans \$327.00 (\$342.00 by mail). Half size plans \$163.50 (\$169.50 by mail), Bid Book \$10 (\$13 by mail), Single Sheets \$2, payment in advance, all non-refundable.

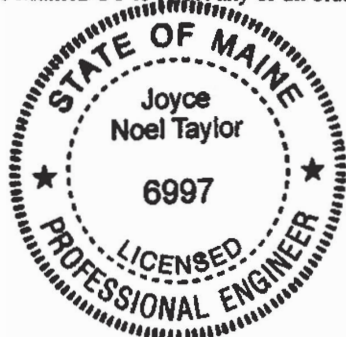
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of 5% of the bid amount, payable to Treasurer, 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, March 2020 Edition*, price \$10 [\$15 by mail], and *Standard Details, March 2020 Edition*, price \$10 [\$15 by mail]. They also may be purchased by telephone at (207) 624-3536 between the hours of 7:00 a.m. to 3:30 p.m. *Standard Detail* updates can be found at <http://www.maine.gov/mdot/contractors/publications/>.

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

Augusta, Maine  
December 18, 2024



A handwritten signature in blue ink that reads "Joyce Noel Taylor".

JOYCE NOEL TAYLOR P. E.  
CHIEF ENGINEER

# NOTICE

All bids for Federal Projects **shall** be accompanied by the DBE Proposed Utilization form. If you are submitting an electronic bid, the DBE Utilization Form may be faxed to 207-624-3431. Failure to submit the form with the bid will be considered a curable defect.

**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)

12/10/2024

## Maine Department of Transportation

## Proposal Schedule of Items

Page 1 of 12

Proposal ID: 020405.00

Project(s): 020405.00, 027728.00

SECTION: 1 INITIAL GROUP

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	201.11 CLEARING	7.000 AC	_____	 _____	_____	 _____
0020	201.23 REMOVING SINGLE TREE TOP ONLY	54.000 EA	_____	 _____	_____	 _____
0030	201.24 REMOVING STUMP	68.000 EA	_____	 _____	_____	 _____
0040	202.111 REMOVING OF CONCRETE SIDEWALK	110.000 SY	_____	 _____	_____	 _____
0050	202.2023 REMOVING PAVEMENT SURFACE - MEDIUM CUT DRUM	11,580.000 SY	_____	 _____	_____	 _____
0060	202.203 PAVEMENT BUTT JOINTS	250.000 SY	_____	 _____	_____	 _____
0070	203.20 COMMON EXCAVATION	45,500.000 CY	_____	 _____	_____	 _____
0080	203.21 ROCK EXCAVATION	1,000.000 CY	_____	 _____	_____	 _____
0090	203.25 GRANULAR BORROW	1,300.000 CY	_____	 _____	_____	 _____
0100	203.33 SPECIAL FILL	180.000 CY	_____	 _____	_____	 _____
0110	206.061 STRUCTURAL EARTH EXCAVATION - DRAINAGE AND MINOR STRUCTURES, BELOW GRADE	100.000 CY	_____	 _____	_____	 _____
0120	206.07 STRUCTURAL ROCK EXCAVATION - DRAINAGE AND MINOR STRUCTURES	100.000 CY	_____	 _____	_____	 _____

12/10/2024

## Maine Department of Transportation

## Proposal Schedule of Items

Page 2 of 12

Proposal ID: 020405.00

Project(s): 020405.00, 027728.00

SECTION: 1 INITIAL GROUP

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
0130	403.2081 12.5 MM POLYMER MODIFIED HOT MIX ASPHALT	7,850.000 T	_____	_____	_____	_____
0140	403.209 HOT MIX ASPHALT 9.5 MM (SIDEWALKS, DRIVES, INCIDENTALS)	970.000 T	_____	_____	_____	_____
0150	403.21041 HMA 9.5 MM – POLYMER MODIFIED THIN LIFT SURFACE TREATMENT	1,030.000 T	_____	_____	_____	_____
0160	403.211 HOT MIX ASPHALT (SHIMMING)	1,070.000 T	_____	_____	_____	_____
0170	403.213 HOT MIX ASPHALT 12.5 MM BASE	26.000 T	_____	_____	_____	_____
0180	409.15 BITUMINOUS TACK COAT - APPLIED	4,930.000 G	_____	_____	_____	_____
0190	411.10 UNTREATED AGGREGATE SURFACE COURSE (TRUCK MEASURE)	20.000 CY	_____	_____	_____	_____
0200	424.22 ASPHALT RUBBER CRACK SEALER TYPE 2, APPLIED	4,900.000 LB	_____	_____	_____	_____
0210	424.38 CRACK REPAIR - HOT POUR MASTIC	3,100.000 LB	_____	_____	_____	_____
0220	508.13 SHEET WATERPROOFING MEMBRANE	LUMP SUM	LUMP SUM	_____	_____	_____
0230	511.07 COFFERDAM: STATION 118+44 INLET END	LUMP SUM	LUMP SUM	_____	_____	_____

12/10/2024

## Maine Department of Transportation

## Proposal Schedule of Items

Page 3 of 12

Proposal ID: 020405.00

Project(s): 020405.00, 027728.00

SECTION: 1 INITIAL GROUP

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
0240	511.07 COFFERDAM: STATION 118+44 OUTLET END	LUMP SUM	LUMP	SUM	_____	_____
0250	511.07 COFFERDAM: STATION 144+01 INLET END	LUMP SUM	LUMP	SUM	_____	_____
0260	511.07 COFFERDAM: STATION 144+01 OUTLET END	LUMP SUM	LUMP	SUM	_____	_____
0270	511.07 COFFERDAM: STATION 200+61 INLET END	LUMP SUM	LUMP	SUM	_____	_____
0280	511.07 COFFERDAM: STATION 200+61 OUTLET END	LUMP SUM	LUMP	SUM	_____	_____
0290	511.07 COFFERDAM: STATION 351+94 INLET END	LUMP SUM	LUMP	SUM	_____	_____
0300	511.07 COFFERDAM: STATION 351+94 OUTLET END	LUMP SUM	LUMP	SUM	_____	_____
0310	515.20 PROTECTIVE COATING FOR CONCRETE SURFACES	100.000 SY	_____	_____	_____	_____
0320	534.71 PRECAST CONCRETE BOX CULVERT STATION 351+94 (13' X 8' X 136')	LUMP SUM	LUMP	SUM	_____	_____
0330	603.159 12 INCH CULVERT PIPE OPTION III	8.000 LF	_____	_____	_____	_____
0340	603.16 15 INCH CULVERT PIPE OPTION I	3,710.000 LF	_____	_____	_____	_____

12/10/2024

## Maine Department of Transportation

## Proposal Schedule of Items

Page 4 of 12

Proposal ID: 020405.00

Project(s): 020405.00, 027728.00

SECTION: 1 INITIAL GROUP

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
0350	603.17 18 INCH CULVERT PIPE OPTION I	1,095.000 LF				
0360	603.179 18 INCH CULVERT PIPE OPTION III	224.000 LF				
0370	603.19 24 INCH CULVERT PIPE OPTION I	106.000 LF				
0380	603.199 24 INCH CULVERT PIPE OPTION III	372.000 LF				
0390	603.209 30 INCH CULVERT PIPE OPTION III	96.000 LF				
0400	603.219 36 INCH CULVERT PIPE OPTION III	200.000 LF				
0410	603.256 60" RCP CLASS III - INCLUDING FISH WEIRS	128.000 LF				
0420	603.275 72 INCH REINFORCED CONCRETE PIPE CLASS III	88.000 LF				
0430	603.53 96 INCH REINFORCED CONCRETE PIPE - CLASS IV	120.000 LF				
0440	603.55 CONCRETE PIPE TIES	13.000 GP				
0450	604.092 CATCH BASIN TYPE B1-C	5.250 EA				
0460	604.18 ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	14.000 EA				



12/10/2024

## Maine Department of Transportation

## Proposal Schedule of Items

Page 5 of 12

Proposal ID: 020405.00

Project(s): 020405.00, 027728.00

SECTION: 1 INITIAL GROUP

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
0470	604.245 CATCH BASIN TYPE F4-C	3.000 EA	_____	_____	_____	_____
0480	604.247 CATCH BASIN TYPE F5-C	1.000 EA	_____	_____	_____	_____
0490	605.09 6 INCH UNDERDRAIN TYPE B	6,400.000 LF	_____	_____	_____	_____
0500	605.11 12 INCH UNDERDRAIN TYPE C	135.000 LF	_____	_____	_____	_____
0510	606.1301 31" W-BM GR, MID-WAY SPLICE-SGL FACED	4,475.000 LF	_____	_____	_____	_____
0520	606.1303 31" W-BM GR, MID-WAY SPLICE-15' RAD AND LESS	200.000 LF	_____	_____	_____	_____
0530	606.1304 31" W-BM GR, MID-WAY SPLICE-OVER 15' RAD	87.500 LF	_____	_____	_____	_____
0540	606.1305 31" W-BM GR, MID-WAY SPLICE FLARED TERMINAL	24.000 EA	_____	_____	_____	_____
0550	606.1306 31" W-BM GR, MID-WAY SPLICE TANGENT TERMINAL	1.000 EA	_____	_____	_____	_____
0560	606.259 ANCHORAGE ASSEMBLY	1.000 EA	_____	_____	_____	_____
0570	606.265 TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	11.000 EA	_____	_____	_____	_____
0580	606.353 REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	72.000 EA	_____	_____	_____	_____

12/10/2024

## Maine Department of Transportation

## Proposal Schedule of Items

Page 6 of 12

Proposal ID: 020405.00

Project(s): 020405.00, 027728.00

SECTION: 1 INITIAL GROUP

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
0590	606.356 UNDERDRAIN DELINEATOR POST	35.000 EA	_____	 _____	_____	 _____
0600	606.47 SINGLE WOOD POST	95.000 EA	_____	 _____	_____	 _____
0610	606.51 MULTIPLE MAILBOX SUPPORT	5.000 EA	_____	 _____	_____	 _____
0620	608.08 REINFORCED CONCRETE SIDEWALK	100.000 SY	_____	 _____	_____	 _____
0630	608.26 CURB RAMP DETECTABLE WARNING FIELD	130.000 SF	_____	 _____	_____	 _____
0640	609.11 VERTICAL CURB TYPE 1	16.000 LF	_____	 _____	_____	 _____
0650	609.31 CURB TYPE 3	1,128.000 LF	_____	 _____	_____	 _____
0660	609.38 RESET CURB TYPE 1	223.000 LF	_____	 _____	_____	 _____
0670	610.08 PLAIN RIPRAP	2,000.000 CY	_____	 _____	_____	 _____
0680	610.18 STONE DITCH PROTECTION	1,450.000 CY	_____	 _____	_____	 _____
0690	610.212 STREAMBED ROCK FEATURES	25.000 CY	_____	 _____	_____	 _____
0700	610.213 VOID FILLED RIPRAP	130.000 CY	_____	 _____	_____	 _____
0710	613.319 EROSION CONTROL BLANKET	15,040.000 SY	_____	 _____	_____	 _____

12/10/2024

## Maine Department of Transportation

## Proposal Schedule of Items

Page 7 of 12

Proposal ID: 020405.00

Project(s): 020405.00, 027728.00

SECTION: 1 INITIAL GROUP

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
0720	615.07 LOAM	950.000 CY	_____	 _____	_____	 _____
0730	615.10 DIRTY BORROW	5,200.000 CY	_____	 _____	_____	 _____
0740	618.13 SEEDING METHOD NUMBER 1	161.000 UN	_____	 _____	_____	 _____
0750	618.14 SEEDING METHOD NUMBER 2	886.000 UN	_____	 _____	_____	 _____
0760	619.12 MULCH	1,047.000 UN	_____	 _____	_____	 _____
0770	620.58 EROSION CONTROL GEOTEXTILE	8,000.000 SY	_____	 _____	_____	 _____
0780	627.733 4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	100,740.000 LF	_____	 _____	_____	 _____
0790	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	960.000 SF	_____	 _____	_____	 _____
0800	627.78 TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	131,000.000 LF	_____	 _____	_____	 _____
0810	629.05 HAND LABOR, STRAIGHT TIME	108.000 HR	_____	 _____	_____	 _____
0820	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	56.000 HR	_____	 _____	_____	 _____
0830	631.13 BULLDOZER (INCLUDING OPERATOR)	40.000 HR	_____	 _____	_____	 _____

12/10/2024

## Maine Department of Transportation

## Proposal Schedule of Items

Page 8 of 12

Proposal ID: 020405.00

Project(s): 020405.00, 027728.00

SECTION: 1 INITIAL GROUP

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
0840	631.14 GRADER (INCLUDING OPERATOR)	40.000 HR	_____	 _____	_____	 _____
0850	631.15 ROLLER, EARTH AND BASE COURSE (INCLUDING OPERATOR )	40.000 HR	_____	 _____	_____	 _____
0860	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	64.000 HR	_____	 _____	_____	 _____
0870	631.18 CHAIN SAW RENTAL (INCLUDING OPERATOR)	40.000 HR	_____	 _____	_____	 _____
0880	631.20 STUMP CHIPPER (INCLUDING OPERATOR)	40.000 HR	_____	 _____	_____	 _____
0890	631.22 FRONT END LOADER (INCLUDING OPERATOR)	40.000 HR	_____	 _____	_____	 _____
0900	631.32 CULVERT CLEANER (INCLUDING OPERATOR)	40.000 HR	_____	 _____	_____	 _____
0910	639.18 FIELD OFFICE TYPE A	1.000 EA	_____	 _____	_____	 _____
0920	643.72 TEMPORARY TRAFFIC SIGNAL	LUMP SUM	LUMP SUM		_____	 _____
0930	645.106 DEMOUNT REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	86.000 EA	_____	 _____	_____	 _____
0940	645.116 REINSTALL REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	44.000 EA	_____	 _____	_____	 _____

12/10/2024

## Maine Department of Transportation

## Proposal Schedule of Items

Page 9 of 12

Proposal ID: 020405.00

Project(s): 020405.00, 027728.00

SECTION: 1 INITIAL GROUP

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
0950	645.292 REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE II	300.000 SF	_____	 _____	_____	 _____
0960	652.312 TYPE III BARRICADE	10.000 EA	_____	 _____	_____	 _____
0970	652.33 DRUM	220.000 EA	_____	 _____	_____	 _____
0980	652.34 CONE	500.000 EA	_____	 _____	_____	 _____
0990	652.35 CONSTRUCTION SIGNS	1,190.000 SF	_____	 _____	_____	 _____
1000	652.36 MAINTENANCE OF TRAFFIC CONTROL DEVICES	551.000 CD	_____	 _____	_____	 _____
1010	652.38 FLAGGER	14,500.000 HR	_____	 _____	_____	 _____
1020	652.41 PORTABLE CHANGEABLE MESSAGE SIGN	4.000 EA	_____	 _____	_____	 _____
1030	652.61 STAGED CONSTRUCTION AND TRAFFIC CONTROL	LUMP SUM		LUMP SUM	_____	 _____
1040	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM		LUMP SUM	_____	 _____
1050	658.20 ACRYLIC LATEX COLOR FINISH, GREEN	90.000 SY	_____	 _____	_____	 _____

12/10/2024

## Maine Department of Transportation

## Proposal Schedule of Items

Page 10 of 12

Proposal ID: 020405.00

Project(s): 020405.00, 027728.00

SECTION: 1 INITIAL GROUP

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
1060	659.10 MOBILIZATION	LUMP SUM				
1070	660.21 ON-THE-JOB TRAINING (BID)	1,000.000 HR				
1080	801.03 TEST PITS	1.000 EA				
1090	801.141 4" PVC SANITARY SEWER (SDR-35)	80.000 LF				
1100	801.16 6 INCH PVC SANITARY SEWER (SDR-35)	25.000 LF				
1110	801.17 8 INCH PVC SANITARY SEWER (SDR-35)	25.000 LF				
Section: 1			Total:			

12/10/2024

## Maine Department of Transportation

## Proposal Schedule of Items

Page 11 of 12

Proposal ID: 020405.00

Project(s): 020405.00, 027728.00

SECTION: 2 Full Depth Reclamation

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
1120	202.202 REMOVING PAVEMENT SURFACE	20,100.000 SY	_____	_____	_____	_____
1130	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	36,400.000 CY	_____	_____	_____	_____
1140	307.335 FULL DEPTH RECYCLED PAVEMENT(W EMULSIFIED ASPHALT STABILIZER) 5 IN. DEPTH	53,500.000 SY	_____	_____	_____	_____
1150	403.213 HOT MIX ASPHALT 12.5 MM BASE	7,500.000 T	_____	_____	_____	_____
1160	411.09 UNTREATED AGGREGATE SURFACE COURSE	2,750.000 CY	_____	_____	_____	_____
Section: 2			Total:		_____	_____

12/10/2024

Maine Department of Transportation

Proposal Schedule of Items

Page 12 of 12

Proposal ID: 020405.00

Project(s): 020405.00, 027728.00

SECTION: 3 Highway Reconstruction

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
1170	202.202 REMOVING PAVEMENT SURFACE	93,700.000 SY	_____	_____	_____	_____
1180	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	37,000.000 CY	_____	_____	_____	_____
1190	304.14 AGGREGATE BASE COURSE - TYPE A	11,300.000 CY	_____	_____	_____	_____
1200	403.213 HOT MIX ASPHALT 12.5 MM BASE	12,500.000 T	_____	_____	_____	_____
Section: 3			Total:		_____	_____
			Total Bid:		_____	_____



## **CONTRACT AGREEMENT, OFFER & AWARD**

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

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

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

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

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, **WINs 020405.00 & 027728.00** for **Highway Rehabilitation & Mill and Fill** in the towns of **Milbridge & Cherryfield**, 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; performing construction quality control including inspection, testing and documentation; providing 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 shall be made as provided in the same.

### **B. Time.**

The Contractor agrees to complete all Work, except warranty work, on or before **October 31, 2026**. 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, March 2020 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 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, March 2020 Edition, Standard Details March 2020 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 March 2020 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 March 2020 Edition*, *Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **WINs 020405.00 & 027728.00 – Highway Rehabilitation & Mill and Fill - in the towns of Milbridge & Cherryfield**, 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, March 2020 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 March 2020 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: Bruce A. Van Note, 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, **WINs 020405.00 & 027728.00** for **Highway Rehabilitation & Mill and Fill** in the towns of **Milbridge & Cherryfield**, 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; performing construction quality control including inspection, testing and documentation; providing 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 shall be made as provided in the same.

### **B. Time.**

The Contractor agrees to complete all Work, except warranty work, on or before **October 31, 2026**. 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, March 2020 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 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, March 2020 Edition, Standard Details March 2020 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 March 2020 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 March 2020 Edition*, *Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **WINs 020405.00 & 027728.00 – Highway Rehabilitation & Mill and Fill - in the towns of Milbridge & Cherryfield**, 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, March 2020 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 March 2020 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: Bruce A. Van Note, 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.01 **12345.00**, 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, March 2020 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, March 2020 Edition, Standard Details March 2020 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 March 2020 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, March 2020 Edition, Standard Details March 2020 Edition*, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

**PIN 012345.00 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, March 2020 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 March 2020 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.

\_\_\_\_\_  
Date

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

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

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

**G. Award.**

Your offer is hereby accepted.  
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_  
Date

\_\_\_\_\_  
By: Bruce A. Van Note, 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:

Signature.....  
Print Name Legibly .....

Signature .....  
Print Name Legibly .....

SURETY ADDRESS:

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

TELEPHONE.....

SIGNATURES:

CONTRACTOR:

.....  
Print Name Legibly .....

SURETY:

.....  
Print Name Legibly .....

NAME OF LOCAL AGENCY:

ADDRESS .....

.....  
.....

.....

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 .....

.....

Superseded General Decision Number: ME20230044

State: Maine

Construction Type: Highway

County: Washington County in Maine.

#### HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none"><li>. Executive Order 14026 generally applies to the contract.</li><li>. The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.</li></ul>
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<ul style="list-style-type: none"><li>. Executive Order 13658 generally applies to the contract.</li><li>. The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.</li></ul>

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/05/2024
1	02/02/2024
2	04/05/2024

\* ENGI0004-005 04/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Grader/Blade, Milling Machine, Paver (Asphalt, Aggregate, and Concrete), Roller Asphalt.....	\$ 28.60	13.80

\* SUNE2014-039 06/23/2017

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 18.34	2.84
HIGHWAY/PARKING LOT STRIPING: Laborer.....	\$ 14.24 **	2.06
IRONWORKER, REINFORCING.....	\$ 16.27 **	0.00
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor.....	\$ 14.32 **	3.17
LABORER: Common or General.....	\$ 13.24 **	1.93
LABORER: Wheelman.....	\$ 15.40 **	3.01
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 17.58	2.92
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 20.36	5.06
OPERATOR: Broom/Sweeper.....	\$ 16.52 **	6.38
OPERATOR: Bulldozer.....	\$ 16.58 **	2.89
OPERATOR: Loader.....	\$ 17.18 **	4.72
OPERATOR: Mechanic.....	\$ 22.30	8.71
OPERATOR: Screed.....	\$ 18.82	4.75
OPERATOR: Roller (Earth).....	\$ 15.81 **	1.72
TRAFFIC CONTROL: Flagger.....	\$ 9.00 **	0.00
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....	\$ 17.48	5.37
TRUCK DRIVER: Dump Truck.....	\$ 14.35 **	6.33
TRUCK DRIVER: TackTruck.....	\$ 18.82	8.29

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



\*\* Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.20) or 13658 (\$12.90). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

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) (iii)).

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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: PLUM0198-005 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.

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## WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

Branch of Construction Wage Determinations

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

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

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

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

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

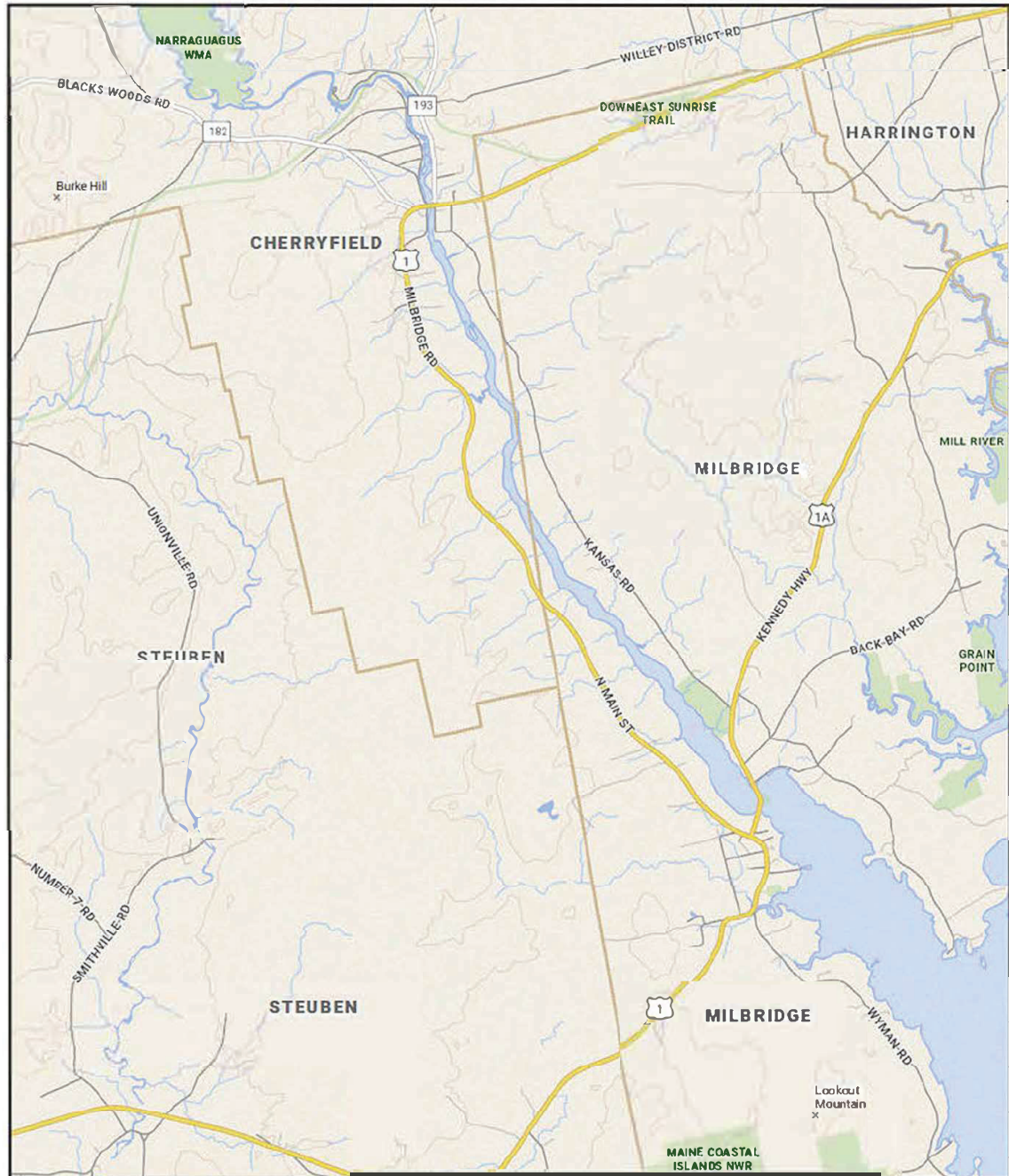
Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

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

=====

END OF GENERAL DECISION"

# MILBRIDGE-CHERRYFIELD, MAINE



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

1  
Miles  
1 inch = 1.14 miles

Date: 9/23/2024  
Time: 7:57:06 AM

SHEET NUMBER

1

OF 1

MILBRIDGE-CHERRYFIELD  
ROUTES 1 & 182

LOCATION MAP

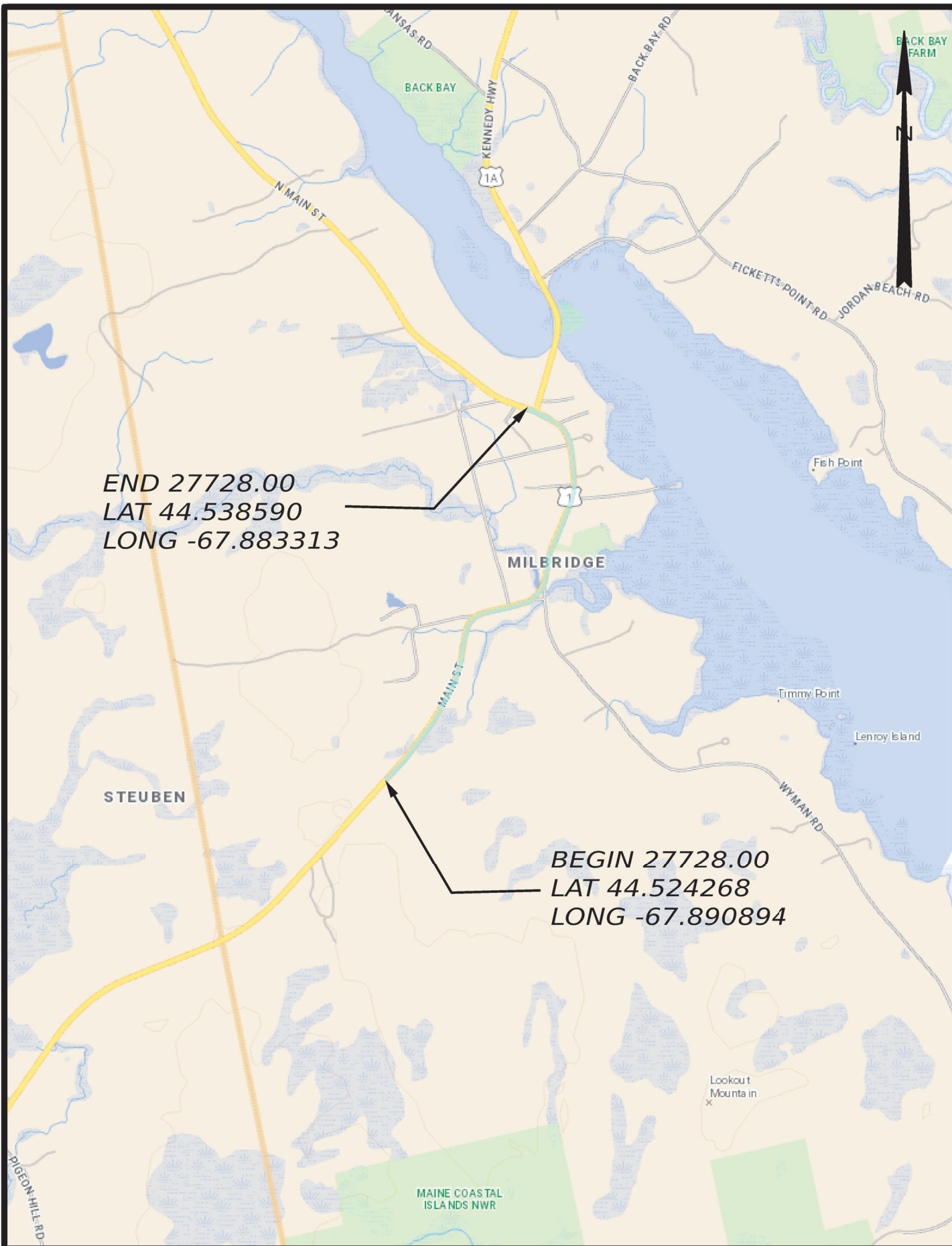
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

STP-2040(500)

WIN  
20405.00

HIGHWAY PLANS





STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

27728.00

US ROUTE 1 MILBRIDGE  
WASHINGTON COUNTY

LOCATION MAP

SHEET NUMBER

1

49 OF 1

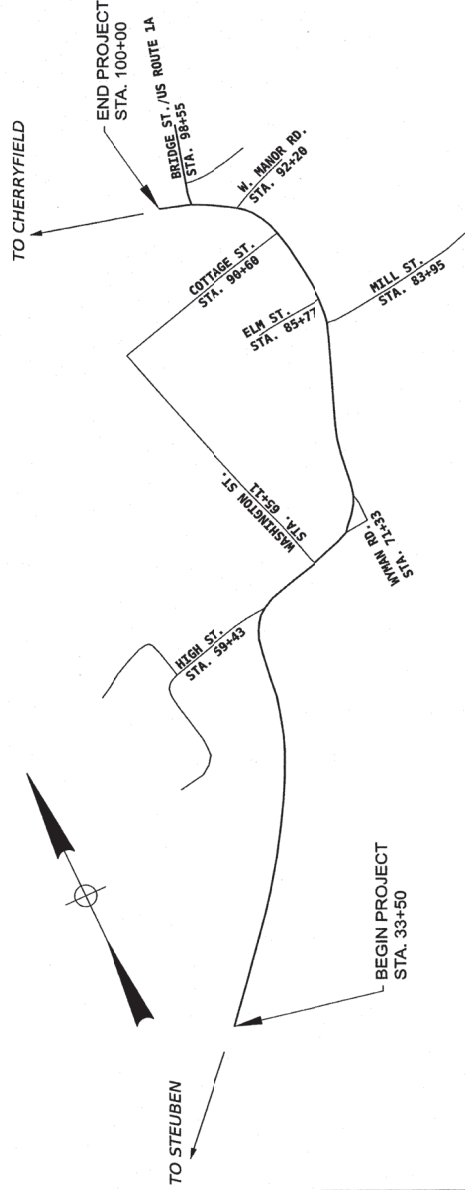
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION



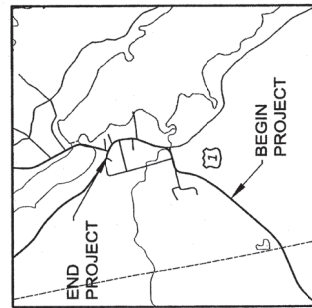
MILBRIDGE  
WASHINGTON COUNTY

US ROUTE 1

FEDERAL PROJECT NO. 2772800  
PROJECT LENGTH: 1.26 MILES



TRAFFIC DATA	
Current (2024) AADT	5870
Future (2036) AADT	6220
DHV - % of AADT	12%
Design Hour Volume (ADT)	706
% Heavy Trucks (DHV)	6%
% Heavy Trucks (DHV)	4%
Directional Distribution (DHV)	56%
18-kip Equivalent P 2.0	192
18-kip Equivalent P 2.5	183
Design Speed (mph)	25
Corridor Priority	2



LOCATION MAP

PROJECT LOCATION:	Beginning 0.62 of a mile north of the Steuben town line and extending north 1.26 miles.
PROGRAM AREA:	REGIONAL
SCOPE OF WORK:	1 1/4" OVERLAY/MILL AND FILL

WIN 27728.00

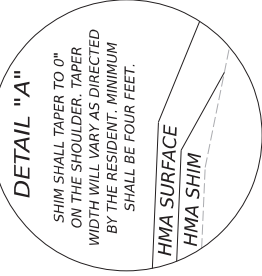
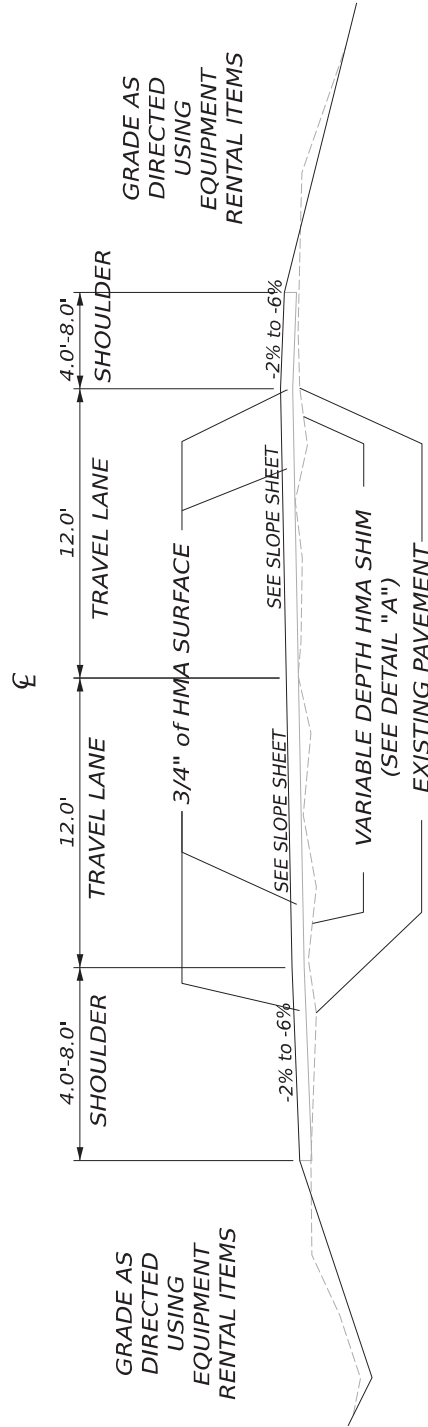
FEDERAL PROJECT NO. 2772800

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		APPROVED DATE: 12-12-2024		COMMISSIONER: [Signature]		CHIEF ENGINEER: [Signature]	
PROJECT INFORMATION		PROJECT NUMBER: 12093		DATE: 12/12/2024		PROJECT COMPLETION DATE	
PROJECT MANAGER: J. BAINES		DESIGNER: J. BAINES		CONSULTANT: [Blank]		PROJECT RESIDENT	
REGIONAL		SIGNATURE: [Signature]		DATE: 12/12/2024		PROJECT COMPLETION DATE	

MILBRIDGE  
US ROUTE 1  
TITLE SHEET

SHEET NUMBER  
1  
OF 1

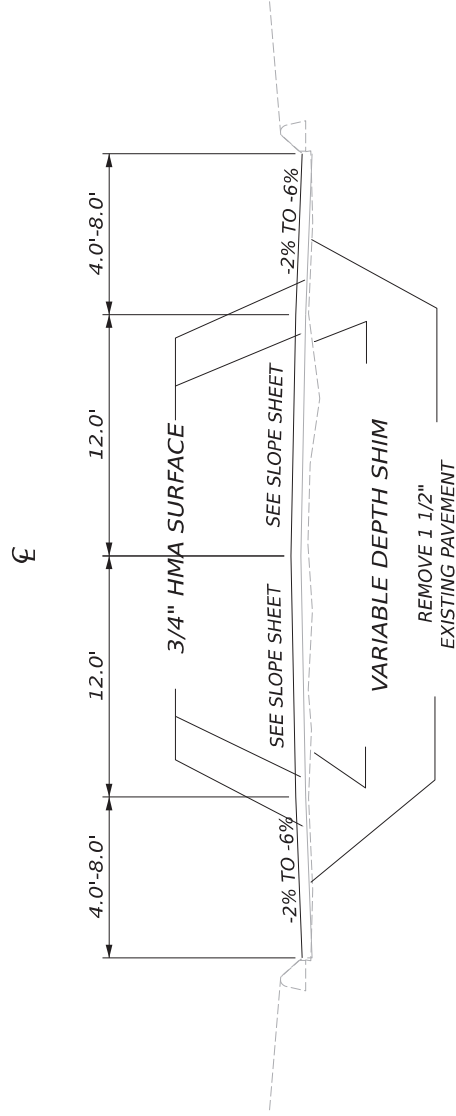
# 3/4" HMA OVERLAY WITH VARIABLE DEPTH SHIM



NOT TO SCALE		SHEET NUMBER	
MILBRIDGE US ROUTE 1 TYPICAL SECTIONS	STATE OF MAINE DEPARTMENT OF TRANSPORTATION	1 OF 3	
		2772800	HIGHWAY PLANS

# VARIABLE DEPTH MILL AND 1 1/2" FILL

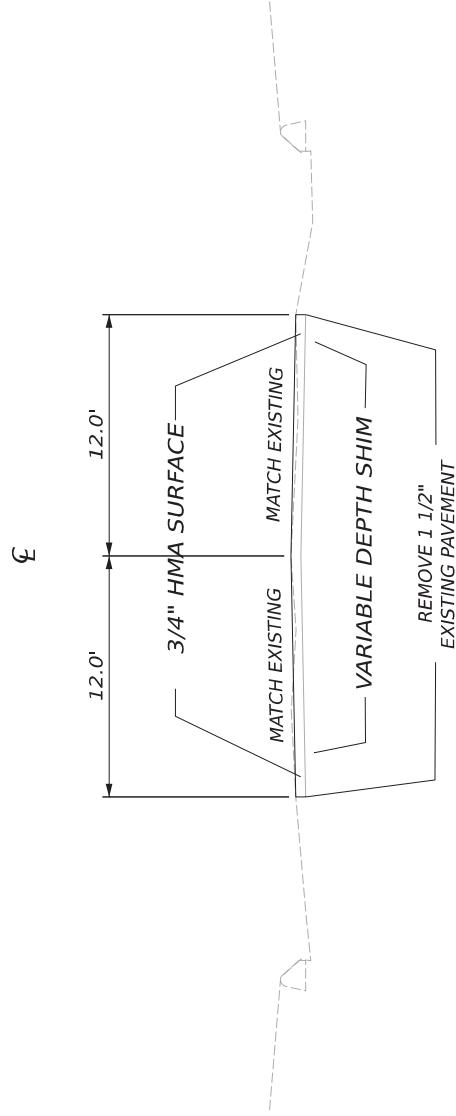
TRAVEL LANE AND SHOULDERS



MILBRIDGE US ROUTE 1		STATE OF MAINE DEPARTMENT OF TRANSPORTATION		NOT TO SCALE
TYPICAL SECTIONS		2772800 HIGHWAY PLANS		SHEET NUMBER 2 OF 3
		WIN 27728.00		



# 1 1/2" MILL AND FILL TRAVEL LANE ONLY



MILBRIDGE US ROUTE 1 TYPICAL SECTIONS	NOT TO SCALE	
	STATE OF MAINE DEPARTMENT OF TRANSPORTATION	SHEET NUMBER 3 OF 3
	WIN 27728.00	2772800 HIGHWAY PLANS

# PROJECT STATIONING

Lt	Station	Rt
	83+95	Mill Street
	80+96	Pole # 191399
	76+78	Milbridge Common Sign
	73+69	Pole # 188927
	71+33	Wyman Road
	70+12	Bridge # 5555 Sign
	68+50	Wyman Road Spur
Washington Street	65+11	
	64+58	Pole # 189516
High Street	59+43	
	53+67	Pole # 228352
45 MPH sign	48+81	25 MPH Sign
	39+30	Pole # 142165
Begin Project	33+70	Begin Project

PROJECT STATIONING

Lt	Station	Rt
End Project	100+00	End Project
	98+55	Route 1A
	95+10	Water Street
Cottage Street	91+61	
Shop-N-Save Sign	88+53	
	86+98	Harbor Lane
Elm Street	85+77	

## CONSTRUCTION NOTES

### **202.111 REMOVING OF CONCRETE SIDEWALK**

<b>Station</b>	<b>to</b>	<b>Station</b>	<b>Width (Ft)</b>	<b>Side</b>
87+02		87+25	5	Lt
90+82		91+12	5	Lt
90+93		91+15	5	Rt
95+80		95+95	10	Lt
95+67		95+82	5	Rt
95+67		95+77	5	Rt
97+90		98+20	5	Lt
97+92		98+13	5	Rt

### **202.2023 REMOVE PAVEMENT SURFACE – MEDIUM CUT DRUM**

#### **Travel Way**

<b>Station</b>	<b>to</b>	<b>Station</b>	<b>Width (Ft)</b>	<b>Side</b>
34+23		34+73	12	Rt
34+23		34+73	12	Lt
65+00		100+00	12	Rt
65+00		100+00	12	Lt

#### **Shoulder**

<b>Station</b>	<b>to</b>	<b>Station</b>	<b>Width (Ft)</b>	<b>Side</b>
34+23		34+73	8	Rt
34+23		34+73	8	Lt
65+00		86+08	4	Rt
65+00		85+35	4	Lt
87+50		89+20	8	Lt
91+25		92+00	8	Lt
98+00		99+25	8	Rt

Millings/grindings will become property of the State of Maine and will be delivered and stockpiled at the Cherryfield Maintenance Camp in Cherryfield, ME. located at 187 Blackwoods Road. Payment for delivery and stockpiling will be incidental to Item 202.202. Stockpiling shall include all equipment, personnel, and all other necessary incidentals required to construct stockpiles as per normal construction practices.

## CONSTRUCTION NOTES

### **202.203 PAVEMENT BUTT JOINTS**

#### **Side Roads**

<b>Station</b>	<b>to</b>	<b>Station</b>	<b>Width (Ft)</b>	<b>Side</b>	<b>Offset (Ft)</b>	
59+20		59+60	40	Lt	30	High Street
65+00		65+24	24	Lt	5	Washington Street
67+80		69+00	100	Rt	10	Wyman Spur
91+33		91+93	60	Lt	5	Cottage Street
98+08		99+18	110	Rt	15	Bridge Street

#### **Paved Driveways**

Butt joints will be ground at approximately (10) driveways the offset will be determined in the field by the Resident.

### **403.209 HOT MIX ASPHALT 9.5MM, INCIDENTALS**

This item will be used for 23 driveways and entrances, sidewalks and curb ramps and/or as directed by the Resident.

### **411.10 UNTREATED AGGREGATE SURFACE COURSE, TRUCK MEASURE**

This item is to be used for gravel drives and the backing up of driveway aprons. Locations and offsets will be determined in the field by the Resident.

### **403.21041 HOT MIX ASPHALT 9.5 mm – POLYMER MODIFIED THIN LIFT SURFACE TREATMENT**

#### **Travel Way**

<b>Station</b>	<b>to</b>	<b>Station</b>	<b>Width (ft)</b>	<b>Side</b>
34+23		100+00	12	Lt
34+23		100+00	12	Rt

#### **Shoulder**

<b>Station</b>	<b>to</b>	<b>Station</b>	<b>Width (Ft)</b>	<b>Side</b>
34+23		59+30	8	Lt
59+30		59+70	8 to 4	Lt – shoulder width transition
59+70		84+65	4	Lt
84+65		85+35	4 to 8	Lt – shoulder width transition
87+50		89+20	8	Lt
34+23		60+75	8	Rt
60+75		61+25	8 to 4	Rt – shoulder width transition

## CONSTRUCTION NOTES

### **403.21041 HOT MIX ASPHALT 9.5 mm – POLYMER MODIFIED THIN LIFT SURFACE TREATMENT, CONT.**

<b>Shoulder</b>				
<b>Station</b>	<b>to</b>	<b>Station</b>	<b>Width (Ft)</b>	<b>Side</b>
61+25		85+58	4	Rt
85+58		86+08	4 to 8	Rt – shoulder width transition

### **Side Roads**

<b>Station</b>		<b>Side</b>
59+43	High Street	Lt
65+11	Washington Street	Lt
68+50	Wyman Spur	Rt
91+61	Cottage Street	Lt
98+55	Bridge Street (Route 1A)	Rt

### **424.22 ASPHALT RUBBER CRACK SEALER TYPE 2, APPLIED**

This item shall be applied to the travel way and shoulders after milling has been completed and before placement of HMA shim commences.

### **424.38 CRACK REPAIR – HOT POUR MASTIC**

This item shall be applied to the travel way and shoulders after milling has been completed and before placement of HMA shim commences.

### **604.18 ADJUST MANHOLE OR CATCH BASIN TO GRADE**

<b>Station</b>	<b>Side</b>
57+73	Rt
59+04	Rt
64+85	Lt
65+54	Rt
67+41	Rt
67+58	Lt
70+14	Lt
70+14	Rt
70+63	Lt
70+63	Rt
75+83	Rt
83+74	Lt
87+66	Lt

## CONSTRUCTION NOTES

### **608.08 REINFORCED CONCRETE SIDEWALK**

<b>Station</b>	<b>to</b>	<b>Station</b>	<b>Width (Ft)</b>	<b>Side</b>
87+02		87+17	5	Lt
90+82		91+12	5	Lt
90+95		91+15	5	Rt
95+80		95+95	10	Lt
95+67		95+82	5	Rt
95+67		95+77	5	Rt
97+90		98+20	5	Lt
97+92		98+11	5	Rt

### **608.26 CURB RAMP DETECTABLE WARNING FIELD**

<b>Station</b>	<b>to</b>	<b>Station</b>	<b>Width (Ft)</b>	<b>Side</b>
64+88		64+90	4	Lt
65+30		65+32	4	Lt
76+50		76+55	5	Lt
76+50		76+55	5	Rt
83+10		83+15	5	Lt
83+00		83+05	5	Rt
87+17		87+22	5	Lt
87+17		87+22	5	Rt
90+92		90+97	5	Lt
90+95		91+00	5	Rt
95+80		95+85	5	Lt
95+78		95+83	5	Rt
98+00		98+05	5	Lt
97+98		98+03	5	Rt

### **608.46 REGRADING SIDEWALK**

<b>Station</b>	<b>to</b>	<b>Station</b>	<b>Width (Ft)</b>	<b>Side</b>
64+70		64+90	4	Lt
65+30		65+45	4	Rt
76+50		76+72	5	Lt
83+10		83+35	5	Rt

### **609.11 VERTICAL CURB TYPE I**

<b>Station</b>	<b>to</b>	<b>Station</b>	<b>Length (Ft)</b>	<b>Side</b>
90+92		90+98	16	Lt

## CONSTRUCTION NOTES

### **609.31 CURB TYPE 3**

Station	to	Station	Length (Ft)	Side
64+70		64+85	15	Lt
65+32		65+45	13	Rt

### **609.38 RESET CURB TYPE I**

Station	to	Station	Length (Ft)	Side	notes
76+55		76+67	12	Lt	
76+42		76+55	13	Rt	remove appr. 5'
82+92		83+03	11	Rt	remove appr. 3'
83+10		83+30	20	Lt	remove appr. 2'
87+11		87+23	12	Rt	remove appr. 4'
87+02		87+25	23	Lt	remove appr. 7'
90+93		91+23	30	Lt	remove appr. 5'
90+93		91+15	22	Rt	remove appr. 7'
95+80		95+95	15	Lt	remove appr. 4'
95+67		95+82	15	Rt	remove appr. 5'
97+91		98+20	29	Lt	remove appr. 5'
97+92		97+99	7	Rt	
98+04		98+11	7	Rt	

### **627.733 4" WHITE OR YELLOW PAINTED PAVEMENT MARK LINE**

Center lines and edge lines shall be painted on all matched pavement within one week. Center line TOMs may be utilized until final striping and will be considered incidental to the contract.

Multilane sections and truck lanes must be striped daily on all matched pavement layers.

### **627.75 WHITE OR YELLOW PAVEMENT AND CURBING MARKING**

Station	Side	Description
65+08	Lt	Crosswalk - Washington St.
76+52	Lt/Rt	Crosswalk
83+12	Lt/Rt	Crosswalk
87+12	Lt/Rt	Crosswalk
95+82	Lt/Rt	Crosswalk

### **627.75 WHITE OR YELLOW PAVEMENT AND CURBING MARKING, CONT.**

Station	Side	Description
98+02	Lt/Rt	Crosswalk



## CONSTRUCTION NOTES

### **627.78 TEMPORARY PAVEMENT MARK LINE WHITE OR YELLOW**

Temporary center lines and edge lines shall be painted on all matched pavement within one week.

Multilane sections, truck lanes, and milled surfaces must be striped daily on all matched pavement layers.

Temporary lines will require one coat on the milled surface and one coat on the shim layer.

### **629.05, 631.12, 631.172 EQUIPMENT RENTAL ITEMS**

#### **Construct Pedestrian Landing**

<b>Station</b>	<b>to</b>	<b>Station</b>	<b>Side</b>
76+50		76+55	Rt
82+99		83+04	Rt

Other uses for Equipment Rental Items may include but not limited to grading existing material to back up pavement, cleaning existing ditches, cleaning beneath guardrail, and other miscellaneous activities as directed by the Resident.

# CROSS SLOPE SHEET

STA	LEFT Travel Lane Slope %	CL Cut Depth inch	RIGHT Travel Lane Slope %	STA	LEFT Travel Lane Slope %	CL Cut Depth inch	RIGHT Travel Lane Slope %	STA	LEFT Travel Lane Slope %	CL Cut Depth inch	RIGHT Travel Lane Slope %
62+50	0.00		-2.00	85+50		-1.50	-2.0				
62+00	1.50		-2.50	85+00	Depth						
61+50	3.50		-4.50	84+50	-1.5						
61+00	5.50		-6.00								
60+50	6.00			79+00	-1.5						
				78+50	-0.5		-2.0				
59+00		0.50		78+00	0.5		-2.5				
58+50		0.75		77+50	1.5		-3.0				
58+00	6.00	0.50		77+00	2.5		-3.5				
57+50	5.50		-6.00	76+50	3.0						
57+00	3.50		-4.50								
56+50	2.50		-2.50	75+00	3.0		-3.5	100+00	Depth	-1.50	Depth
56+00	1.00		-1.50	74+50	2.0		-2.5				
55+50	-0.50		0.00	74+00	0.5		-1.5	99+00		-1.50	
55+00	-2.00		1.50	73+50	-0.5		0.5	98+50		-1.00	
54+50	-3.50		2.50	73+00	-2.0		1.0	98+00		-1.50	
54+00	-4.00		4.00	72+50	-3.5		2.5				
				72+00	-4.5		4.0	97+00		-1.50	
48+50			4.00	71+50	-5.5		4.5	96+50		-1.00	
48+00	-4.00		3.00								
47+50	-2.50		2.50	67+00	-5.5	-1.50	4.5	94+50		-1.00	
47+00	-2.00		2.00	66+50	-3.5	-1.00	3.0	94+00		-1.50	
				66+00	-3.0	-0.50	1.0				
36+00		0.50	2.00	65+50		0.00	-1.0	89+00		-1.50	
35+50		0.00	1.50	65+00	-3.0	0.50	-2.0	88+50		-1.00	
35+00			0.00	64+50	-2.5			88+00		-1.50	
34+50		0.00	-1.50								
34+00	-2.00	-0.50	-2.00	63+50	-2.5			86+50		-1.50	
33+50	Match	-1.50	Match	63+00	-1.5			86+00		-1.00	Depth

- Notes:
1. Shoulders will be shimmed or milled in a manner so that the slope will not exceed -6% and/or is no flatter than the adjacent travelway excluding the highside of a super elevated curve.
  2. The mill cut depth at gutter line will be 1.5 inches with the exception of the conditions described in Note 1.
  3. Between station 85+00 to 100+00 LT & 86+00 to 100+00 RT, the Contractor will mill to the Centerline Depth as shown and a consistent depth of 1.5" at the edge of the travelway as specified in the typical.

**GENERAL NOTES**

1. Pavement thicknesses shown on the typical sections are intended to be nominal.
2. All joints between existing and proposed hot bituminous pavement shall be butted. Payment shall be made under Standard Specifications Item 202.203, Pavement Butt Joints.
3. Construct butt joints at all paved drives and entrances. Butt joints shall have a minimum width of 18 inches or as directed by the Resident.
4. Grind transition tapers at Catch Basins under Standard Specifications Item 202.203, Pavement Butt Joints in accordance with Standard Detail 609(05), Gutter Grade Transition at Catch Basin, or as directed by the Resident.
5. The Contractor shall place suitable existing or other material acceptable to the Resident on all pavement edges to allow a drop off no greater than the surface pavement thickness. The material shall be graded to match the existing inslope or as directed by the Resident before surface is placed. The Contractor will be paid under appropriate equipment rental items. Borrow is not authorized until all acceptable waste material has been utilized. Seed and Mulch will be paid for at the contract unit price.
6. All waste material not used on the project shall be disposed of off the project in acceptable waste areas reviewed by the Resident. Grading, seeding and mulching of waste areas shall be considered incidental.
7. All paved walks shall be constructed with 12 inches of aggregate subbase course gravel and 2 inches of hot mix asphalt unless otherwise noted in the Plans or directed by the Resident.
8. Any necessary cleaning of existing pavement prior to paving (or milling) shall be incidental to the related paving (or milling) items. This includes killing and removal of all vegetative matter.
9. When superelevation exceeds the slope of the low-side shoulder, the low-side shoulder will have same slope as the travelway.
10. Cross slopes for normal and superelevated sections will be straight unless otherwise directed by the Department.
11. The algebraic difference between travelway and shoulder cross slope shall not exceed 8 percent.

**GENERAL NOTES**

12. As directed by the Resident, all existing underdrain outlets shall be located, cleaned out and ditched as required or replaced as necessary. Payment will be made under appropriate Contract items.
13. In areas where curb Type 1 will be reset, the existing curb suitable for use as terminal ends shall be cut, if necessary, and utilized as such and will be paid for under Standard Specifications Item 609.38, Reset Curb Type 1. Required cutting will be paid under force account procedures.
14. Backing up bituminous or concrete slipform curb is incidental to the curb items. In areas where new bituminous or concrete slipform curb is designated to replace existing, the removal of the old bituminous or concrete slipform curb shall be incidental to the new curb. If called for on the Plans or directed by the Resident, loam or dirty borrow will be paid for separately.
15. Unless otherwise noted Seeding Method No. 1 shall be utilized on all lawns and developed areas; Seeding Method No. 2 shall be utilized on all other areas.
16. The Contractor will be responsible for maintaining all existing mailboxes to ensure that the mail will be deliverable. Payment for this work will be considered incidental to the contract
17. The Contractor will be responsible for maintaining all existing operational business directional signs (OBDS) to ensure that they are visible to the traveling public. Payment for this work will be considered incidental to the contract.
18. Any damage to the slopes caused by the Contractor's equipment, personnel, or operation shall be repaired to the satisfaction of the Resident. All work, equipment, and materials required to make repairs shall be at the Contractor's expense.
19. No separate payment for superintendent or foreman will be made for the supervision of equipment and layout of work being paid for under the equipment rental items.
20. "Undetermined locations" shall be determined by the Resident.
21. Stations referenced are approximate.
22. The Contractor will place appropriately-marked stakes at the following locations on the project: striping pattern changes, cross-slope changes, and every 500 feet for stationing. The Contractor will paint every full station (100 feet) on the existing roadway and will transfer the painted stationing through all intermediate lifts (not surface). Appropriately-sized striping pattern changes will be painted on surface. Stationing control must be placed before work can commence. Cross-slope and striping change controls must be placed before paving can commence.

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 first “Notice”.

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

**SPECIAL PROVISIONS****SECTION 104****Utilities****UTILITY COORDINATION**

The contractor has primary responsibility for coordinating their work with utilities and/or railroad 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 a to be undertaken in conjunction with this project. The following list identifies all known utilities 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 Contact Information:**

<b>Utility/Railroad</b>	<b>Aerial</b>	<b>Underground</b>	<b>Contact Name</b>	<b>Contact Number</b>
<b>Charter Communications</b>	<b>X</b>		<b>Erik Dougan</b>	<b>460-8414</b>
<b>Consolidated Communications</b>	<b>X</b>		<b>Brian Ouellette or John Wilkinson</b>	<b>907-9286 907-0258</b>
<b>Milbridge Water District</b>		<b>X</b>	<b>Earl Mckenney or Mark Mcklusky</b>	<b>214-1829 649-9545</b>
<b>Versant Power</b>	<b>X</b>		<b>Dave Perkins and Scott Richardson</b>	<b>949-3918 949-3970</b>

Temporary utility adjustments **ARE NOT** anticipated. If any unexpected utility relocations become necessary, they shall be scheduled in accordance with Section 104 of the Standard Specifications and shall be performed by the appropriate utility company in conjunction with the work by the Contractor. Should the Contractor choose to have any poles temporarily relocated, all work shall be done at the Contractor's request and expense, with no additional cost or schedule impacts to the Department.

Unless otherwise specified, any underground utility/railroad 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/railroad 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 unless otherwise specified herein.

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

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

It is the responsibility of the Contractor with the Utility Pole owner, to layout all of the proposed pole locations in the field prior to the start of utility relocations. Should any adjustments be needed, the Utility will document adjustments and inform the Department prior to utility relocations.

The Contractor shall provide the utilities access to the new pole locations. Construction of any spot cuts or fills in excess of 2 feet must be completed prior to utility relocations. All cut/fill depths listed on the pole list are approximate and will need to be verified by the contractor prior to poles being set. The Contractor shall prepare a plan for how access and the spot cuts and fills will be accomplished and what the schedule will be for performing the work. This plan will be discussed at the pre-construction utility meeting.

***\*\* Specific information regarding the line voltage can be requested from Versant Power\*\****

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

## **AERIAL**

### ***Summary:***

Utility	Pole Set	Run New/ Trans. Wires/ Cables	Remove Poles	Estimated Working Days
<b>Versant Power</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>95</b>
<b>Charter Communications</b>		<b>X</b>		<b>75</b>
<b>Consolidated Communications</b>		<b>X</b>		<b>75</b>
<b>Total:</b>				<b>245</b>

### ***Utility Specific Issues:***

#### **Versant Power**

Versant Power has approximately **216 poles** to set as per the pole list included in this specification and has cables to run/transfer to the new pole locations. The contractor shall notify Versant once all poles are staked, pole access is provided, and the clearing and spot cuts/fills are completed. **Versant will require two weeks to schedule their work after notice is received that the prep work is completed.** Once work is scheduled Versant estimates **95 working days to complete their work.** Versant will remove the old poles once all transfers are complete.

**Charter Communications**

Charter Communications has cables to run/transfer to the new pole locations. After Versant has completed their work, Charter shall begin their work. The contractor and/or Versant shall notify Charter once all of Versant's work is completed. **Charter will require two weeks to schedule their work after notice is received.** Once work is scheduled Charter estimates **75 working days to complete their work.**

**Consolidated Communications**

Consolidated Communications (CCI) has approximately **3 poles** to set as per the pole list included in this specification and has cables to run/transfer to the new pole locations. After Charter has completed their work, CCI shall begin their work. The contractor and/or Charter shall notify CCI once all of Charter's work is completed. **CCI will require two weeks to schedule their work after notice is received.** Once work is scheduled CCI estimates **75 working days to complete their transfer work.** CCI will remove the 3 old poles once all transfers are complete.

***Pole List:***

Existing Pole #	Existing Station	Left/Right		Existing Offset	Proposed Station	Left/Right		Proposed Offset	Comments	C/F
		LT	RT			LT	RT			
10	101+33.99	X		16.63					OK/BEHIND CURB	<2'
9	102+84.13	X		15.21					OK/BEHIND CURB	<2'
8[[188960]	104+12.82	X		21.13					OK LEAVE CORNER	<2'
BRACE POLE	104+26.08	X		34.11					OK LEAVE	<2'
1	105+17.34	X		134.97					OK/ON SPRUCE STREET/ OUTSIDE PROJECT LIMITS	<2'
6[188962]	106+15.63	X		17.8	<b>106+18</b>	X		<b>22'</b>	RELOCATE POLE CORNER	<2'
81/5[115057]	107+88.51	X		20.07	<b>107+85</b>	X		<b>26.5'</b>	RELOCATE POLE IN LINE	<2'
[188965]	107+92.05		X	19.01	<b>107+88</b>		X	<b>21'</b>	RELOCATE "D" POLE	<2'
4[115058]	109+30.08	X		24.02	<b>109+50</b>	X		<b>32'</b>	RELOCATE POLE IN LINE	<b>2.5'C</b>
	109+38.76	X		24.53					REMOVE DUAL POLE	
[115059]	109+74.64		X	33.04					OK/BEHIND DITCH PRIVATE SERVICE POLE	<2'
3[115060]	110+48.20	X		26.48	<b>110+50</b>	X		<b>33'</b>	RELOCATE POLE CORNER	<2'
SERVICE	110+91.71		X	79.15					OK/WAY OFF ROAD	<2'
2[115061]	112+19.89	X		28.39	<b>112+22</b>	X		<b>33'</b>	RELOCATE POLE IN LINE	<2'
1[115062]	113+85.22	X		27.72	<b>113+83</b>	X		<b>31.5'</b>	RELOCATE POLE IN LINE	<2'
1056[115063]	115+35.36	X		27.32	<b>115+38</b>	X		<b>30'</b>	RELOCATE POLE CORNER	<2'
1056S	115+53.43		X	31.55	<b>115+57</b>		X	<b>32'</b>	RELOCATE STUB POLE	<b>2'C</b>
1057[115065]	117+04.18	X		27.83	<b>116+96</b>	X		<b>30'</b>	RELOCATE POLE CORNER	<2'
NO #	117+06.77	X		28.33					REMOVE POLE STUB	<2'
	117+27.30		X	104.03					OK/WAY OFF ROAD	<2'
1058[115067]	118+66.18	X		33.33	<b>118+68</b>	X		<b>33'</b>	RELOCATE POLE CORNER	<2'
1059[115068]	119+98.98	X		32.09	<b>119+92</b>	X		<b>32'</b>	RELOCATE POLE CORNER	<2'
[115069] STUB	120+50.24		X	26.38	<b>120+52</b>		X	<b>30'</b>	RELOCATE VP STUB POLE	<2'
<b>1060</b> [115070]	120+73.93	X		32.21	<b>120+76</b>	X		<b>32'</b>	RELOCATE POLE CORNER	<2'
(1060)[115079]	121+26.62	X		19.78					REMOVE POLE	<2'
1061[115013]	122+70.14	X		19.6	<b>122+70</b>	X		<b>27'</b>	RELOCATE POLE CORNER	<2'
VP STUB	122+80.69		X	23.84					OK/NO DITCH	<2'



1062S[115015]	124+29.67		X	26.38	<b>124+32</b>		X	<b>24'</b>	RELOCATE STUB POLE	<2'
1062[115016]	124+30.38	X		21.57	<b>124+32</b>	X		<b>27'</b>	RELOCATE POLE REVERSE	<2'
1063[115017]	125+34.33	X		24.62	<b>125+28</b>	X		<b>30.5'</b>	RELOCATE POLE IN LINE	<2'
1064[115019]	126+46.55	X		26.22	<b>126+45</b>	X		<b>32.5'</b>	RELOCATE POLE IN LINE	<2'
1065[115020]	127+64.61	X		26.77	<b>127+65</b>	X		<b>32.5'</b>	RELOCATE POLE IN LINE	<2'
1066[115022]	128+90.31	X		26.48	<b>128+92</b>	X		<b>30'</b>	RELOCATE POLE REVERSE	<2'
1066S[115021]	128+91.68		X	27.73	<b>128+92</b>		X	<b>30'</b>	RELOCATE STUB POLE	<2'
1067S[168527]	130+30.60		X	26.41	<b>130+31</b>		X	<b>27'</b>	RELOCATE STUB POLE	<2'
1067[168526]	130+31.30	X		25.01	<b>130+31</b>	X		<b>30'</b>	<b>RELOCATE POLE REVERSE</b>	<2'
1068[168424]	131+49.38	X		25.04	<b>131+50</b>	X		<b>30'</b>	<b>RELOCATE POLE REVERSE</b>	
1068S[168425]	131+51.36		X	26.16	<b>131+50</b>		X	<b>27'</b>	RELOCATE POLE	
1069[168423]	132+36.27	X		31.05	<b>132+38</b>	X		<b>34.5'</b>	RELOCATE POLE IN LINE	<2'
1	132+58.02		X	35.82	<b>132+58</b>		X	<b>36'</b>	REPLACE POLE CUT/KICK CCI RISER POLE	<2'
25[168422]	133+12.67	X		33.56	<b>133+16</b>	X		<b>36.5'</b>	RELOCATE POLE IN LINE	<2'
[168421]	133+18.13		X	33.35					OK/BEHIND DITCH CCI BLDG VP SERVICE POLE	<2'
26[168420]	134+63.08	X		32.49	<b>134+66</b>	X		<b>36'</b>	RELOCATE POLE IN LINE	<2'
<b>35 MPH INCREASES TO 50 MPH @ 134+80</b>										
26.5[168417]	135+23.78	X		30.47	<b>135+22</b>	X		<b>35'</b>	RELOCATE POLE IN LINE	<2'
27[168416]	136+17.41	X		29.06	<b>136+19</b>	X		<b>32.5'</b>	RELOCATE POLE IN LINE	
28[168593]	137+77.23	X		26.96	<b>137+75</b>	X		<b>29.5'</b>	RELOCATE POLE REVERSE	
28S168592]	137+77.71		X	28.0	<b>137+75</b>		X	<b>26'</b>	RELOCATE POLE	<2'
(28)	137+79.30	X		26.51					REMOVE DUAL POLE	<2'
122904 VP STB	138+13.40		X	27.82					OK/BEHIND DITCH	<2'
28.5[168591]	138+44.71	X		26.04	<b>138+47</b>	X		<b>30.5'</b>	RELOCATE POLE IN LINE	<2'
29[168590]	139+50.00	X		26.18	<b>139+64</b>	X		<b>30'</b>	RELOCATE POLE REVERSE	<2'
29S[168589]	139+54.67		X	32.22	<b>139+64</b>		X	<b>30'</b>	RELOCATE STUB POLE	<2'
30[168587]	140+96.24	X		32.25	<b>140+99</b>	X		<b>33.5'</b>	RELOCATE POLE IN LINE	<2'
NO #	141+30.43		X	56.65					OK	<2'
NO #	142+34.42	X		34.63					REMOVE ORPHAN POLE	<2'
31[168586]	142+45.81	X		33.1	<b>142+48</b>	X		<b>33'</b>	RELOCATE POLE REVERSE	<2'
31S[168585]	142+48.78		X	25.03	<b>142+48</b>		X	<b>25'</b>	RELOCATE STUB POLE	2'F
32S[168584]	144+27.76		X	30.4	<b>144+32</b>		X	<b>25'</b>	RELOCATE STUB POLE	2-6.5'F
32[122638]	144+29.97	X		33.03	<b>144+32</b>	X		<b>33'</b>	RELOCATE POLE REVERSE	2-5.5'F
33D[168583]	145+49.54		X	25.35	<b>145+33</b>		X	<b>25'</b>	RELOCATE "D" POLE	<2'
33[168582]	145+63.39	X		32.38	<b>145+50</b>	X		<b>34'</b>	RELOCATE POLE IN LINE	<2'
	146+38.84		X	154.59					OK	<2'
34[168581]	146+85.83	X		29.36	<b>146+89</b>	X		<b>32'</b>	RELOCATE POLE IN LINE	5'C
35[168575]	147+98.90	X		25.52	<b>148+01</b>	X		<b>33.5'</b>	RELOCATE POLE CORNER	2.5-5'C
35S[168576]	148+01.20		X	27.27	<b>148+01</b>		X	<b>33.5'</b>	RELOCATE STUB POLE	5'C
36[168574]	149+38.68	X		25.72	<b>149+42</b>	X		<b>32'</b>	RELOCATE POLE CORNER	3.5'C
[168567]	150+44.63		X	21.74					VP SERVICE POLE	<2'
37[168566]	150+88.05	X		31.85	<b>150+91</b>	X		<b>32'</b>	RELOCATE POLE CORNER	<2'
38[81016]	152+45.78	X		31.47	<b>152+76</b>	X		<b>30'</b>	RELOCATE POLE CORNER	<2'
39[168565]	153+77.90	X		29.82	<b>153+81</b>	X		<b>29.5'</b>	RELOCATE POLE IN LINE	<2'

40[168563]	155+00.45	X		29.06	<b>155+02</b>	X		<b>29.5'</b>	RELOCATE POLE IN LINE	<2'
STUB UNUSD	156+17.28		X	35.05					PRIVATE POLE	<2'
41[168562]	156+57.73	X		28.44	<b>156+60</b>	X		<b>29'</b>	RELOCATE POLE IN LINE	<2'
42[168561]	157+87.89	X		28.07	<b>157+91</b>	X		<b>29'</b>	RELOCATE POLE IN LINE	<2'
43[168560]	159+44.02	X		28.74	<b>159+46</b>	X		<b>29'</b>	RELOCATE POLE IN LINE	<2'
44[168558]	161+00.20	X		35.07	<b>161+04</b>	X		<b>29.5'</b>	RELOCATE POLE CORNER	<2'
45[168556]	162+55.10	X		30.31	<b>162+61</b>	X		<b>31'</b>	RELOCATE POLE CORNER	<2'
46[168555]	163+89.78	X		25.32	<b>163+92</b>	X		<b>27.5'</b>	RELOCATE POLE IN LINE	<2'
47[168554]	165+20.33	X		27.46	<b>165+22</b>	X		<b>29.5'</b>	RELOCATE POLE IN LINE	<2'
48[168553]	166+74.61	X		29.22	<b>166+78</b>	X		<b>32'</b>	RELOCATE POLE IN LINE	<2'
49[168650]	168+24.02	X		29.26	<b>168+27</b>	X		<b>32'</b>	RELOCATE POLE IN LINE	<2'
50[168649]	169+80.51	X		30.33	<b>169+83</b>	X		<b>30'</b>	RELOCATE POLE REVERSE	<2'
50S					<b>169+83</b>		X	<b>30'</b>	ADD STUB POLE	
51[168648]	171+48.62	X		31.82	<b>171+51</b>	X		<b>33.5'</b>	RELOCATE POLE IN LINE	<2'
52[168647]	173+13.02	X		31.93	<b>173+16</b>	X		<b>35'</b>	RELOCATE POLE IN LINE	<2'
<b>53S</b> [125031]	174+54.67		X	26.78	<b>174+52</b>		X	<b>25'</b>	RELOCATE STUB POLE	
53[168645]	174+58.46	X		31.53	<b>174+52</b>	X		<b>32'</b>	RELOCATE POLE REVERSE	<2'
	174+60.41	X		31.17					REMOVE DUAL POLE	
54[168644]	176+88.49	X		31.85	<b>176+91</b>	X		<b>30.5'</b>	RELOCATE POLE IN LINE	<2'
55[168643]	178+64.43	X		32.41	<b>178+62</b>	X		<b>27.5'</b>	RELOCATE POLE IN LINE	<2'
	178+66.37	X		31.58					REMOVE DUAL POLE	
56[122640]	180+00.59	X		27.71	<b>180+03</b>	X		<b>27.5'</b>	RELOCATE POLE IN LINE	<b>2.5'F</b>
57[168642]	181+55.75	X		27.76	<b>181+58</b>	X		<b>30'</b>	RELOCATE POLE CORNER	<2'
58[168641]	183+12.35	X		32.21	<b>183+10</b>	X		<b>32'</b>	RELOCATE POLE CORNER	<2'
59[168640]	184+69.78	X		28.62	<b>184+72</b>	X		<b>30'</b>	RELOCATE POLE CORNER	<2'
60[168639]	186+21.66	X		29.64	<b>186+24</b>	X		<b>30'</b>	RELOCATE POLE IN LINE	<2'
WITH METER	186+65.91		X	116.17					PRIVATE SERVICE POLE	<2'
61[168638]	187+74.43	X		34.5	<b>187+77</b>	X		<b>34.5'</b>	RELOCATE POLE IN LINE	<2'
62[168637]	189+59.46	X		36.13	<b>189+45</b>	X		<b>36'</b>	RELOCATE POLE IN LINE	<2'
62S					<b>189+45</b>		X	<b>30'</b>	ADD STUB POLE	<2'
63S	191+10.23		X	29.89	<b>191+10</b>		X	<b>30'</b>	RELOCATE STUB POLE	<2'
63[168635]	191+12.49	X		29.98	<b>191+10</b>	X		<b>30'</b>	RELOCATE POLE REVERSE	<2'
64[168633]	192+66.67	X		30.85	<b>192+64</b>	X		<b>32'</b>	RELOCATE POLE REVERSE	<2'
64S					<b>192+64</b>		X	<b>25'</b>	ADD STUB POLE	
65[168631]	194+00.10	X		33.95	<b>194+02</b>	X		<b>35'</b>	RELOCATE POLE IN LINE	<2'
VP STUB									ADD VP STUB POLE	
66S[168630]	195+50.07		X	26.3	<b>195+55</b>		X	<b>30'</b>	RELOCATE STUB POLE	<2'
66[168629]	195+52.90	X		33.72	<b>195+55</b>	X		<b>34'</b>	RELOCATE POLE REVERSE	<2'
67[168628]	196+86.23	X		35.94	<b>196+89</b>	X		<b>35'</b>	RELOCATE POLE IN LINE	<2'
68[122642]	198+65.06	X		36.59	<b>198+67</b>	X		<b>34'</b>	RELOCATE POLE CORNER	<2'
69[168626]	200+15.22	X		22.97	<b>200+17</b>	X		<b>24'</b>	RELOCATE POLE REVERSE	<2'
69S[168627]	200+21.08		X	23.73	<b>200+17</b>		X	<b>24'</b>	RELOCATE STUB POLE	<2'
70S[168622]	201+61.14		X	23.74	<b>201+50</b>		X	<b>24'</b>	RELOCATE STUB POLE	<2'
70[168623]	201+64.41	X		23.46	<b>201+50</b>	X		<b>24'</b>	RELOCATE POLE REVERSE	<2'
71D[168261]	203+25.68		X	29.3	<b>203+23</b>		X	<b>30'</b>	RELOCATE "D" POLE	<2'
71[122643]	203+27.33	X		37.56	<b>203+30</b>	X		<b>34.5'</b>	RELOCATE POLE IN LINE	<2'

SERVICE	204+13.81		X	68.25				OK	<2'
72[168618]	204+72.57	X		32.95	<b>204+75</b>	X		33'	RELOCATE POLE CORNER <2'
	204+74.22	X		32.34					REMOVE DUAL POLE
73	206+22.25	X		38.28	<b>206+24</b>	X		38'	RELOCATE POLE CORNER <2'
74[168616]	207+75.60	X		27.95	<b>207+78</b>	X		28'	RELOCATE POLE CORNER <2'
75[168615]	209+18.83	X		27.91	<b>209+50</b>	X		23.5'	RELOCATE POLE IN LINE 2'F
76[168614]	210+74.45	X		34.39	<b>210+77</b>	X		34'	RELOCATE POLE CORNER 2'F
NOT USED	212+18.40		X	48.84					OK/BEHIND DITCH <2'
77[168613]	212+26.49	X		30.07	<b>212+28</b>	X		29.5'	RELOCATE POLE IN LINE 2-3'F
78[168610]	213+79.82	X		26.79	<b>213+83</b>	X		30'	RELOCATE POLE CORNER <2'
79[168609]	215+29.99	X		31.23	<b>215+32</b>	X		31'	RELOCATE POLE CORNER <2'
80[168608]	216+81.77	X		24.57	<b>216+84</b>	X		30'	RELOCATE POLE CORNER <2'
81[168607]	218+36.91	X		24.75	<b>218+39</b>	X		30'	RELOCATE POLE CORNER <2'
	219+80.26		X	81.77					OK <2'
82[168603]	220+03.13	X		25.28	<b>220+05</b>	X		30'	RELOCATE POLE IN LINE <2'
83[168603]	221+61.96	X		27.72	<b>221+64</b>	X		30'	RELOCATE POLE IN LINE <2'
84[168601]	223+30.64	X		30.99	<b>223+25</b>	X		30'	RELOCATE POLE REVERSRE <2'
84S					<b>223+25</b>		X	32'	
	224+86.63	X		29.59					REMOVE DUAL POLE
85[122645]	224+89.39	X		30.29	<b>224+84</b>	X		27.5'	RELOCATE POLE REVERSE <2'
85S					<b>224+84</b>		X	24'	ADD STUB POLE
86[168450]	226+44.61	X		37.9	<b>226+47</b>	X		41.5'	RELOCATE POLE IN LINE <2'
87[168449]	227+91.71	X		37.45	<b>228+02</b>	X		36.5'	RELOCATE POLE REVERSE 4.5'C
87S					<b>228+02</b>		X	31'	ADD STUB POLE
88S[168448]	229+16.13		X	30.32	<b>229+21</b>		X	31'	RELOCATE STUB POLE <2'
88[168447]	229+19.02	X		27.63	<b>229+21</b>	X		33'	RELOCATE POLE REVERSE <2'
NO# SERVICE	230+02.05	X		56.39					OK/BEHIND DITCH <2'
89[168446]	230+85.49	X		28.51	<b>230+88</b>	X		33'	RELOCATE POLE IN LINE <2'
90[168445]	232+47.78	X		28.5	<b>232+50</b>	X		33'	RELOCATE POLE IN LINE <2'
91[168444]	234+21.66	X		30.14	<b>234+24</b>	X		33'	RELOCATE POLE IN LINE <2'
92[168443]	235+82.31	X		31.31	<b>235+84</b>	X		33'	RELOCATE POLE IN LINE <2'
NO#	<del>237+15.52</del>		<del>X</del>	<del>36.57</del>					POLE REMOVED ALLREADY <2'
93S[168441]	237+16.08		X	28.37	<b>237+04</b>		X	30'	RELOCATE STTUB POLE <2'
93[168440]	237+17.47	X		29.24	<b>237+04</b>	X		32'	RELOCATE POLE REVERSE <2'
94[168439]	239+00.39	X		33.8	<b>239+02</b>	X		34'	RELOCATE POLE IN LINE <2'
95[168437]	240+52.46	X		33.61	<b>240+56</b>	X		32'	RELOCATE POLE REVERSE <2'
95S[168438]	240+53.08		X	26.98	<b>240+56</b>		X	25'	RELOCATE STUB POLE <2'
SERVICE	241+93.01		X	195.46					PRIVATE SERVICE POLE <2'
96[168433]	242+11.16	X		30.8	<b>242+18</b>	X		32'	RELOCATE POLE IN LINE <2'
97[168432]	244+05.60	X		29.87	<b>244+12</b>	X		32'	RELOCATE POLE IN LINE <2'
98[168431]	245+74.61	X		28.94	<b>245+77</b>	X		32'	RELOCATE POLE IN LINE <2'
99[168430]	247+21.78	X		28.78	<b>247+25</b>	X		32'	RELOCATE POLE IN LINE <2'
100[168429]	248+90.67	X		28.23	<b>248+50</b>	X		32.5'	RELOCATE POLE CORNER <2'
101[168428]	250+54.68	X		31.08	<b>250+57</b>	X		31'	RELOCATE POLE CORNER <2'
102[168427]	252+32.17	X		39.78	<b>252+29</b>	X		30'	RELOCATE POLE CORNER <2'
103[168426]	253+49.58		X	25.31	<b>253+52</b>		X	31'	RELOCATE POLE CORNER <2'

NO #	254+28.72	X		60.08				OK	<2'
104[168375]	255+05.59		X	39.77	255+05		X	37'	RELOCATE POLE REVERSE
104S					255+05	X		31'	ADD STUB POLE
[115117]	256+11.32	X		40.07					VP SERVICE POLE
105[168373]	256+69.23		X	31.9	256+66		X	31'	RELOCATE POLE REVERSE
105S[168374]	256+70.45	X		29.69	256+66	X		31'	RELOCATE STUB POLE
106[168368]	258+06.38		X	30.84	257+98		X	31'	RELOCATE POLE IN LINE
BRACE POLE	258+12.51		X	41.14	257+98		X		RELOCATE POLE
107[122646]	259+47.60		X	30.72	259+46		X	31'	RELOCATE POLE IN LINE
108[122647]	261+13.47		X	32.51	261+11		X	31'	RELOCATE POLE IN LINE
109[122648]	262+95.71		X	36.04	262+96		X	31'	RELOCATE POLE IN LINE
110D[168366]	263+72.78	X		129.41					OK
BRACE POLE	264+79.87		X	23.99					REMOVE POLE
110[122644]	264+86.28		X	33.53	264+89		X	31'	RELOCATE POLE REVERSE
110S					264+89	X		25'	ADD STUB POLE
111[168365]	266+30.58		X	32.1	266+28		X	32'	RELOCATE POLE REVERSE
111S					266+28	X		33'	ADD STUB POLE
112[101814]	267+91.05		X	38.4	268+00		X	38'	RELOCATE POLE REVERSE
112S					268+00	X		31'	ADD STUB POLE
113[168364]	269+42.82		X	41.2	269+41		X	41.5'	RELOCATE POLE IN LINE
114[168362]	270+89.51		X	32.14	270+93		X	31'	RELOCATE POLE REVERSE
114S[168631]	270+93.44	X		28.7	270+93	X		32'	RELOCATE STUB POLE
115[168360]	272+51.80		X	31.54	272+50		X	33.5'	RELOCATE POLE REVERSE
116[168359]	274+20.40		X	29.7	274+35		X	31'	RELOCATE POLE IN LINE
	274+23		X	29.85					REMOVE DUAL POLE
117[168358]	275+73.33		X	28.07	275+71		X	29.5'	RELOCATE POLE IN LINE
BRACE POLE	275+73.98		X	41.91	275+71		X		RELOCATE BRACE POLE
118[168357]	277+44.83		X	24.9	277+43		X	26.5'	RELOCATE POLE IN LINE
119[168356]	279+17.96		X	22.93	279+16		X	27'	RELOCATE POLE CORNER
120[168355]	280+71.85		X	29.67	280+69		X	28'	RELOCATE POLE CORNER
121[168475]	282+26.77		X	31.23	282+24		X	31'	RELOCATE POLE CORNER
122[168474]	283+60.48	X		28.32	283+80	X		31'	RELOCATE POLE CORNER
123[168473]	285+23.38	X		30.77	285+26	X		31'	RELOCATE POLE REVERSE
123S[168472]	285+24.71		X	26.58	285+26		X	30'	RELOCATE STUB POLE
124[168470]	286+73.06	X		31.25	286+75	X		31'	RELOCATE POLE REVERSE
124S[168471]	286+73.92		X	26.91	286+75		X	30'	RELOCATE STUB POLE
125S[168469]	288+17.57		X	34.67	288+22		X	36'	RELOCATE STUB POLE
125[168468]	288+20.31	X		29.43	288+22	X		31'	RELOCATE POLE REVERSE
126[168467]	289+53.19	X		34.8	289+55	X		37.5'	RELOCATE POLE IN LINE
127S[168466]	291+09.71		X	46.35	291+09		X	30'	RELOCATE STUB POLE
127[168465]	291+10.53	X		27.18	291+09	X		31'	RELOCATE POLE REVERSE
128[168464]	292+83.82	X		36.02	292+86	X		32'	RELOCATE POLE REVERSE
128S					292+86		X	30'	ADD STUB POLE
129[168463]	294+63.23	X		34.89	294+65	X		32'	RELOCATE POLE IN LINE
130[168462]	296+25.50	X		34.91	296+23	X		32'	RELOCATE POLE IN LINE
131[168461]	297+96.02	X		33.82	297+96	X		32'	RELOCATE POLE IN LINE



132[168458]	299+71.58	X		32.06	<b>299+74</b>	X		32'	RELOCATE POLE IN LINE	<2'
133[168456]	301+45.60	X		32.18	<b>301+44</b>	X		32'	RELOCATE POLE IN LINE	<2'
134[168457]	303+19.61	X		32.13	<b>303+22</b>	X		32'	RELOCATE POLE IN LINE	<2'
135[168455]	304+91.14	X		32.23	<b>304+95</b>	X		32'	RELOCATE POLE CORNER	<2'
136[122649]	306+65.48	X		31.65	<b>306+68</b>	X		32'	RELOCATE POLE CORNER	<2'
137[168453]	308+38.69	X		30.38	<b>308+42</b>	X		31'	RELOCATE POLE CORNER	<2'
138[168452]	310+09.22	X		33.03	<b>310+12</b>	X		33'	RELOCATE POLE CORNER	<2'
139[168451]	311+56.05	X		28.84	<b>311+58</b>	X		31'	RELOCATE POLE CORNER	<2'
142[168500]	313+05.77	X		31.19	<b>312+75</b>	X		31'	RELOCATE POLE CORNER	<2'
143[168499]	314+50.47		X	30.28	<b>314+53</b>		X	30'	RELOCATE POLE CORNER	<2'
144S[168494]	316+18.69	X		31.07	<b>316+25</b>	X		30'	RELOCATE STUB POLE	<2'
144[168495]	316+23.08		X	27.59	<b>316+25</b>		X	31'	RELOCATE POLE REVERSE	<2'
542 TRAN LN	316+78.04		X	59.2					OK	<2'
543 TRAN LN	317+16.83		X	433.18					OK	<2'
145[168493]	317+84.60		X	27.9	<b>317+87</b>		X	28'	RELOCATE POLE REVERSE	<2'
145S					<b>317+87</b>	X		30'	ADD STUB POLE	
541 TRAN LN	318+57.52	X		508.69					OK	<2'
146[168492]	319+56.41		X	26.58	<b>319+47</b>		X	28'	RELOCATE POLE IN LINE	<2'
147[168491]	321+26.40		X	27.73	<b>321+30</b>		X	28'	RELOCATE POLE IN LINE	<2'
<b>50 MPH DECREASES TO 40 MPH @ 321+75</b>										
148[168490]	322+83.16		X	27.1	<b>322+90</b>		X	28'	RELOCATE POLE IN LINE	<2'
149D[122650]	324+12.06	X		32.4	<b>323+70</b>	X		40'	RELOCATE "D" POLE	<2'
149[168488]	324+53.62		X	27.18	<b>324+51</b>		X	28'	RELOCATE POLE IN LINE	<2'
BRACE POLE	326+17.62		X	40.65	<b>326+15</b>		X		RELOCATE BRACE POLE	<2'
150[168483]	326+17.71		X	27.32	<b>326+15</b>		X	28'	RELOCATE POLE IN LINE	<2'
[168395]	327+63.23		X	25.88					REMOVE DUAL POLE	
2	327+63.65	X		153.84					OK	<2'
[168396]	327+63.83	X		26.94					REMOVE DUAL POLE	
151X	327+70.46	X		26.81	<b>327+63</b>	X		27'	RELOCATE POLE	<2'
151	327+73.34		X	26.18	<b>327+63</b>		X	28'	RELOCATE POLE IN LINE	<2'
152[168393]	329+47.66		X	27.44	<b>329+50</b>		X	28'	RELOCATE POLE IN LINE	<2'
153D					<b>330+75</b>	X		35'	ADD "D" POLE	
153[168392]	331+16.84		X	27.79	<b>331+50</b>		X	28'	RELOCATE POLE IN LINE	<2'
154[168391]	332+82.27		X	27.7	<b>332+80</b>		X	28'	RELOCATE POLE IN LINE	<2'
	334+37.99		X	26.55					REMOVE DUAL POLE	
(155D)155S [168390]	334+40.51	X		22.15	<b>334+36</b>	X		25'	RELOCATE STUB POLE	<2'
155[168389]	334+41.37		X	26.13	<b>334+36</b>		X	28'	RELOCATE POLE REVERSE	<2'
156S[122637]	335+99.69	X		29.74	<b>336+08</b>	X		30'	RELOCATE STUB POLE	<2'
156[168388]	336+05.91		X	24.53	<b>336+08</b>		X	30'	RELOCATE POLE CORNER	<2'
157[168383]	337+86.40		X	22.89	<b>337+84</b>		X	28'	RELOCATE POLE REVERSE	<2'
157S[168382]	337+90.05	X		25.91	<b>337+84</b>	X		30'	RELOCATE STUB POLE	<2'
158[168381]	339+49.13		X	28.36	<b>339+47</b>		X	28'	RELOCATE POLE REVERSE	<2'
158S					<b>339+47</b>	X		30'	ADD STUB POLE	
159[168379]	341+04.08		X	33.59	<b>341+01</b>		X	34.5'	RELOCATE POLE IN LINE	<2'
160[168378]	342+63.78		X	37.07	<b>342+62</b>		X	38.5'	RELOCATE POLE IN LINE	<2'

161[168377]	344+21.21		X	39.21	<b>344+24</b>		X	<b>39'</b>	RELOCATE POLE REVERSE	<2'
161S					<b>344+24</b>	X		<b>34'</b>	ADD STUB POLE	
162[168376]	345+43.67		X	41.17	<b>345+41</b>		X	<b>42'</b>	RELOCATE POLE IN LINE	<2'
163[258370]	346+66.40		X	44.08	<b>346+68</b>		X	<b>44'</b>	RELOCATE POLE	<2'
[122688]	346+83.39		X	44.98					REMOVE DUAL POLE	
CUT FLUSH	347+61.73		X	57.83					REMOVE POLE STUB	<2'
164[168320]	347+86.70		X	81.65					OK	<2'
89/1[168317]	348+57.01	X		26.02	<b>348+59</b>	X		<b>26'</b>	RELOCATE POLE CORNER	<2'
STUB[115101]	350+53.41		X	30.25	<b>350+54</b>		X	<b>32'</b>	REPLACE VP STUB	<2'
2	350+67.22	X		29.03	<b>350+69</b>	X		<b>29'</b>	RELOCATE POLE CORNER	2-2.5'F
2.5[168312]	352+28.31	X		21.99	<b>352+30</b>	X		<b>23'</b>	RELOCATE POLE IN LINE	<2'
3PB	353+97.77	X		48.08		X			RELOCATE BRACE POLE	<2'
3[168305]	354+02.56	X		33.79	<b>354+01</b>	X		<b>34'</b>	RELOCATE POLE CORNER	<2'
2 FT HIGH	354+04.20	X		32.93					REMOVE POLE STUB	<2'
4[168304]	356+25.84		X	30.93	<b>356+28</b>		X	<b>33'</b>	REPLACE	<2'
<b>40 MPH DECREASES TO 25 MPH @ 357+00</b>										
4"X 4" STEEL	357+84.31		X	54.4					OK	<2'
89\5	358+48.58		X	34.79	<b>358+37</b>		X	<b>36'</b>	REPLACE	<2'
89/7	359+88.57	X		288.43					OK	<2'
NO #	360+49.06	X		-274.07					OK	<2'
6S					<b>16+70</b>	X		<b>38'</b>	ADD STUB POLE	
89/6	360+62.18	X		90.35	<b>16+87</b>		X	<b>40'</b>	REPLACE	<2'
6SS					<b>361+28</b>		X	<b>24'</b>	ADD STUB POLE	
6	366+02.18		X	89.54					OK	<2'
77	366+12.57	X		67.78					OK	<2'
STREET LGT	366+41.35	X		34.54					OK	<2'

*Aerial utility lines are located on the project and will remain in place throughout the duration of the project and OSHA aerial working clearances will need to be adhered to when using equipment around power lines. The contractor will be required to work around this line configuration and shall plan and conduct their work accordingly.*

## UNDERGROUND

### Summary:

Utility	Summary of Work	Estimated Working Days
Milbridge Water District	Adjust water gate valves	10
<b>Total:</b>		<b>10</b>

### Utility Specific Issues:

#### **Milbridge Water District**

Milbridge Water District has water mains located within the project limits. The District has approximately **10 water gate valves** to adjust to grade. The District intends to lower their gate valves prior to pavement removal, where needed. The District intends to loosen and raise the gate valves prior to paving surface and estimates **10 working day** to complete the adjustments. **The Contractor will be responsible to make final grade**

**adjustments in conjunction with the paving operations.** The contractor shall provide **two weeks notification** to The District for any and all work to be performed by The District. The District also has a few water gate valves located in the slopes or outside the work limits that will not be impacted and will not need to be adjusted.

**PLEASE NOTE**

**Some of the utilities have underground service facilities located within the project limits. Underground service transfers have been included in the aerial working days estimates. No impacts are anticipated to their service facilities.**

**PLEASE NOTE**

All underground utilities require **3 working days' notice** for any/all excavation or any other subsurface work around any underground facilities to schedule an on-site representative to be present. The contractor shall hand dig around all the underground facilities.

**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 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 pre-utility meeting, as defined in Subsection 104.4.6 of the Standard Specifications, **is** required.

**GENERAL INFORMATION**

This Special Provision outline the arrangements that have been made by the Department for utility/railroad work to be undertaken in conjunction with this project. The following table identifies all known utilities having facilities presently located within the project limits.

Utilities have been notified and shall be furnished a project booklet electronically.

Utility Overview & Contact Information				
Utility	Aerial	Subsurface	Contact Person	Contact Phone
Consolidated Communications of Northern New England Company	X		Brian Ouellette	907-9286
Versant Power	X		David Perkins	949-3918
Spectrum-Charter Communications	X		James Allen	659-3651
FirstLight Fiber	X		Jarrod Smith	603-696-1100
GWI	X		Tom Gilmore	286-7479
Milbridge Water District		X	Billy Phinney	462-8932
Town of Milbridge sewer department		X	Lewis Pinkham	598-6330

Temporary utility adjustments **are not** anticipated as part of this project. If any unexpected utility relocations become necessary, they shall be scheduled in compliance with Section 104 of the Standard Specifications and shall be performed by the appropriate utility company in conjunction with the work by the Contractor. Should the contractor choose to have any poles temporarily relocated, all work shall be done at the Contractor's request and expense, with no additional cost or schedule impacts to the Department.



Any adjustments are to be made by the respective utility unless otherwise specified herein.

Utility working days are Monday through Friday. Times are estimated based on a single crew for each utility. Any times and dates mentioned are **estimates only** and dependent upon favorable weather, working conditions, and freedom from emergencies.

The contractor shall notify all utility/railroad companies **ten (10) working days** prior to beginning any work on this project.

*\*\* Specific information regarding the line voltage can be requested from Versant Power\*\**

### **AERIAL**

Aerial utility adjustments **are not** anticipated as part of this project. If any unexpected utility relocations become necessary, they shall be scheduled in compliance with Section 104 of the Standard Specifications and shall be done by the utilities in conjunction with the work by the Contractor.

Attention needs to be made to existing aerial service lines crossing the highway corridor at intermediate locations through-out the project limits. Each of the existing service lines provide a source of power and/or communication to the surrounding residents and/or commercial properties.

### **SUBSURFACE**

Subsurface utility adjustments **are** anticipated as part of this project. If any unexpected utility relocations become necessary, they shall be scheduled in compliance with Section 104 of the Standard Specifications and shall be done by the utilities in conjunction with the work by the Contractor.

#### ***Utility Specific Information:***

##### ***Summary:***

Utility	Summary of Work	Estimated Working Days
Milbridge Water District (MWD)	adjusting twenty-one (21) water valve covers	20
Town of Milbridge sewer department	adjusting two (2) sewer rims/frames	5
<b>Total:</b>		<b>25</b>

#### **Milbridge Water District (MWD):**

Milbridge Water District has subsurface water facilities existing along the project corridor. The subsurface facilities that exist and impact the milling/paving work activities consist of twenty-one (21) water valve covers. MWD shall self-perform all necessary adjustments/removals/re-installs to their existing water facilities. Prior to performing excavation/paving prep work activities, the contractor is responsible for confirming with MWD representative the locations of the existing water facilities. MWD requires **ten (10) working days** prior notice to schedule their involvement.

When existing water valve cover adjustments are required, the contractor shall be responsible for raising the water valve covers to the final pavement elevation. The utility representative is always responsible for loosening the water valve covers prior to the placement of new pavement surfaces. The payment associated with the contractor raising the water valve covers shall be incidental to the paving bid item.

**Town of Milbridge sewer department:**

The town of Milbridge has subsurface sewer facilities existing along the project corridor. The subsurface facilities that exist and impact the milling/paving work activities consist of nine (9) existing sewer rims/frames. The town shall self-perform adjustments/removals/re-installs to two (2) existing sewer rims/frames with the intent to mill/pave around the other seven (7). Prior to performing excavation/paving prep work activities, the contractor is responsible for confirming with the town representative the locations of the existing sewer facilities. The town requires **ten (10) working days** prior notice to schedule their involvement.

**MAINTAINING UTILITY LOCATION MARKINGS**

The Contractor shall 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 105**  
**CONSTRUCTION AREA**

**Construction Areas** located in the Towns of Milbridge & Cherryfield have been established by the Maine Department of Transportation (MDOT) in accordance with provisions of 29-A § 2382 Maine Revised Statutes Annotated (MRSA).

*The sections of highway under construction in Washington County:*

**Project 020405.00** begins 0.07 of a mile south of Spruce Street in Milbridge and extends north 5.05 miles to the intersection of Wilson Hill Road in Cherryfield.

**Project 027728.00** is in Milbridge, beginning 0.62 of a mile north of the Steuben town line and extends north 1.26 miles.

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

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

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

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

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

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

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

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

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

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

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

**MILBRIDGE AND CHERRYFIELD  
ROUTE 1  
HIGHWAY IMPROVEMENT PROJECT  
WIN 20405.00**

**GENERAL NOTE**

A Maine Department of Transportation Environmental Office investigation specific to this project encountered and reviewed data indicating petroleum related contamination was present at the southern end of the project. Specifically, in the vicinity of the Sunoco retail gasoline station located approximately between MaineDOT Station 354+50 and MaineDOT Station 356+00 - right of centerline. Subsequent on-site investigation did not find any issues within these areas. However, in light of the available environmental data, 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 stop work in the contaminated area, secure the excavation, and immediately notify the Resident. The Resident shall contact the Senior Geologist in MaineDOT's – Environmental Office at 207-624-3000, and the Maine Department of Environmental Protection (MDEP) at 800-482-0777. Work may only continue with authorization from the Resident.

SPECIAL PROVISION  
SECTION 105  
 General Scope of Work  
 (Environmental Requirements)

- I. Northern long-eared Bat (*Myotis septentrionalis*) is a federally Endangered species. To avoid and minimize potential effects to the species all work must comply with the following:
  1. If the Contractor witnesses a bat (dead or alive), any activities that may injure any live bats must cease immediately and must contact the MaineDOT Environmental (ENV) Office for further coordination. Dead and/or injured bats will be collected by a MaineDOT biologist for further investigation or transfer to a veterinarian. Work in the vicinity of the live/dead bat sighting will not resume until the ENV office or project resident confirms it is acceptable to do so.
  2. To avoid potential effects to northern long-eared bat, the following minimization measures apply:
    - a. Temporary lighting for any required night work must be directed away from forested habitat between April 15 – October 31 when bats are likely to be active. **There are no temporary lighting restrictions for night work between November 1 and April 14.**
    - b. Tree clearing is all areas shown as individual trees to be removed, or marked as CLL on the plans. Tree clearing must occur outside the pup rearing season, clearing is not allowed between June 1 – July 31. **Clearing is allowed between August 1 – May 31.**
- II. Historic Resources are present adjacent to and along the Project. MaineDOT has completed consultation in accordance with Section 106 of the National Historic Preservation Act and Programmatic Agreement for the project as presented. The Contractor shall comply with the provisions from Standard Specification 105.9 related to changes in the design at these historic properties during construction including tree clearing, property impacts, or project materials. The following is project specific:
  1. This project is located along and adjacent to Section 106 and Section 4(f) resources:
    - a. **Cherryfield Historic District:** Station 363+00 to 366+87 Left and Right
  2. Deviations from the approved project design during construction within the above-specified stations shall be approved by the MaineDOT Project Manager. Changes could have adverse effects to the historic resources and jeopardize federal funding.
- III. Work within stream (“In Stream Work,” see MaineDOT Standard Specifications 101.2 Definitions) requires special conditions to minimize impacts. The following special conditions shall apply to this project:
  1. In-Stream Work applies to the following locations and work shall not be allowed outside of the indicated In Water Work Window.

a. **Table 1. In Stream Work Locations.**

Stream Location (Station)	Town	Scope of Impacts	In Water Work Window
118+17	Milbridge	Replacement	July 15 – September 30
144+00	Milbridge	Replacement	July 15 – September 30
152+00	Milbridge	Replacement	July 15 – September 30
200+60	Milbridge	Replacement	July 15 – September 30
208+25	Milbridge	Replacement	July 15 – September 30
210+15	Cherryfield	Slope maintenance	No time of year restriction
225+25	Cherryfield	Slope maintenance	
246+75	Cherryfield	Slope maintenance	
247+25	Cherryfield	Ditch maintenance	
265+00	Cherryfield	Ditch maintenance	
291+25	Cherryfield	Slope maintenance	
333+50	Cherryfield	Ditch maintenance	
352+00	Cherryfield	Replacement	July 15 – September 30

IV. The Distinct Population Segment of Atlantic salmon (*Salmo salar*) in the Gulf of Maine are endangered. To avoid and minimize potential effects to the species, the project shall be performed in accordance with the following:

1. Special conditions for presence of standing or flowing water at the above identified In Stream Work locations:
  - a. If standing or flowing water is present at the above-identified In Stream pipe culvert, In Stream Work shall be conducted within a cofferdam in adherence with the Contractor's approved "Soil Erosion and Water Pollution Control Plan" for this project.
  - b. No work shall be allowed that completely blocks a river, stream, or brook without providing downstream flow.
  - c. All in-water excavation, including excavation to place rip rap shall be conducted within a sealed cofferdam.
  - d. Suspended sediment treatment shall follow the procedures described in Attachment 1 "Dirty Water Treatment System"
  - e. Bypass pumping systems shall be sized to accommodate the predicted peak flow rate during construction. Predicted peak flows are provided to the contractor in the bid documents.
  - f. Stabilization techniques (such as placing sheets of poly at the bypass outlet) shall be used to protect the stream from scour caused by the high water velocities associated with bypass pumping activities.
  - g. Sheet pile driving (if utilized) shall be completed using a vibratory hammer.
  - h. The contractor shall fully remove all cofferdams from the stream immediately following completion of in-stream work using techniques to minimize turbidity releases. The contractor shall restore all areas of temporary stream bottom disturbance to their original contour and character upon completion of the project.
  - i. When utilizing pumps to dewater cofferdams, in order to prevent ATS juvenile entrapment related to dewatering diversions, the Contractor will use a screen on each pump intake designed such that the approach velocity does not exceed 0.20 feet/second. Square or round screen face openings are not to exceed 3/32 inches (2.38 millimeters) measured on a diagonal. Criteria for slotted face openings shall not exceed 1/16 inches (approximately 1.75 millimeters) in the narrow direction. These

screen criteria follow National Marine Fisheries Service (NMFS) guidance (NMFS 2008). Intake hoses shall be regularly monitored while pumping to minimize adverse effects to Atlantic salmon or other species.

- j. All pumps and generators required for in-stream work shall be cleaned of external oil, grease, dirt, and mud such that turbid water does not drain to any wetland or stream. Any leaks of this equipment shall be fixed prior to entering streams or areas that drain directly to streams or wetlands. Operation shall follow the specifications of the SPCC Plan
  - k. Permanent rip-rap placed in a stream below the bank full elevation (Q1) shall be covered by coarse streambed material (CSM, Special Fill).
  - l. All rip-rap placed outside of a cofferdam shall be cleaned prior to installation
  - m. Pile removal (including sheet piles, if used) by pulling from erodible substrate shall be completed using techniques or tools to minimize turbidity.
2. Special conditions for work in protected resources:
- a. All areas of temporary waterway or wetland fill shall be restored to their original contour and character upon completion of the project. Temporary fill includes fill that received authorization and fill that mistakenly enters a resource (i.e., from slope failures, accidental broken sandbag cofferdams
  - b. All areas of disturbed soil shall be mulched and seeded with an approved native or non-invasive herbaceous seed mix following construction and/or planted with native woody vegetation and trees appropriate during the first available planting season. In areas where there is little to no slope, and erosion and invasive species establishment is unlikely, the native woody vegetation on the site shall be allowed to regenerate naturally.
  - c. Grubbing (removal) of roots and stumps shall only occur in those areas subject to permanent impacts.
  - d. All off-road equipment working within 25-feet of a stream (RUS or OHWM) shall be cleaned to remove all soil, seeds, vegetation, or other debris that could contain seeds or reproductive portions of plants prior to entering the area to minimize the spread of noxious weeds. All equipment shall be inspected prior to offloading to ensure they are clean.
  - e. Heavy construction equipment shall travel only over non-erodible substrate (e.g., ledge, cobble) and when approved by the MaineDOT Environmental Field Contact.
  - f. No equipment, materials, or machinery shall be stored, cleaned, fueled, or repaired within any wetland or stream resource. These activities shall occur more than 100 feet from any wetland or stream resource and shall follow the specifications of the SPCC Plan.
- V. To protect migratory birds pursuant to the Migratory Bird Treaty Act of 1918:
- 1. If the Contractor observes an active bird nest within the project limits, any activities that may disturb the nest or injure birds (i.e., nesting adults, chicks, eggs) must cease immediately, and the Contractor shall contact Kelby Houtz of MaineDOT Environmental Office (207-441-1512, [kelby.leary@maine.gov](mailto:kelby.leary@maine.gov)) for further coordination.

VI. Special Conditions



1. Special conditions of the US Army Corps of Engineers (Corps) Pre-construction Notification Permit (PCN) NAE-2023-01043 shall apply to this project (see permit and conditions in contract documents).
2. Standard conditions of the Maine Department of Environmental Protection (MDEP) Permit by Rule #77029 shall apply to this project (see permit and conditions in contract documents).
3. The Contractor shall hold a pre-construction meeting with appropriate MaineDOT Environmental Office staff, other MaineDOT staff, and the Contractor(s) to review all procedures and requirements for avoiding and minimizing effects to Atlantic salmon. The following individuals/agencies shall be invited: ACOE (Jami Macneil, [jami.e.macneil@usace.army.mil](mailto:jami.e.macneil@usace.army.mil)); U.S. Fish and Wildlife Service (Patrick Dockens [patrick\\_dockens@fws.gov](mailto:patrick_dockens@fws.gov)).
4. The Contractor shall notify the Resident no less than 5 business days prior to the placement of cofferdams. After cofferdams are placed and before the work area is dewatered, a fish evacuation will be performed and coordinated with Kelby Houtz of MaineDOT Environmental Office (207-441-1512, [kelby.leary@maine.gov](mailto:kelby.leary@maine.gov))

## VII. Approvals

1. Temporary Soil Erosion and Water Pollution Control Plan (SEWPCP)
2. Permitted Resource Impacts, see Corps permit # NAE-2023-01043 for locations

### a. Table 2: Wetland and Stream Impacts Approved

	Permanent	Temporary
<b>Wetland Total</b>	<b>23,900 SF</b>	<b>14,200 SF</b>
<i>Emergent (PEM)</i>	<i>6,513 SF</i>	<i>2,145 SF</i>
<i>Forested (PFO)</i>	<i>2,794 SF</i>	<i>3,112 SF</i>
<i>Scrub-shrub (PSS)</i>	<i>14,593 SF</i>	<i>8,943</i>
<b>Stream (RUS/OHWM)</b>	<b>4,505 SF</b>	<b>1,834 SF</b>

- ## VIII. Reauthorization of the Corps Permit is required for any work in jurisdictional resources (wetlands or streams) that is not started by October 14, 2025 or not completed by October 14, 2026. The Contractor shall allow up to 2 weeks for MaineDOT to reauthorize the permit.

NOTE: Regulatory Review and Approval shall be required to modify the existing In Stream Work window. Requests for work window extensions shall be submitted to the MaineDOT Environmental Office. Approval of request for work window extensions shall not be guaranteed and may result in delays in construction schedule that shall be the sole responsibility of the contractor.



SPECIAL PROVISION  
SECTION 105  
General Scope of Work  
(Environmental Requirements)

- I. To protect Northern Long Eared Bat (*Myotis septentrionalis*) a federally Endangered species:
  - A. If the Contractor witnesses a bat (dead or alive), any activities that may injure any live bats must cease immediately and must contact the MaineDOT Environmental (ENV) Office for further coordination. Dead and/or injured bats will be collected by a MaineDOT biologist for further investigation or transfer to a veterinarian. Work in the vicinity of the live/dead bat sighting will not resume until the ENV office or project resident confirms it is acceptable to do so.
- II. To protect migratory birds pursuant to the Migratory Bird Act of 1918:
  - A. If the Contractor observes an active bird nest within the project limits, any activities that may disturb the nest or injure birds (i.e., nesting adults, chicks, eggs) must cease immediately, and the Contractor shall contact the ENV Office for further coordination.
- III. Approvals:
  - A. Temporary Soil Erosion and Water Pollution Control Plan (SEWPCP)

SPECIAL PROVISION  
SECTION 105  
GENERAL SCOPE OF WORK  
(Limitations of Operations)

1. The Contractor at a minimum shall maintain one 11 foot wide lane of alternating traffic.

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

105.11 Federal Requirements Add the following as the third and subsequent paragraphs:

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

All manufacturing processes must take place domestically. Manufacturing begins with the initial melting and mixing, and continues through the coating stage. Any process which modifies the chemical content, the physical size and shape, or the final finish is considered a manufacturing process. These processes include rolling, extruding, machining, bending, grinding, drilling, and coating. “Coating” includes epoxy coating, galvanizing, painting, or any other coating that protects or enhances the value of the material.

A Buy America Certification is required from each manufacturer, fabricator, supplier, subcontractor, etc. that meets the “manufacturing” definition above.

Buy America does not apply to raw materials (iron ore and alloys), scrap, pig iron, or processed, pelletized, and reduced iron ore.”

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

105.11 Other Federal Requirements Amend this section by adding the following:

This special provision was created for the Build America, Buy America Act (BABA) to expand the list of construction materials required to be manufactured in the United States beyond what is currently only required for steel/iron products. The Infrastructure Investment and Jobs Act (IIJA), Public Law No. 117-58 includes the Build America, Buy America Act. The Office of Management and Budget issued memorandum M-22-11 to provide guidance on the law which can be found here:

<https://www.whitehouse.gov/wp-content/uploads/2022/04/M-22-11.pdf>

All iron/steel, including the iron/steel in construction materials and manufactured products, must satisfy Buy America 23 CFR 635.410 requirements.

All construction materials, as defined in the following, that are permanently incorporated into federal-aid projects shall meet Build America, Buy America requirements.

For the purpose of this Specification, construction materials shall include an article, material, or supply that is or consists primarily of the following.

- Non-ferrous metals,
- Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables),
- Glass (including optic glass),
- Lumber, or
- Drywall.

All manufacturing processes for construction materials shall occur within the United States. The category of construction materials excludes cement and cementitious materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or additives.

Due to a nationwide waiver, BABA requirements do not apply to manufactured products for FHWA funded projects. Manufactured products are items that consist of two or more of the listed construction materials that have been combined through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed (including steel/iron) through a manufacturing process.

The Contractor shall certify in writing that all permanently incorporated Construction Materials for this contract meet the BABA requirements.

MaineDOT DBE Project Attainment Target (PAT)  
for this Project is **3.7%**

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

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

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

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

**SPECIAL PROVISION**  
**SECTION 107**  
**Prosecution and Progress**  
**(Contract Time)**

1. Contract Completion date is October 31, 2026.

SPECIAL PROVISION  
SECTION 202  
REMOVING STRUCTURES AND OBSTRUCTIONS  
(Removing of Concrete Sidewalk)

ADD the following to Subsection 202.08:

202.08 Basis of Payment

Removing of Concrete Sidewalk will be paid for at the contract unit price per square yard which price will be full compensation for removing and disposing of concrete and concrete reinforcement. Material for backfilling holes resulting from removal of obstructions will be measured and paid for as provided in Section 203 - Excavation and Embankments.

Payment will be made under:

Pay Item

Pay Unit

202.111      Removing of Concrete Sidewalk

Cubic Yard

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

The March 2020 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 using 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 30 foot minimum contact ski (floating beam), 24 foot non-contact ski (floating beam) with 3 or more sensors; or 3 non-contact sensors directly affixed at the fore, mid, and aft points of the milling machine. Systems designed to incorporate a contact sensor located at the mid-point of the milling machine in lieu of the non-contact sensor will be permitted. Grade control sensors shall all be located on the same side. A single sensor, contact or otherwise, shall not be permitted unless otherwise approved by the Department.

The rotary drum shall be a minimum of 7 feet in width and utilize carbide tip tools at a minimum triple wrap configuration. The difference in height from the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed  $\frac{1}{4}$  inch. The forward speed of the milling machine shall be adjusted to produce a milled surface meeting the groove spacing, groove depth, and surface tolerance requirements of this specification. The tools on the revolving cutting drum must be continually maintained and shall be replaced as warranted to provide a uniform pavement texture. The Department may evaluate the texture of the milled surface for information purposes by performing the Sand Patch test according to ASTM E 965.

The Contractor shall locate and remove all objects in the pavement through the work area that would be detrimental to the milling 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  $\frac{1}{2}$  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  $\frac{3}{8}$  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 roadways with adjoining lanes carrying traffic, the Contractor shall remove the pavement surface in each lane per the conditions in Table 1, unless otherwise noted by the Department in Special Provision, Section 105 – Limitations of Operations.



TABLE 1: MILLING CONDITIONS FOR ADJOINING LANES

Depth (At Centerline)	Milling Conditions
<b>Vertical Longitudinal Joint</b>	
2" and less	The Contractor may remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before the end of the following calendar day.
Greater than 2"	The Contractor shall remove the pavement over the full width of the traveled way section being paved that day.
<b>12:1 Tapered Centerline Joint</b>	
1 ½" to 2"	The Contractor may remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before weekend or holiday suspension. A maximum unmatched centerline joint length of 0.5 miles will be permitted over the weekend.
Greater than 2"	The Contractor shall remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before the end of the following calendar day.

The Contractor will be required to remove the pavement over the full width of the mainline traveled way, regardless of highway type, cut depth, or longitudinal joint type prior to Memorial Day, July 4<sup>th</sup>, Labor Day, suspensions exceeding three days, or other dates as specified by Special Provision, Section 105 – Limitations of Operations.

The Contractor will also be responsible for installing additional warning signage that clearly defines the centerline elevation differential hazard. Unless otherwise addressed in the contract, the Contractor shall install additional centerline delineation such as a double RPM application, or temporary painted line. The Traffic Control Plan shall be amended to include this option and the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of 0.50 mile for the entire length of effected roadway section. If this option is utilized, all additional signing, labor, traffic control devices, or incidentals will not be paid for directly, will be considered incidental to the appropriate 652 items.

On roadways with immediately adjacent shoulders, the Contractor shall remove the pavement surface in each lane per the conditions in Table 2, unless otherwise noted by the Department in Special Provision, Section 105 – Limitations of Operations.

TABLE 2: MILLING CONDITIONS FOR THE EDGE OF TRAVELED WAY

Depth (At Edge of Traveled Way)	Conditions
2" and less	The Contractor may leave a vertical edge joint exposed for up to <b>21 days</b> after milling is performed. The Contractor shall treat vertical edge joints exposed beyond 21 days per the criteria below.
Greater than 2"	The Contractor shall treat vertical edge joints exposed per the criteria below.

When required by Table 2, the Contractor shall treat vertical edge joints through one of the options below:

1. The vertical edge shall 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. 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. Unless otherwise authorized by the Department, no additional payment will be made for the additional milling.
3. A pavement layer shall be placed to reduce the vertical edge to 1 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 for all elevation differentials. 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.

Weepers shall be ground across the full width sections adjacent shoulders or remaining pavement surface matching the milled travel way or shoulder milled depth to minimize water ponding in any lanes carrying traffic. Weepers shall typically be 18 - 24" inches in width, installed along each lane, at a frequency of approximately one per half mile at locations as directed by the Resident or in areas that will provide drainage for the milled areas. Installation of weepers will not be paid for directly but will be considered incidental to the contracts pavement removal item. The replacement of mix in the weeper locations shall be performed concurrently within the pavement placement operation closure using the appropriate HMA item produced for the Contract or a MaineDOT approved 9.5mm HMA. There will be no separate payment for repaving the weeper locations as they are considered incidental to the square yard price of the contracts pavement removal item.

The milled surface shall be cleaned of all material resulting from the pavement removal operation. Loaders, skid steers, motorized side cast brooms, sweeper pick up brooms, vacuum pick up machines and hand labor may be used in any number or sequence as determined by the Contractor in order to clean the milled surfaces to the satisfaction of the Department before acceptance and opening the area up to traffic. The use of compressed air may be required to loosen any bonded materials from the surface to aid in cleaning.

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.

Basis of Payment

The square yard or hourly rental contract price will be full compensation for mobilizing to the site, de-mobilizing from the site, labor, supervision, cleaning of the milled surface, and all other incidentals required to complete the work. Hauling and stockpiling of the material will not be paid for directly, but will be considered incidental to the milling items.

Square Yard: Payment will be made at the contract unit price for the number of square yards removed.

Hourly: Payment will be made at the contract unit price for the number of hours of operation removing pavement surface as directed by the Resident. The equipment used for pavement removal shall be operated at the minimum speed of 50 fpm, unless the Resident directs otherwise for milled surface quality reasons, or traffic control limitations impact pavement removal operations, or site conditions make operations at the prescribed rate unreasonable. Trimming to create a vertical face along curb line, guardrail, or around structures will be considered incidental to the 202.202 items. Additional trimming beyond the incidental work described will be paid under the appropriate rental items as listed in the Contract.

Pay Item

Pay Unit

202.202 Removing Pavement Surface  
202.20201 Removing Pavement Surface (Hourly)

S.Y.  
Hour

**SPECIAL PROVISIONS**  
**SECTION 202**  
**REMOVING STRUCTURES AND OBSTRUCTIONS**  
**(Removing Pavement Surface – Medium Cut Drum)**

The March 2020 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 using 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 30 foot minimum contact ski (floating beam), 24 foot non-contact ski (floating beam) with 3 or more sensors; or 3 non-contact sensors directly affixed at the fore, mid, and aft points of the milling machine. Systems designed to incorporate a contact sensor located at the mid-point of the milling machine in lieu of the non-contact sensor will be permitted. Grade control sensors shall all be located on the same side. A single sensor, contact or otherwise, shall not be permitted unless otherwise approved by the Department.

The rotary drum shall be a minimum of 7 feet in width and utilize carbide tip tools spaced not more than  $\frac{5}{16}$  inches (8mm) apart and a minimum triple wrap configuration. The difference in height from the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed  $\frac{1}{8}$  inch. The forward speed of the milling machine shall be adjusted to produce a milled surface meeting the groove spacing, groove depth, and surface tolerance requirements of this specification. The tools on the revolving cutting drum must be continually maintained and shall be replaced as warranted to provide a uniform pavement texture. The Department may evaluate the texture of the milled surface for information purposes by performing the Sand Patch test according to ASTM E 965.

The Contractor shall locate and remove all objects in the pavement through the work area that would be detrimental to the milling 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  $\frac{1}{2}$  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  $\frac{1}{8}$  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 roadways with adjoining lanes carrying traffic, the Contractor shall remove the pavement surface in each lane per the conditions in Table 1, unless otherwise noted by the Department in Special Provision, Section 105 – Limitations of Operations.

TABLE 1: MILLING CONDITIONS FOR ADJOINING LANES

<b>Depth (At Centerline)</b>	<b>Milling Conditions</b>
<b>Vertical Longitudinal Joint</b>	
¾" and less	The Contractor may remove the pavement on a single travel lane width for each production day.
1" to 1 ¼"	The Contractor may remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before weekend or holiday suspension.
1 ½" to 2"	The Contractor may remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before the end of the following calendar day.
Greater than 2"	The Contractor shall remove the pavement over the full width of the traveled way section being milled that day.
<b>12:1 Tapered Centerline Joint</b>	
1 ½" to 2"	The Contractor may remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before weekend or holiday suspension. A maximum unmatched centerline joint length of 0.5 miles will be permitted over the weekend.
Greater than 2"	The Contractor shall remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before the end of the following calendar day.

The Contractor will be required to remove the pavement over the full width of the mainline traveled way, regardless of highway type, cut depth, or longitudinal joint type prior to Memorial Day, July 4<sup>th</sup>, Labor Day, suspensions exceeding three days, or other dates as specified by Special Provision, Section 105 – Limitations of Operations.

The Contractor will also be responsible for installing additional warning signage that clearly defines the centerline elevation differential hazard. Unless otherwise addressed in the contract, the Contractor shall install additional centerline delineation such as a double RPM application, or temporary painted line. The Traffic Control Plan shall be amended to include this option and the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of 0.50 mile for the entire length of effected roadway section. If this option is utilized, all additional signing, labor, traffic control devices, or incidentals will not be paid for directly, will be considered incidental to the appropriate 652 items.

On roadways with immediately adjacent shoulders, the Contractor shall remove the pavement surface in each lane per the conditions in Table 2, unless otherwise noted by the Department in Special Provision, Section 105 – Limitations of Operations.

TABLE 2: MILLING CONDITIONS FOR THE EDGE OF TRAVELED WAY

Depth (At Edge of Traveled Way)	Conditions
1" or less	The Contractor may leave a vertical edge joint exposed indefinitely.
Greater than 1" to 2"	The Contractor may leave a vertical edge joint exposed for up to <b>21 days</b> after milling is performed. The Contractor shall treat vertical edge joints exposed beyond 21 days per the criteria below.
Greater than 2"	The Contractor shall treat vertical edge joints exposed per the criteria below.

When required by Table 2, the Contractor shall treat vertical edge joints through one of the options below:

1. The vertical edge shall 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. 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. Unless otherwise authorized by the Department, no additional payment will be made for the additional milling.
3. A pavement layer shall be placed to reduce the vertical edge to 1 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 for all elevation differentials. 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.

Weepers shall be ground across the full width sections adjacent shoulders or remaining pavement surface matching the milled travel way or shoulder milled depth to minimize water ponding in any lanes carrying traffic. Weepers shall typically be 18 – 24" inches in width, installed along each lane, at a frequency of approximately one per half mile at locations as directed by the Resident or in areas that will provide drainage for the milled areas. Installation of weepers will not be paid for directly but will be considered incidental to the contracts pavement removal item. The replacement of mix in the weeper locations shall be performed concurrently within the pavement placement operation closure using the appropriate HMA item produced for the Contract or a MaineDOT approved 9.5mm HMA. There will be no separate payment for repaving the weeper locations as they are considered incidental to the square yard price of the contracts pavement removal item.

The milled surface shall be cleaned of all material resulting from the pavement removal operation. Loaders, skid steers, motorized side cast brooms, sweeper pick up brooms, vacuum pick up machines and hand labor may be used in any number or sequence as determined by the Contractor in order to clean the milled surfaces to the satisfaction of the Department before acceptance and opening the area up to traffic. The use of compressed air may be required to loosen any bonded materials from the surface to aid in cleaning.

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 21 calendar days** after being milled will be the responsibility of the MaineDOT unless otherwise noted in Special Provision Section 105 – Limitations Of Operations.

Basis of Payment

The square yard or hourly rental contract price will be full compensation for mobilizing to the site, de-mobilizing from the site, labor, supervision, cleaning of the milled surface, and all other incidentals required to complete the work. Hauling and stockpiling of the material will not be paid for directly, but will be considered incidental to the milling items.

Square Yard: Payment will be made at the contract unit price for the number of square yards removed.

Hourly: Payment will be made at the contract unit price for the number of hours of operation removing pavement surface as directed by the Resident. The equipment used for pavement removal shall be operated at the minimum speed of 50 fpm, unless the Resident directs otherwise for milled surface quality reasons, or traffic control limitations impact pavement removal operations, or site conditions make operations at the prescribed rate unreasonable. Trimming to create a vertical face along curb line, guardrail, or around structures will be considered incidental to the 202.202 items. Additional trimming beyond the incidental work described will be paid under the appropriate rental items as listed in the Contract.

<u>Pay Item</u>	<u>Pay Unit</u>
202.2023 Removing Pavement Surface - Medium Cut Drum	S.Y.
202.20231 Removing Pavement Surface - Medium Cut Drum (Hourly)	Hour



**SPECIAL PROVISION**  
**SECTION 203**  
**EXCAVATION AND EMBANKMENT**  
**(Dredge Materials)**

**Description:** Dredge Material (See MaineDOT Standard Specifications § 101.2 Definitions) is regulated as a Special Waste.

Work associated with the Milbridge - Cherryfield Route 1 Highway Improvement Project will require excavation of select Dredge Material from six unnamed streams (Class B Waterbodies) that flow to the Narraguagus River. It is estimated that a project total of approximately 470 cubic yards of dredge will be excavated at specific locations along the project alignment. There is onsite Beneficial Use for all Dredge Material.

- MaineDOT Station 118+45 – 156.88 Cubic Yards (CY) Right-of-Centerline (ROC) / 24.97 CY Left-of-Centerline (LOC)
- MaineDOT Station 144+00 – 12.93 CY ROC / 4.00 CY LOC
- MaineDOT Station 200+60 – 26.14 CY ROC / 39.94 CY LOC
- MaineDOT Station 225+37 – 9.72 CY LOC
- MaineDOT Station 265+00 – 0.19 CY ROC
- MaineDOT Station 352+00 – 117.79 CY ROC / 77.24 CY LOC

It is acknowledged that excavation of Dredge for this work may include some boulders. The Maine Department of Environmental Protection (MDEP) has determined that sound boulders (rock 12-inches or more in diameter), that are free of adhering sediment or other contaminants, shall be deemed to be Inert Fill material and shall not be included in Dredge Material Quantities.

**CONSTRUCTION REQUIREMENTS**

**Management:** The Contractor shall Beneficially Use all Dredge Material excavated at the Milbridge - Cherryfield – Route 1 Highway Improvement Project in areas adjacent to the dredged waterbody. No more than 500-cubic yards of Dredge Material may be excavated from any of the identified locations within the project alignment.

**Method of Measurement:** Excavation of Dredge Material will be measured for payment under related Contract items.



**Basis of Payment:** Payment for the Beneficial Use of Dredge Material will be incidental to the Contract Pay Items.

Payment shall be full compensation for dewatering, managing, transporting, and placement of Dredge Materials.

SPECIAL PROVISION  
SECTION 203  
(Special Fill - Streambed Material)

203.01 Description This work shall consist of furnishing and placing stone and granular material downstream of the culvert to form a nature-like streambed. The mixture is referred to as Special Fill.

203.02 Materials Special fill shall be obtained from earth borrow pits and may be available from existing stockpile or may require a blend of screenings (tailings) and other aggregates. Unwashed stone and stone with naturally fractured faces may be used. The final material shall be a dense well-graded mix of bank run materials that meet the requirements listed below.

Where applicable, suitable material excavated on-site within the limits of the stream channel in accordance with Special Provision Section 203, Excavation and Embankment - Dredge Materials, may be used to meet the mix requirements, or as filler material with the approval of the Resident.

Materials for special fill shall conform to the following requirements:

a. 12-inch Boulders and Cobbles - shall be a well graded mix of subangular to subrounded stones with a maximum size of 12 inches average dimension. Approximately 15 percent of the stones by volume shall have an average dimension greater than 9 inches, 50 percent greater than 6 inches, and 85 percent greater than 3 inch,

b. Streambed Gravel - shall be well graded bank run or screened gravel similar to a Type D gravel (section 703.06), except that the part that passes a 3-inch sieve shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
½ inch	35 – 80
¼ inch	25 – 65
No. 40	5.0 – 30
No. 200	2.0 – 8

c. Filler material - the purpose of Filler Material is to fill and seal the voids so that water ponds on the surface of the streambed. Filler Material shall consist of streambed gravel 203.02, dredge material, or other suitable material approved by the Resident.

d. Mix Proportions Special fill shall be mixed in the approximate proportions listed in the following table:

12-inch minus boulders and cobbles	Streambed Gravel	Minimum D50 (average) particle size of mix
3 parts	4 parts	2 inches

Mix proportions and material gradations are approximate and may be adjusted by the Resident to obtain a dense well-graded mix with enough stone for stability, and gravel and fines to fill voids and to keep water on the surface of the streambed. Special fill shall conform to the requirements at the time it is placed.

e. Testing and Inspection At least 10 working days prior to the start of stream channel construction the Contractor shall identify the source and proposed materials for inspection and shall furnish to the Resident a copy of gradation test results from a certified laboratory for the streambed gravel portion of the mix. The Department will obtain samples of the streambed gravel for Process Control prior to placement.

The grading of stone shall be determined by the Resident in accordance with the Standard Specifications, Section 610.032.d Inspection.

Acceptance will be based on the test results and visual inspection by the Resident.

### 203.03 Construction Requirements

1. Construct a channel with a streambed surface, banklines and rock features as shown on the plans and in accordance with Special Provision 610 – Stream Channel Rock and Special Provision 610 – Streambed Rock Features (rock bands and clusters). The Contractor shall construct a test section that includes banklines, one rock band and one rock cluster beginning at the downstream end of the culvert for review by the Resident.

2. Place special fill in 2 generally equal lifts, without pockets of either fine or coarse material. Banklines and rock features shall be placed on the first lift. The banklines, rock features, and the second lift of special fill shall not be placed until the first lift of special fill has been approved by the Resident.

3. Special fill shall be placed by machine or by hand as necessary to achieve the specified shape and thickness. Larger stones may protrude above the average surface but shall be firmly embedded in the mix.

4. Special fill shall be machine tamped and thoroughly washed-in with water immediately after placement of each layer. After the initial washing-in, place additional special fill on soft areas of the streambed, tamp and wash-in until firm. Place filler material as needed to fill remaining voids. Wash-in until water remains on the surface with minimal infiltration.

5. After washing-in and compaction of the final lift, the final elevation of the special fill shall be as called for on the plans with an allowable surcharge of up 3 inches above the design grade.

6. Larger individual stones protruding more than 6 inches above the average surface grade shall be embedded, re-oriented, or replaced.

7. Mechanical methods of compaction may be used with the approval of the Resident. If the Contractor uses mechanical methods the void-filling and washing-in requirements shall still apply.

8. Prior to cofferdam removal and exposure to natural flow conditions the streambed shall be thoroughly wetted and compacted with voids filled, and the surface reviewed and approved by the Resident.

203.04 Method of Measurement Special fill will be measured in place by the cubic yard.

203.05 Basis of Payment The accepted quantity of special fill will be paid for at the contract price per cubic yard complete in place. Payment shall be full compensation for furnishing all materials, equipment, and labor and washing-in with water.

Pay Item

Pay Unit

203.33 Special Fill – Streambed Material

CY

**SUPPLEMENTAL SPECIAL PROVISION**  
**SECTION 307**  
**Full Depth Recycling**  
**(Untreated or Treated with Emulsified Asphalt Stabilizer)**

The following sections of Standard Specification Section 307 – Untreated or Treated with Emulsified Asphalt Stabilizer has been amended. All sections of Standard Specification 307 not amended or added to by this document shall be considered unchanged.

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 Department.

Initial pulverization of existing pavement layers may be accomplished by means and equipment described in this specification, or with equipment described in Section 311 – Cold In-place Recycled Pavement that has been modified to pulverize pavement layers full depth, capable of reducing the required existing materials to a size that will pass a 2 inch square mesh sieve, including an inch of underlying gravel.

The stabilization process including the addition of Portland cement, emulsion, or foamed asphalt treatment to the pulverized pavement layer (if required) at the required depth and width may be accomplished by means and equipment described in this specification up to 6 inches in treatment depth, or with equipment described in Section 311 – Cold In-place Recycled Pavement up to 5 inches in treatment depth.

**MIX DESIGN**

307.02 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 control section has been completed or as the work progresses, it may be necessary for the Department to make necessary adjustments to the mix design. Changes to compensation will be in accordance with the Mix Design Special Provision.

**MATERIALS**

307.030 Pulverized Material Initial 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.

307.031 Emulsified Asphalt Stabilizer. The emulsified asphalt binder shall be grade MS-2, MS-4 or SS-1 or a cationic slow-set grade CSS-1, CSS-1H, or CMS-2 medium set grade meeting the requirements of Subsection 702.04 Emulsified Asphalt. Emulsions may be modified with polymer to improve coating and mixture strength for higher trafficked projects. All emulsions shall meet the requirements of Section 702.04. Cationic emulsions shall retain a 63% minimal asphalt residual value.

The Department may allow the use of a high float asphalt emulsion grade HFMS-2 in low traffic locations, if it can be demonstrated that the HFMS-2 results in a better coating and higher cured strength values than CSS or CMS grade emulsions when mixed with the available aggregates during the mix design process.

307.032 Portland Cement If required, Portland Cement shall be Type I or II meeting the requirements of AASHTO M85 and section 700 of the Standard Specifications, or Type IL meeting the requirements of AASHTO M 240.

307.033 Hydrated Lime If required, Hydrated Lime shall meet the requirements of AASHTO M216.

307.034 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 asphalt 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 Department. It shall be free of winter sand, granular fill, construction debris, or other materials not generally considered asphalt pavement.

Recycled asphalt material generated and salvaged from the project shall be used within the roadway limits to the extent it is available as described in 307.056. No additional payment will be made for material salvaged from the project.

Recycled asphalt material supplied from off-site stockpiles shall be paid for as described in the contract, or by contract modification.

307.035 Water Water shall be clean and free from deleterious concentrations of acids, alkalis, salts or other organic or chemical substances.

## EQUIPMENT

307.04 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.

If treatment of the recycled layer with emulsified asphalt is required by the contract, the pulverizing unit shall be used to introduce the emulsified asphalt stabilizer into the pulverized material. The pulverizer 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 pulverizer shall be designed, equipped, maintained, and operated so that emulsified asphalt stabilizer may be applied uniformly and at a constant temperature on variable widths of pulverized material to a minimum of 6 feet at readily determined and controlled rates from 0.01 to 1.06 gal/yd<sup>2</sup> with uniform pressure and with an allowable variation from any specified rate not to exceed 0.01 gal/ yd<sup>2</sup>. The pulverizer 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 Emulsion Tank and Delivery If treatment of the recycled layer with emulsified asphalt is required by the contract, only tankers with a capacity exceeding 2500 gal shall be used to supply the recycling machine with emulsion. Emulsions shall be delivered and maintained at or above 120°F for proper introduction and blending with roadway recycled materials. No leaking tanker will be permitted on the job site.

Unless otherwise approved by the Department, the maximum allowable duration for asphalt to remain idle in a tank on the job site, starting from the time of loading, shall be as follows:

Partial Load	48 hours
Full Load	72 hours

If the maximum duration is exceeded, the load shall be circulated and agitated or reloaded at the terminal before being used.

In addition, each tanker shall be equipped with the following:

- a. A thermometer to show the temperature of the contents in the bottom third of the tank.
- b. Insulation to retain heat.
- c. A calibrated dipstick marked at intervals of no more than 25 gal, for measuring the contents of the tank.

Unless otherwise approved, each tanker shall be fitted with two recessed pin-type tow hitches, one in front and the other behind, thereby allowing the tanker to be pushed from behind by the recycling machine.

In order to accurately track emulsion usage tankers shall be emptied whenever possible. Should it become necessary to use partial loads, reload partially loaded tankers, or supply partially loaded tankers, the Contractor shall provide the Department with the partial load weights and corresponding gallons of emulsion on the tankers prior to having more emulsion loaded.

For tanks that have not been filled at a facility equipped with the ability to weigh or track gallons being loaded and/or if tankers are reloaded on-site where an accurate measurement of gallons loaded is not available, the Contractor shall source local certified scales to weigh the partially loaded tankers. Prior to detaching the partial load from the FDR train, the Contractor shall notify the onsite Department Representative. If local scales are used, the Contractor shall supply the Department with the remaining weights and gallons prior to using the refilled tanker. For loads shipped back to a terminal, the Contractor shall provide the remaining weights and gallons by **1:00 PM of the following working day** of when the tanker was detached from the FDR train.

307.042 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.

In order to accurately track Portland Cement or Hydrated Lime usage, the spreader shall be emptied whenever possible. Should it become necessary to use partial loads, reload a partially loaded spreader, or supply a partially loaded storage tanker, the Contractor shall provide the Department with the partial load weights and corresponding weight of dry additive on the spreader before adding more dry additive.

If a storage tanker is used, it shall either be equipped with the ability to weigh or track the quantity of dry additive being loaded, or it shall be weighted daily using locally certified scales.

307.043 Placement Equipment The full depth recycled material shall be placed to the required slope and grade after the initial pulverization and final stabilization process with an approved highway grader, equipment described in Section 311 – Cold In-place Recycled Pavement, or by another method approved by the Department.

307.044 Compaction Equipment The full depth recycled material shall be rolled with a vibratory pad foot roller in the knockdown position, a vibratory steel drum soil compactor in the intermediate/finish position and a pneumatic tire roller during the initial pulverization. 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 inch<sup>2</sup>, 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.



A pad foot roller will not be required for the final stabilized layer. The minimum compaction equipment shall consist of two 10 ton double drum steel wheel vibratory rollers; and one 20 ton pneumatic tired roller. The minimum allowable tire pressure shall be 85 psi. The Contractor shall furnish a suitable tire gauge for determining air pressure in the tires.

Additional equipment may be required in sufficient numbers and weight to obtain the required compaction or maintain the desired forward speed of the FDR operation.

## CONSTRUCTION REQUIREMENTS

307.050 Initial Pulverization This work will consist of pulverizing the entire depth of existing pavement 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. Placement of the mixture shall be to the full width required in the contract, (including shoulders as indicated) and compacting the mixture to a uniform layer in one continuous operation to the lines, grades and thicknesses indicated on the plans or as established by the Department. A control section shall be constructed in accordance with section 307.061.

307.051 Final Stabilization This work will consist of remixing the initial pulverized material 4 to 6 inches as indicated in the contract, the addition of Foamed Asphalt or Emulsified Asphalt with Portland Cement or hydrated lime to the proportions specified, the mixing and placement of the mixture full width as required in the contract, (including shoulders as indicated ) and compacting the mixture to a uniform layer in one continuous operation to the lines, grades and thicknesses indicated on the plans or as established by the Department. A control section shall be constructed in accordance with section 307.061.

307.052 Weather and Temperature Limitations Full depth recycled work shall be performed when;

- a. FDR 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. FDR operations will be allowed between May 1st and September 30th inclusive in Zone 2 - Areas south of Zone 1 including the US Route 2 and Route 9 boundaries.
- 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 Department.
- 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.

307.053 Curing No new hot mix asphalt pavement or additional layers of recycled material shall be placed on the recycled asphalt pavement until a curing period of (4) four days has elapsed or until curing has reduced the moisture content to 1 percent or less by total weight of the mixture, whichever comes first. The curing period starts once the FDR process has been completed in the roadway. The cure period may be reduced by the Department if can be demonstrated by coring that the layer has cured and stabilized and able to be paved upon. The curing period may be extended by the Department if the weather has been unfavorable during the cure period, and core samples demonstrate that the layer has not cured and stabilized.

307.054 Surface Tolerance The initial pulverization and final stabilization surfaces will be shaped, compacted, smoothed and true to required line and grade. Deviations in the finished surface shall not exceed  $\frac{3}{8}$  in in any direction using a 10 ft minimum straight edge. Any repairs required to correct surface deviations are at the Contractor's expense using Department approved material and methods.

The Contractor shall protect the completed surface from damage caused by construction vehicles and equipment. The recycled pavement surface shall be protected and closed to traffic until it is determined that surface damage no longer occurs when a test vehicle is passed over it. The contractor is responsible for determining when the completed surface is suitable for traffic loading without damage. Any repairs to correct damage will be at the Contractor's expense.

307.055 Joints Joints shall be constructed in accordance with Section 401.16. The Contractor shall be responsible for establishing centerline control to ensure that the original centerline alignment will be maintained during the initial pulverization, final stabilization, and once the FDR process is complete. The method of establishing centerline control shall be discussed and approved by the Department at, or prior to, the pre-recycle meeting. As a minimum centerline control will be delineated every 100 linear foot (on station) using pavement marking paint on the existing pavement, and be established by splitting the total existing travel way width by half or by referencing to the existing centerline joint if it is jointly determined by the Department and Contractor that it is consistently in the center of the total width being processed.

Initial pulverization and final stabilization passes shall overlap a minimum of 3" along the centerline or any adjacent lane or shoulder matching passes.

The Contractor shall maintain centerline control during any construction activity up and to the completion of the contract.

307.056 Project Layout Unless otherwise specified in the Contract Documents, the Contractor will be responsible for the layout of existing conditions. The Contractor shall, at minimum, establish the following control a minimum of 10 days prior to the recycling procedure and shall maintain the layout throughout the construction process:

1. Side Staking: Careful side staking of existing centerline as per Standard Specification Section 105.6.2, Contractor Provided Services. Side stakes shall be placed safely outside of the construction limits and the existing centerline grades shall be transferred to these stakes. These stakes and grades will be used to lay out centerline and determine new construction finish grades from differential elevation sheets furnished by MaineDOT.
2. Centerline: The Contractor shall be responsible to establish a painted centerline. This control will be used to establish the alignment of the recycling procedure. Crosshairs will be painted at every half station (50 feet) and a “control line” will be painted consistently between crosshairs.
3. The Contractor shall also establish a 2-foot offset from established centerline prior to initial pulverization and final stabilization in order to reestablish and maintain true centerline.

All layout, stakes, and grades will be checked and must be acceptable to the on-site Department representative.

307.057 General Procedure New aggregate or recycled material meeting the requirements of Section 307.034 - New Aggregate and Additional Recycled Material, shall be added as necessary to restore cross-slope and/or grade before initial pulverization. Locations will be shown on the plans or described in the construction notes. The Department 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 Department.

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 Department. 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 307.058. The initial pulverizing process density requirements will be the same as Section 307.061 unless otherwise directed by the Department.

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 pulverizer, 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 Department.

Cement or lime shall be introduced as described in section 307.042. The resultant material shall be graded and compacted to the cross-slope and profile shown on the plans or as directed by the Department. 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.

307.058 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.

Low areas will be repaired using a hot mix asphalt shim. Areas up to 1 inch high can be repaired by shimming with hot mix asphalt or milling provided that the thickness of the treated area exceeds the contract requirements. Areas greater than 1 inch high will be repaired using a hot mix asphalt shim. All repair work will be done with the Department's approval at the Contractor's expense. Depending on the severity of the repair, the Department may consider alternative repair methods, such as retreating the affected area, with prior discussion.

## TESTING REQUIREMENTS

307.060 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 Department at this meeting. 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. The maximum distance of the knockdown roller from the FDR or CIPR train and maximum separation of each roller within the rolling train.
- d. Make and type of equipment in recycling train.
- e. Testing Plan.
- f. Project layout and method of grade checks.
- g. Laydown operations including joint construction, additive yield monitoring, procedures for avoiding recycling and curing in inclement weather, methods to ensure that segregation is minimized, and procedures for mix design modification.
- h. Methods for protecting the finished product from damage and procedures for any necessary corrective action.
- i. Examples of Quality Control forms.
- j. Name, responsibilities, and qualifications of the Responsible onsite Recycling Supervisor experienced and knowledgeable with the process.
- k. Method for calibration/verification of density gauge.
- l. Method and frequency (at least 1 per day) to measure the dry density if the water content is not determined by nuclear methods, i.e., if the nuclear gauge used is not capable of emitting neutron radiation for moisture content determination.
- m. A note that all testing will be done in accordance with AASHTO and MDOT/ACM procedures.
- n. Description of the FDR recycled verification procedure.

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
Initial Pulverization Density*	3 per subplot (1000 feet / lane)	AASHTO T310
Final Stabilization Density*	3 per subplot (1000 feet / lane)	ASTM D 2950
Air Temperature	4 per day at even intervals	
Surface Temperature	At the beginning and end of each days operation	
Yield of % Asphalt and Water added (Daily yield, yield since last test, and total project yield.)	1 per 1000 ft/lane (minimum of 2 per day)	
Yield of Cement (Daily yield, yield since last test, and total project yield.)	1 per 4000 ft/lane (minimum of 2 per day)	

\*Each density test must consist of the average of two measurements taken 180° apart by rotating the nuclear gauge.

For each 1,000-ft subplot, three density tests will be performed **in a stratified manner at random** locations across the mat. Each density test location will consist of the average of two measurements taken 180° apart by rotating the nuclear gauge.

The Contractor shall establish a corrective action and notify the Department in writing, whenever the average of the three test locations of any subplot falls below the minimum density of 98% of the target density as determined in the control section.

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.

Penalties for QCP non-compliance will be in accordance with Standard Specification 106.4.6.

The Contractor shall cease recycling operations whenever one of the following occurs:

- a. The computed yield differs from the mix design by 10% or more.
- b. The Contractor fails to follow the approved QCP.
- c. The Contractor fails to achieve 98% density after corrective action has been taken.
- d. The finished product is visually defective, as determined by the Department.

Recycling operations shall not resume until the Department approves the corrective action to be taken.

307.061 Control Section 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 control section for the project at a location approved by the Department. 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 control 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, frequency and amplitude settings for each roller, as well as the 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 control section shall be at least 750 feet in length of a full lane-width (or a half-road width). Full recycling production will not start until a passing control section has been accomplished. If a control section fails to meet the requirements of this specification, the Contractor will be required to repair or replace the control section to the satisfaction of the Department. Any repairs, replacement, or duplication of the control section will be at the Contractor's expense.

After the control section 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 750ft control section 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 for the knockdown roller and the intermediate/finish roller. Density testing following the pneumatic roller will not be required within the control strip limits regardless of its use in the intermediate or finish position. The Contractor and Department will each determine a target density using their respective gauges by performing five density tests within a 500 ft portion of the 750 ft control section at different transverse offsets across the treated recycled layer in intervals of 100 longitudinal feet and averaging them. The average of these tests will be used as the target density of the recycled material for QC and Acceptance purposes.

Production shall not continue more than 1,000 ft beyond the end of the control section and shall only resume once the rollers are within 500 ft of the recycling train, ensuring that the rollers can effectively maintain pace.

Following completion of the control section, compaction of the material shall continue until a density of not less than 98 percent of the control section target density has been achieved for the full width and depth of the layer.

307.062 Quality Acceptance Quality Acceptance densities of the recycled material will be determined by the Department using the nuclear method. The target density will be determined as per section 307.061. The average of these tests will be used as the target density of the recycled material for acceptance purposes. The remaining full depth recycled material shall be compacted to a minimum density of 98% of the target density as determined in the control section.

#### ACCEPTANCE TEST LOT AND SUBLOT SIZES AND FREQUENCY

Property	Lot/Sublot Size	Testing Frequency	Test Method
In-place Density	Entire Segment/2000 ft	3 tests per subplot (2000 ft / lane)	ASTM D 2950

A lot size will consist of the entire segment for the FDR layer. The maximum subplot size shall be 2,000 linear feet per lane.

For each 2,000-foot subplot, three tests will be performed **in a stratified manner at random** locations across the mat. Each density test location must consist of the average of two measurements taken 180° apart by rotating the nuclear gauge.

The contractor shall **cease** recycling operations whenever the average of the three test locations in any subplot falls below the minimum density of 98% of the target density as determined in the control section. The Contractor will submit a corrective action plan to the Department for the non-conforming areas. Corrective action may include recompacting, reprocessing, or replacement of materials in the non-conforming areas as approved by the Department.

The Department will only allow the continuation of recycling operations when it is satisfied the corrective action will result in an improvement in results. The Department reserves the right to have the Contractor perform additional density testing to verify that the corrective action was effective.

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 initial pulverization, final stabilization, placing, grading, compacting, and for all incidentals (including coring) necessary to complete the work as specified by the contract documents. Joint overlaps, lane overlaps, or additional width that exceed contract requirements due to equipment configuration will not be considered for square yard payment.

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.

Initial Pulverization and final stabilization of the existing pavement layers to the required depth and width accomplished with equipment described in Section 311 – Cold In-place Recycled Pavement will be paid under the appropriate 307 Item listed below.

Payments will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
307.331 Full Depth Recycled Pavement (Untreated)	Square Yard
307.334 Full Depth Recycled Pavement (with Emulsified Asphalt Stabilizer) 4 in. depth	Square Yard
307.335 Full Depth Recycled Pavement (with Emulsified Asphalt Stabilizer) 5 in. depth	Square Yard
307.336 Full Depth Recycled Pavement (with Emulsified Asphalt Stabilizer) 6 in. depth	Square Yard



SPECIAL PROVISION  
SECTION 307  
FDR w/ Emulsion

**Mix Design**

**The JMF targets represented in this Special Provision are intended to provide a basis for bidding purposes only. The Department will develop a job mix formula for the FDR using the bituminous material salvaged from the project and provided to the Department by the Contractor.**

**The Contractor will, with the Departments assistance, obtain a minimum of 5 35-pound buckets of bituminous reclaim material from the project as the initial reclaim process is performed and deliver those samples to the MaineDOT Central Laboratory in Bangor Maine for the development of the project specific mix design.**

**The Contractor shall allow a minimum of two weeks from the time of sample delivery to provide time for the development and reporting of the mix design.**

The Recycled Pavement on this project will be treated with the following material proportions:

Emulsion	3.0 %
Water added for compaction	2.0 %
Portland cement (Type I or II)	1.0 %

The unit weight of the in-place recycled material shall be 125 pcf. This information shall be used for bidding purposes only.

The optimum moisture content for compaction shall be determined by the Department using samples obtained from the recycled stockpiled material prior to addition of the emulsion, by means of AASHTO T 180, Method D.

A contract modification will be executed if percentages change from the requirements above for added emulsion, Portland cement or lime changes by more than 0.10%. Positive and negative price adjustments will be made. The price adjustment will be based upon receipted bills for materials delivered the project site. If a price adjustment is warranted, the Contractor will supply the Department with all receipted bills for emulsion, Portland cement or lime for the entire project. Adjustments in water content exceeding the initial targets shall not be paid for directly, but shall be incidental to the work.

## SECTION 401 - HOT MIX ASPHALT PAVEMENT

**401.01 Description** The Contractor shall furnish a uniformly blended, homogeneous mixture placed as one or more courses of Hot Mix Asphalt Pavement (HMA) on an approved base in accordance with the contract documents and in reasonably close conformity with the lines, grades, thickness, and typical cross sections shown on the plans or established by the Resident. The Department will accept this work under Quality Assurance provisions, in accordance with these specifications and the requirements of Section 106 – Quality, the provisions of AASHTO M 323 except where otherwise noted in sections 401 and 703 of these specifications, and the MaineDOT Policies and Procedures for HMA Sampling and Testing.

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

Asphalt Cement	702.01
Aggregates for HMA Pavement	703.07
RAP for HMA Pavement	703.08
HMA Mixture Composition	703.09

**401.03 Composition of Mixtures** The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), approved antistrip, warm mix additive, and/or mineral filler if required. HMA shall be designed and tested according to AASHTO R 35 and the volumetric criteria in Table 1. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF). Unless otherwise noted in Special Provision 403 - Hot Mix Asphalt Pavement, the design, verification, Quality Control, and Acceptance tests for this mix will be performed at 65 gyrations.

TABLE 1: VOLUMETRIC DESIGN CRITERIA

Design ESAL's (Millions)	Required Density (Percent of G <sub>mm</sub> )			Voids in the Mineral Aggregate (VMA) (Minimum Percent)					Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff . Binder Ratio
				Nominal Maximum Aggregate Size (mm)						
	N <sub>initial</sub>	N <sub>design</sub>	N <sub>max</sub>	25.0	19.0	12.5	9.5	4.75		
< 3.0	≤90.5	96.0	≤98.0						65-80*	0.6-1.2
3 to <10	≤89.0			13.0	14.0	15.0	16.0	16.0		
> 10										

\*For 9.5 mm nominal maximum aggregate size mixtures, the maximum VFB is 82. For 4.75 mm nominal maximum aggregate size mixtures, the maximum VFB is 84.

The Contractor shall submit a JMF to the Department for each mixture to be supplied. The JMF will be approved by the Department in accordance with the MaineDOT HMA Policies and Procedures for HMA Sampling and Testing Manual. At the time of JMF submittal, the Contractor shall identify and make available the stockpiles of all proposed aggregates at the plant site. There must be a minimum of 150 ton for coarse aggregate stockpiles and 75 ton for fine aggregate stockpiles before the JMF may be submitted. The Contractor shall provide aggregate samples to the Department unless otherwise required. The Contractor shall also make available to the Department the PGAB proposed for use in the mix in sufficient quantity to test the properties of the asphalt and to produce

samples for testing of the mixture. The first day's production shall be monitored, and the approval may be withdrawn if the mixture exhibits undesirable characteristics such as checking, shoving or displacement. The Contractor shall be allowed to submit aim changes for a JMF as outlined in the MaineDOT HMA Policies and Procedures for HMA Sampling and Testing Manual: Mix Design Approval Section.

The Contractor shall submit a new JMF for approval each time a change in material source or materials properties is proposed. The same approval process shall be followed. The cold feed percentage of any aggregate may be adjusted up to 10 percentage points from the amount listed on the JMF, however no aggregate listed on the JMF shall be eliminated. The cold feed percentage for RAP may be reduced up to 10 percentage points from the amount listed on the JMF and shall not exceed the percentage of RAP approved in the JMF or for the specific application under any circumstances.

401.031 Warm Mix Technology The Contractor may place Hot Mix Asphalt Pavement produced with an accepted WMA technology if approved by the Department. Methods or technologies shall generally be at the Contractors option, but will be limited to proven, Agency and Industry accepted practice. Mixture production, placement and volumetric testing details, including temperatures, shall be included in the project specific QCP, and submitted to the Department for approval prior to any work.

401.04 Temperature Requirements The temperature of the mixture shall conform to the tolerances in Table 2 as measured at the truck at the mixing plant and at the paver unless otherwise authorized by the Department.

TABLE 2: ALLOWABLE TEMPERATURE RANGES

PGAB Grade(s)	Temperature Range (°F)
PG58-28 / PG64-28	275-325
PG64E-28 / PG70E-28	285-335

401.05 Performance Graded Asphalt Binder The Contractor shall utilize either a PG58-28, PG64-28, PG64E-28, PG70E-28, or other grade as specified in the 403 Special Provision. The Contractor shall utilize a PG64-28 if no liquid grade is specified within the 403 Special Provision.

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

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

TABLE 3: SEASONAL AND TEMPERATURE LIMITATIONS

Use	Minimum Ambient Air Temperature	Zone 1 Allowable Placement Dates	Zone 2 Allowable Placement Dates
Surface course (travelway & adjacent shoulders*) less than 1 in. thick placed during conditions defined as “night work”	50°F	June 1 to Saturday following September 1	
Surface course (travelway & adjacent shoulders*) less than 1 in. thick	50°F	May 15 to Saturday following September 15	
Travelway surface course greater than or equal to 1 in. thick	50°F	May 1 to Saturday following October 1	April 15 to Saturday following October 15
HMA for surface course on bridge decks	50°F	May 1 to Saturday following October 1	April 15 to Saturday following October 15
HMA for base or shim course on bridge decks	50°F	April 15 to November 15	
HMA for use other than travelway surface course	40°F	April 15 to November 15	
HMA for curb, driveways, sidewalks, islands, or other incidentals	40°F	N/A	N/A
HMA produced with an approved WMA technology for base or shim course	35°F	April 15 to November 15	
*Adjacent shoulders shall be considered shoulders paved in the same operation as the travelway.			

The ambient air temperature shall be determined by an approved thermometer placed in the shade at the paving location. Unless otherwise specified, the Contractor shall not place Hot Mix Asphalt Pavement on a wet or frozen surface regardless of the ambient air temperature. The Hot Mix Asphalt Pavement produced with an approved WMA technology shall meet the requirements of section 401.04 - Temperature Requirements, unless otherwise approved by the Department. For the purposes of this Section, the traveled way includes truck lanes, ramps, approach roads and auxiliary lanes.

#### 401.07 Hot Mix Asphalt Plant

401.071 General Requirements HMA plants shall conform to AASHTO M 156, Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures with exception of Section 4.2.1, 4.2.2, 4.3.4, 4.3.5, and 4.12.2.

All HMA plants will be inspected annually by the Department prior to producing HMA for Department projects. The Contractor shall provide the Department at least 72 hours' notice that the plant is ready for inspection. The Contractor shall equip the plant with ladders and platforms that are accessible and safe to obtain samples of PGAB, aggregate and mix from the relevant tanks, collector belts and haul units. Silo storage time of mixtures shall not exceed 36 hours.

401.072 Stockpiles The Contractor shall provide sufficient space for stockpiles and maintain a minimum of supply for 2 days production of all aggregate products used in MaineDOT approved mix designs currently under production. A minimum stockpile supply of 100 ton (70 yards) shall be

maintained at all times. The Contractor shall construct stockpiles to prevent intermingling and to minimize segregation. All stockpiles used in MaineDOT mixes shall be identified with weatherproof signs at least 12" high and 24" wide, with reflective lettering at least 2" high.

401.073 Cold Feeds Cold Feed Bins will have bin dividers to keep aggregate products separated. Adequate means must be provided for obtaining samples of the combined flow of all Cold feed bins.

401.074 Dryer Dryer shall be capable of heating aggregate to required mixing temperature and shall be in good operation and condition. Dryer shall be subject to annual inspection prior to start-up. The Contractor shall dry and heat the aggregates for the HMA to the required temperature, adjusting flames to avoid damaging the aggregates. The Contractor shall provide the Department a minimum period of 72 hours to inspect the dryer and provide at least 24 hours' notice that the dryer is ready for inspection.

401.075 Asphalt Binder The plant shall include a heating system and insulation to maintain the asphalt binder at a uniform temperature for proper mixing and compaction. A thermometer shall be provided in the asphalt binder line. No direct flame may come in contact with tank. A sampling valve shall be provided in the circulation line downstream of any binder additive used unless otherwise approved by the Department. The Contractor shall drain down the asphalt as low as safely possible in any tank that will be switched to a new source or grade prior to adding the new PGAB.

401.076 Additives Additives (WMA, anti-strip, etc.) introduced into the binder at the HMA plant shall be introduced per the supplier's recommendations and shall be approved by the Department. The system for introducing additives shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all production rates and batch sizes. Additive introduction systems shall be controlled by a proportioning device to the amount required on the JMF plus or minus 0.1% of the target. Additive introduction systems shall be interlocked with the plant and the recordation (batch tickets or drum recordation) shall display the additive and the weight and percentage added. A means for sampling the PG binder with additive introduced will be provided. The sampling point shall be after the additive is mixed with the PGAB before entering the drum or mixer unit.

#### 401.077 Batch Plants

Hot Bins Hot bins shall provide uniform continuous operation and be in good working condition. The plant shall be able to provide samples of hot bins upon request. Overflow shall be provided for each hot bin. Hot bin gates shall close without leaking. Bin walls must prevent intermingling between bins. Each hot bin shall have low level indicators which will alert the operator when the bin is empty.

Mixer Unit Clearance between blades and liner shall be 1" maximum, unless the aggregate exceeds 1 ¼" then the clearance shall be 1 ½". The spray bar length shall be at least 75% of the mixer length. The mixer unit shall be a twin pug mill-type mixer capable of mixing continuously for at least 45 seconds after all materials have been introduced into the mixer. The blades in the mixer shall be capable of producing a homogenous mixture. If the mixer is not enclosed, it shall be equipped with an adjustable hood to prevent loss of dust by dispersion. The mixer unit shall be subject to annual inspection prior to removal of safety features and being readied for service. The Contractor shall provide the Department the opportunity to inspect the mixer unit prior to the

annual inspection. The Contractor shall provide the Department a minimum period of 72 hours to inspect the mixer unit and provide at least 24 hours' notice that the mixer unit is ready for inspection.

Mineral Filler Mineral filler and fiber shall utilize separate bins and feed systems to store and proportion the required quantity into the mixture. The feed systems shall be accurate to no more than 10% of the required weight with a convenient and accurate means of calibration. Mineral filler and fiber shall be introduced in the weigh hopper and uniformly distributed prior to the injection of the asphalt binder.

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

The HMA batch plant shall be operated within the following tolerances:

Each aggregate component	+/- 1.5% cumulative, per bin
Mineral Filler	+/- 0.5%
Bituminous Material	+/- 0.1%
Zero return (aggregate)	+/- 0.5%
Zero Return (AC)	+/- 0.1%
Additives	+/- 0.1%

Recordation All plants shall be equipped with an approved digital recording device. The printer shall mark any weight on the ticket that exceeds tolerance. The delivery slip shall contain information required under Section 108.1.3 - Provisions Relating to Certain Measurements, Mass and paragraphs a, b, and c of Section 401.078.

#### 401.078 Drum Plants

Cold Feeds and Delivery System A scalper screen shall be used to remove oversize material. The accuracy of the belt scale shall be within +/- 1.0% of the actual weight being measured. The plant shall be capable of correcting for aggregate moisture. Mineral filler and fiber shall utilize separate bin(s) and feeder systems to store and proportion the required quantity into the mixture. The feed systems shall be accurate to no more than +/- 10% of the required weight with a convenient and accurate means of calibration. The plant shall be equipped with a single control to change all feed rates. Mineral filler and fiber shall be introduced such that dry mixing is accomplished no less than 18 inches prior to the injection of the asphalt binder. The Contractor shall ensure that the mineral filler does not become entrained in the exhaust stream of the dryer.

Binder System The flow of asphalt binder shall adjust automatically with dry aggregate weights. The Department will conduct an asphalt flow meter check annually and after each change of plant location. The flow meter check must be performed prior to producing mix for Department projects. The plant must be configured to provide a convenient means to check accuracy of the flow meter. The flow meter will be considered accurate if the measured weight is within 1% of actual weight.



Drum Mixer The plant shall be equipped with a diversion system where mix can be diverted at startup/shutdown and any time. The drum mixer shall be subject to annual inspection prior to removal of safety features and being readied for service. The Contractor shall provide the Department a minimum period of 72 hours to inspect the drum mixer while providing at least 72 hours' notice that the drum mixer is ready for inspection.

Recordation An approved automatic ticket printer system shall be used to print delivery slips. The requirements for delivery slips for payment of materials measured by weight, as given in the following Sections, shall be waived: 108.1.3 a., 108.1.3 b., 108.1.3 c., and 108.1.3 d. The automatic printed ticket will be considered as the Weight Certificate. The dry aggregate weights and binder flow shall be recorded as well as mineral filler and all binder additives. The recordation of materials shall be printed a minimum of every ten minutes while in production.

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

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

401.079 Scales and Weight Checks Scales shall meeting the requirements of Section 108 - Payment. The scales shall be inspected and sealed by the State Sealer (or approved alternative) as often as the Department deems necessary to verify their accuracy. Plant scales shall be checked prior to the start of the paving season, and each time a plant is moved to a new location. Subsequent checks will be made as determined by the Resident. The Contractor will have at least ten 50 pound masses for scale testing at batch plants. At Contractor's option, the Contractor can use one single test weight that has been checked on sealed scales. This weight shall be 1,000 lbs. or greater. At least twice during each 5 days of production either of the following checks will be performed:

- a. A loaded truck may be intercepted and weighed on a platform scale that has been sealed by the State Sealer of Weights and Measures within the past 12 months. The inspector will notify the producer to take corrective action on any discrepancy over 1.0%. The producer may continue to operate for 48 hours under the following conditions.
  1. If the discrepancy does not exceed 1.5%; payment will still be governed by the printed ticket.
  2. If the discrepancy exceeds 1.5%, the plant will be allowed to operate as long as payment is determined by truck platform scale net weight.
 If, after 48 hours the discrepancy has not been addressed and reduced below 1.0%, then plant operations will cease. Plant operation may resume after the discrepancy has been brought within 1.0%.
- b. Where platform scales are not readily available, a check will be made to verify the accuracy and sensitivity of each scale within the normal weighing range and to assure that the interlocking devices and automatic printer system are functioning properly. If platform scales are not readily available, a weight with a known mass-verified and sealed annually by a licensed scale company, may be used by hanging weight from silo or surge hopper, at lower middle and upper third levels upon request to verify scale accuracy.
- c. In the event of a malfunction of the automatic printer system, production may be continued without the use of platform truck scales for a period not to exceed the next two working

days, providing total weights of each batch are recorded on weight tickets and certified by a Licensed Public Weighmaster.

**401.08 Hauling Equipment** Units hauling HMA shall have tight, clean, and smooth metal bodies, which have been thinly coated with a small amount of approved release agent to prevent the mixture from adhering to the bodies. Release agents that dissolve or strip asphalts, including diesel fuel, will not be allowed.

All mix haul units shall have a cover of water repellent material capable of heat retention, which completely covers the mixture. The cover shall be securely fastened on the truck, unless unloading. Haul units shall have an opening on both sides near the midpoint of the body, at least 12 in above the bed, which will accommodate a thermometer stem.

**401.09 Pavers** The Contractor shall use pavers meeting the requirements of this section unless otherwise authorized by the Department. Pavers shall meet the requirements of Table 4: Paver Requirements.

TABLE 4: PAVER REQUIREMENTS

Use	Paver Requirement
Traveled Way & Auxiliary Lanes	Equipped with a 10 ft minimum main screed with activated extensions. The minimum tractor weight shall be 30,000 pounds.
	Equipped with automatic grade and slope controls that automatically adjust the screed and increase or decrease the layer thickness to compensate for irregularities in the preceding course. The controls shall maintain the proper transverse slope and be readily adjustable so that transitions and superelevated curves can be properly paved. The controls shall operate from a fixed or moving reference such as a grade wire or ski type device (floating beam) with a minimum length of 30 ft, a non-contact grade control with a minimum span of 24 ft, except that a 40 ft reference shall be used on interstate and divided highway projects.
All HMA Placement	Self-contained, self-propelled units of sufficient class and size to place Hot Mix Asphalt Pavement in full lane widths specified in the contract on the main line, shoulder, or similar construction.
	Equipped with a free-floating activated heated main screed with activated extensions. Pavers with extendible screeds shall have auger extensions and tunnel extenders as per the manufacturer's recommendations, a copy of which shall be available if requested.
	Equipped with a receiving hopper with sufficient capacity for a uniform spreading operation and a distribution system to place the mixture uniformly, without segregation in front of the screed.
	Operated in such a manner as to produce a visually uniform surface texture and a thickness within the requirements of Section 401.11 - Surface Tolerances. The screed assembly shall produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture.

The Contractor shall have the paver at the project site sufficiently before the start of paving operations to be inspected and approved by the Department. The Contractor shall repair or replace any paver found worn or defective, either before or during placement, to the satisfaction of the Department. Pavers that produce an unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA on MaineDOT projects. On a daily basis, the Contractor shall perform density testing across that mat as detailed in Section 401.191 Quality Control - Method A, B & C.



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

The Contractor shall repair or replace any roller found to be worn or defective, either before or during placement, to the satisfaction of the Department. Rollers that produce grooved, unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA. The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor's option unless otherwise specified in the contract, provided specified density is attained and with the following requirements:

- a. On variable-depth courses, the first lift of pavement over gravel, reclaimed pavement, on irregular or milled surfaces, or on bridges, at least one roller shall be 16 ton pneumatic-tired. Pneumatic-tired rollers shall be equipped with skirting to minimize the pickup of HMA materials from the paved surface. When required by the Resident, the roller shall be ballasted to 20 ton.
- b. Compaction with a vibratory or steel wheel roller shall precede pneumatic-tired rolling, unless otherwise authorized by the Department.
- c. Vibratory rollers shall not be operated in the vibratory mode on bridge decks.
- d. Any method, which results in cracking or checking of the mat, will be discontinued and corrective action taken.
- e. The use of an oscillating steel roller shall be required to compact all mixtures placed on bridge decks.

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

**401.11 Surface Tolerances** The Department will check the following surface tolerances:

- a. Longitudinally: The pavement surface profile shall be free of deviations in excess of +/- ¼ inches from the required pavement surface profile grade. To verify the surface tolerance a straight plane shall be established using 16 foot straight edge or a taught string line placed parallel to the direction of travel and checked continuously across the width of the lane.
- b. Transversely: The pavement surface profile shall be free of deviations in excess of 0 inches below and ¼ inches above the required cross-sectional profile grade. To verify the surface tolerance a straight plane shall be established using a 10 foot straight edge or taught string line placed perpendicular to the direction of travel and checked continuously along the length of the lane.

The Contractor shall correct defective areas by removing defective work and replacing it with new material as directed by the Department. The Contractor shall furnish a 10 foot straightedge for the Department's use.

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

**401.13 Spreading and Finishing** On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impracticable, the Contractor shall spread, rake, and lute the HMA with hand tools to provide the required compacted thickness. Release agents that dissolve or strip asphalts, including diesel fuel, will not be allowed. On roadways with adjoining lanes carrying traffic, the Contractor shall place each course per the conditions in Table 5, unless otherwise noted by the Department in Section 403 - Hot Mix Asphalt Pavement.

TABLE 5: PLACEMENT CONDITIONS FOR ADJOINING LANES

Depth (at centerline)	Placement Conditions
<b>Vertical Longitudinal Joint</b>	
¾" and less (incl. shim)	The Contractor may place the HMA course over the full single travel lane width for each production day.
1" to 1 ¼"	The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before weekend or holiday suspension.
1 ½" to 2"	The Contractor may place the HMA course over the full single travel lane width for each production day and 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.
Greater than 2"	The Contractor shall place each course over the full width of the traveled way section being paved that day.
<b>Notched-Wedge Longitudinal Joint</b>	
1 ½" to 2"	The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before weekend or holiday suspension. A maximum unmatched centerline joint length of 0.5 miles will be permitted over the weekend.
Greater than 2"	The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before the end of the following calendar day.

The Contractor shall place the specified course over the full width of the mainline traveled way being paved, regardless of use, depth, or longitudinal joint type prior to Memorial Day, July 4<sup>th</sup>, Labor Day, paving suspensions exceeding three days, or other dates as specified by special provision.

The Contractor shall install additional warning signage that clearly defines the centerline elevation differential hazard. Unless otherwise addressed in the contract, the Contractor shall install additional centerline delineation such as a double application of raised pavement markers at 100 foot intervals, or temporary painted line. For any exposed vertical edge between the shoulder and traveled way, at a minimum, the use of temporary painted line, or RPMs placed along the edge of traveled way at 200 foot intervals is required. The Traffic Control Plan shall be amended to include this option and the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of

0.50 mile for the entire length of effected roadway section. If this option is utilized, all additional signing, labor, traffic control devices, or incidentals will not be paid for directly, will be considered incidental to the appropriate 652 items.

401.14 Hot Mix Asphalt Placement on Bridge Decks Hot mix asphalt pavement placed on bridges shall also conform to Section 508.04 and the following requirements.

- a. The minimum production and placement temperature for the Hot Mix Asphalt placed over membrane shall conform to the manufacturer's recommendations.
- b. The bottom course shall be placed with an approved rubber mounted paver of such type and operated in such a manner that the membrane waterproofing will not be damaged in any way.
- c. The top course shall not be placed until the bottom course has cooled sufficiently to provide stability.
- d. The Contractor will not be required to cut sample cores from the compacted pavement on the bridge deck, unless otherwise directed by Special Provision.
- e. After the top course has been placed, the shoulder areas shall be sealed 3 ft wide with two applications of an emulsified bituminous sealer meeting the requirements of Section 612.03 - Sealing and Section 702.12 - Emulsified Bituminous Sealing Compound. The first application shall be pre-mixed with fine, sharp sand, similar to mortar sand, as needed to fill all voids in the mix in the area being sealed. The second application may be applied without sand. The sealer shall be carried to the curb at the gutter line in sufficient quantity to leave a bead or fillet of material at the face of the curb. The area to be sealed shall be clean, dry and the surface shall be at ambient temperature. The furnishing and applying of the required quantity of sealer for the bridge shoulder areas shall be incidental to placing the hot mix asphalt pavement.
- f. The area between the edge of the membrane and the vertical surface shall be completely sealed with hot-applied rubberized asphalt material, meeting the requirements of Type 4 crack seal; shall be applied to form a complete seal between the membrane and the vertical surface and shall extend up the vertical surface to within ½ inch of the top of the HMA wearing surface. This work shall be considered incidental to the contract pavement items unless 508 membrane items are included in the contract.

401.15 Compaction Immediately after the Hot Mix Asphalt Pavement has been spread, struck off, and any surface irregularities adjusted, the Contractor shall thoroughly and uniformly compact the HMA by rolling.

The Contractor shall roll the surface when the mixture is in the proper condition and when the rolling does not cause undue displacement, cracking, or shoving. The Contractor shall prevent adhesion of the HMA to the rollers or vibrating compactors without the use of fuel oil or other petroleum-based release agents. Solvents designed to strip asphalt binders from aggregates will not be permitted as release agents on equipment, tools, or pavement surfaces.

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

Along forms, curbs, headers, walls, and other places not accessible to the rollers, the Contractor shall thoroughly compact the HMA with mechanical vibrating compactors. The Contractor shall only use hand tamping in areas inaccessible to all other compaction equipment. On depressed areas, the Contractor may use a trench roller or cleated compression strips under a roller to transmit compression to the depressed area.

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

For all items requiring pavement density testing, the Contractor shall cut 6-inch diameter cores at no additional cost to the Department by the end of the working day following paving. Cores shall be cut such that the nearest edge at least 9 inches from any joint. Pre-testing of the cores will not be allowed. If the Contractor and the Department mutually determine that a core is damaged, the Contractor shall cut new core(s) at the same offset and within 3 ft of the initial sample. The Contractor and the Department will mutually determine if underlying material is adhered to the core and if so will mark the core at the point where sawing is needed. The Department will place the cores in a secure container and the Contractor shall transport the cores to the designated MaineDOT lab. The cores will be saw cut by the Department to remove underlying layers. No recuts are allowed at a test location after the core has been tested.

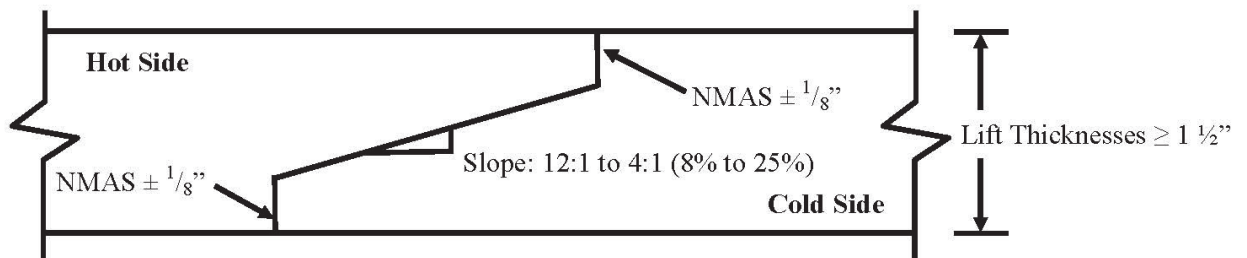
On all sections of overlay with wearing courses designed to be 1 in or less in thickness, there shall be no pay adjustment for density otherwise noted in Section 403 - Hot Mix Asphalt Pavement. For overlays designed to be 1 in or less in thickness, density shall be obtained by the same rolling train and methods as used on mainline travelway surface courses with a pay adjustment for density, unless otherwise directed by the Department.

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

401.16 Joints The Contractor shall construct wearing course transverse and longitudinal joints in such a manner that minimum tolerances shown in Section 401.11 - Surface Tolerances are met when measured with a straightedge. The paver screed shall maintain a uniform head of HMA during transverse and longitudinal joint construction. The HMA shall be free of segregation and meet temperature requirements outlined in Section 401.04. Transverse joints of the wearing course shall be straight and neatly trimmed. The Contractor may form a vertical face exposing the full depth of the course by inserting a header, by breaking the bond with the underlying course, or by cutting back with hand tools. The Contractor shall apply a coating of emulsified asphalt immediately before paving all joints to the vertical face and 3 in of the adjacent portion of any pavement being overlaid except those formed by pavers operating in echelon. The Contractor shall use an approved spray apparatus designed for covering a narrow surface. The Department may approve application by a brush for small surfaces, or in the event of a malfunction of the spray apparatus, but for a period of not more than one working day.

Where pavement under this contract joins an existing pavement, or when the Department directs, the Contractor shall cut the existing pavement along a smooth line, producing a neat, even, vertical joint. The Department will not permit broken or raveled edges. The cost of all work necessary for the preparation of joints is incidental to related contract pay items. Longitudinal joints shall be generally straight to the line of travel and constructed in a manner that best ensure joint integrity. Methods or activities that prove detrimental to the construction of straight, sound longitudinal joints will be discontinued.

The Contractor may utilize an approved notched wedge joint device on all HMA layers 1 ½ inches in depth or greater. A notched wedge joint shall be constructed as shown in Figure 1 using a device that is attached to the paver screed and is capable of independently adjusting the top and bottom vertical notches.



**FIGURE 1: Notched Wedge Joint**

Notes

1. An emulsified tack coat shall be applied to the vertical edges and the wedge surface so that the total rate is 0.05 G/SY plus the normal specified rate prior to placing the adjacent layer. The Contractor may elect to apply the emulsified tack coat in one or multiple passes.
2. Dimensions shown are compacted depths (after rolling is complete).

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.

The Contractor shall apply a coating of emulsified asphalt on the vertical and tapered surface of the longitudinal centerline joint immediately before paving if the notched wedge joint device is used.

The total rate of application shall be 0.050 G/SY plus the normal specified tack coat rate. 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.

401.17 Hot Mix Asphalt Documentation The Contractor and the Department shall agree on the amount of Hot Mix Asphalt Pavement that has been placed each day. All delivery slips shall conform to the requirements of 401.078.



401.18 Prepave Meeting Prior to placing any mix, the Department and the Contractor shall hold a Pre-paving conference to discuss the paving schedule, source of mix, type and amount of equipment to be used, sequence of paving pattern, rate of mix supply, random sampling, project lots and sublots and traffic control. A copy of the density QC random numbers to be used on the project shall be provided to the Resident. The Departments' random numbers for Acceptance testing shall be generated and on file with the Resident and the Project Manager. All personnel of the Department and the Contractor who have significant information relevant to the paving items shall attend, including the responsible onsite paving supervisor for the Contractor. The Resident will prepare minutes of the conference and distribute them to all attendees. Any requests to revise the minutes must be made to the Resident within 7 Days of Receipt. These minutes will constitute the final record of the Pre-paving conference. On the first day of paving and whenever there is a change in the onsite paving foreman or paving inspector, the Department and the Contractor shall hold an informal onsite meeting to review the minutes of the Pre-paving conference, Project Specific QCP, Plans, Typical, Special Provisions and communication process. This meeting shall be held prior to placing any mix and, at minimum, shall occur yearly for multi-year contracts. The onsite paving supervisor, QCT, Superintendent, Resident and/or paving inspector shall attend.

401.19 Contractor Quality Control – Method A, B, C & D

The Contractor shall operate in accordance with the approved Quality Control Plan (QCP) to assure a product meeting the contract requirements. The Contractor shall not begin paving operations until the Department approves the QCP in writing.

401.191 Quality Control The QCP shall meet the requirements of Section 106.6 – Acceptance and this Section. The QCP shall address any items that affect the quality of the Hot Mix Asphalt Pavement, and shall include the following personnel meeting these minimum requirements:

- a. QCP Administrator – The QCP Administrator must be a full-time employee of or a consultant engaged by the Contractor or paving subcontractor. The QCP Administrator shall have full authority to institute any and all actions necessary for the successful operation of the QCP. The QCP Administrator (or their designee in the QCP Administrator's absence) shall be available to communicate with the Department at all times.
  - For items accepted under Methods A and B, the QCP Administrator shall be certified as a Quality Assurance Technologist (QAT) by NETTCP.
  - For items accepted under Methods C and D, the QCP Administrator shall be certified by NETTCP as a Quality Assurance Technologist (QAT), Plant Technician, or Paving Inspector.
- b. Process Control Technician(s) (PCT) shall utilize test results and other quality control practices to assure the quality of aggregates and other mix components and control proportioning to meet the JMF(s). The PCT shall inspect all equipment used in mixing to assure it is operating properly and that mixing conforms to the mix design(s) and other Contract requirements, and that delivery slips and plant recordation accurately reflects the mix being produced with all the required information. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one PCT is required. The Plan shall include the criteria to be utilized by the PCT to correct or reject unsatisfactory materials. The PCT shall be certified as a Plant Technician by the NETTCP.
- c. Quality Control Technician(s) (QCT) shall perform and utilize quality control tests at the job site to assure that delivered materials meet the requirements of the JMF(s). The QCT

shall inspect all equipment utilized in transporting, laydown, and compacting to assure it is operating properly and that all laydown and compaction conform to the Contract requirements. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one QCT is required. The QCP shall include the criteria utilized by the QCT to correct or reject unsatisfactory materials. The QCT shall be certified as a Paving Inspector by the NETTCP.

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

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

- a. General Requirements:
  - Job Mix Formulas (JMFs)
  - Name of QCP Administrator, and certification number
  - Description of corrective action process
  - Disposition of defective material
  - A procedure to take immediate possession of acceptance samples once released by MaineDOT and deliver said samples to the designated acceptance laboratory.
- b. Process Control Requirements: Each Hot Mix Asphalt plant shall have a Plant Specific Process Control Plan. At minimum the plan shall include:
  - Name of Plant Specific Process Control Technician(s) and certification number(s)
  - Hot mix asphalt plant details
  - Stockpile Management
  - Mixing & transportation
  - Silo management and details
  - A detailed description of RAP processing, stockpiling and introduction into the plant
  - PG Binder management:
    - Tanks and storage (including polymer modified binders if applicable)
    - Binder temperature
    - Sample points
    - Method to ensure mixture contains the specified binder grade
    - Additive introduction details if introduced at the plant
  - Testing and inspection plan for control of aggregates and RAP
  - Mix Testing and inspection plan
- c. Quality Control Requirements – Method A & B:
  - Name of Quality Control Technicians(s) and certification number(s)
  - Laydown operations
  - Longitudinal joint construction including the tacking of all joints.
  - Procedures for avoiding paving in inclement weather
  - Compaction of shoulders
  - Methods to ensure that segregation is minimized
  - Procedures to determine the maximum rolling and paving speeds based on best engineering practices and past experience in achieving acceptable pavement smoothness.

- Sequence for paving around drainage structures, under guard rail, around curb, at bridges, intersections, drives and minor approaches to ensure proper compaction, finish, and drainage.
- Type of release agent to be used on haul units, tools and rollers.

d. Quality Control Requirements – Method C and D:

- Name of QCP Administrator and certification number(s) as specified in Section 401.19.
- Name of Process Control Technicians(s) and certification number(s).
- Name of Quality Control Technicians(s) and certification number(s).
- Anticipated Compaction Temperature Zones for each roller pass during placement.
- Mix TMD to be used for density gauge setting for method spec density work
- Procedures for avoiding paving in inclement weather.
- Type of release agent to be used on haul units, tools and rollers.
- A note stating that the use of petroleum-based fuel oils, such as diesel or kerosene, or asphalt stripping solvents will not be permitted.

The Contractor shall also supply a Laydown Operation Plan that addresses sequence of work, layout of work, longitudinal joint construction, compaction of shoulders, methods to minimize segregation, and procedures to achieve acceptable pavement smoothness.

For each production day, a summary of each day's results, including a daily paving report, summarizing the mixture type, mixture temperature, equipment used, environmental conditions, and the number of roller passes, shall be recorded and signed by the QCT and presented to the Department's representative by 1 PM the following working day.

Unless otherwise noted in Section 403 – Hot Mix Asphalt Pavement, the Contractor shall submit a modified QC Plan every year detailing, how the mix is to be placed, what equipment is to be used, and what HMA plant is to be used for Items covered under the Plan. All mix designs (JMF) shall be approved and verified by MaineDOT prior to use.

A QCP, certified QC personnel, and a Prepave Meeting shall not be required for Item 403.209 - Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals) accepted under visual or Method D. An approved JMF shall be provided to the Resident prior to placement.

The Contractor shall certify the mix and the test results for each item by a Certificate of Compliance.

The Contractor shall have a testing lab at the plant site, equipped with all testing equipment necessary to complete the tests in Table 6. The Contractor shall generate QC sampling random numbers for each approved mix design every year. A copy of the random numbers shall be emailed to the QC.mainedot@maine.gov email address and remain on-file (in print) and be available for inspection at the QC laboratory. The Contractor shall sample, test, and evaluate Hot Mix Asphalt Pavement in accordance with the minimum frequencies per each approved mix design.



TABLE 6: MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Temperature of mix	6 per day at street and plant	-
Temperature of mat	4 per day	-
%TMD (In-Place Density - Surface)	1 per 125 ton	AASHTO T 355 or AASHTO T 343
%TMD (In-Place Density - Base)	1 per 250 ton	AASHTO T 355 or AASHTO T 343
Fines / Effective Binder	1 per 500 ton	AASHTO T 312*
Gradation	1 per 500 ton	AASHTO T 30
PGAB Content	1 per 500 ton	AASHTO T 164 or AASHTO T 308
Voids at $N_{design}$	1 per 500 ton	AASHTO T 312*
VMA at $N_{design}$	1 per 500 ton	AASHTO T 312*
Rice Specific Gravity	1 per 500 ton	AASHTO T 209
Percent Fractured Particles	1 per 5,000 ton	AASHTO T 335
Flat and Elongated Particles	1 Per 5,000 ton	ASTM D4791
Fine Aggregate Angularity	1 Per 5,000 ton	AASHTO T 304

\*Method A and B only

The Contractor shall monitor plant production on each approved mix design using running average of three control charts as specified in Section 106 - Quality. Control limits shall be as noted in Table 7 below. The UCL and LCL, shall not exceed the allowable gradation control points for the particular type of mixture as outlined in Table 1 of Section 703.09.

TABLE 7: CONTROL LIMITS

Property	UCL and LCL
Percent Passing 4.75 mm and larger sieves	Target +/- 4.0
Percent Passing 2.36 mm sieve	Target +/- 2.5
Percent Passing 0.075 mm sieve	Target +/- 1.0
PGAB Content	Target +/- 0.25
VMA at $N_{design}$	LCL = LSL + 0.2
Voids at $N_{design}$	JMF Target +/- 1.2
Theoretical Maximum Specific Gravity	JMF Target +/- 0.020

The Contractor shall submit all QC test and inspection reports and updated control charts to the Resident and QC.mainedot@maine.gov by email. The reports and updated control charts shall be signed by the appropriate technician and be submitted to the Department by 1:00 P.M. on the next working day, except when otherwise noted in the QCP and approved by the Department.

The Contractor shall also retain splits of the previous 5 QC tests, with QC results enclosed for random selection and testing by the Department. Test results of splits that do not meet the Dispute Resolution

Variance Limits in Table 18 shall trigger an investigation by the MaineDOT Independent Assurance Unit and may result in that lab losing NETTCP certification and the ability to request a dispute [Section 401.50 - Process for Dispute Resolution].

The Contractor shall make density test results, including randomly sampled densities, available to the Department onsite. Summaries of each day's results, including a daily paving report summarizing the mixture type, mixture temperature, equipment used, environmental conditions, and the number of

roller passes, shall be recorded and signed by the QCT and provided to the QC.mainedot@maine.gov email address and Resident in writing by 1:00 p.m. the next working day. The Contractor shall fill all holes in the pavement resulting from cutting cores by the Contractor or the Department with a properly compacted, acceptable mixture no later than the following working day. Before filling, the Contractor shall carefully clean the holes and apply a coating of emulsified asphalt. The Contractor may only cut additional cores for verification of the densometer, at a rate not to exceed 3 per day or 2 per 1000 ton placed.

If the Contractor's control chart shows the process for a given mix design to be out of control (defined as a single point outside of the control limits on the running average of three chart) on any property listed in Table 7: Control Limits, the Contractor shall notify the Resident of all affected projects in writing of the corrective action by 1:00 PM the next working day. The written description shall detail what action is being taken by the Contractor to bring the property in question back within control limits. Subsequent quality control results are expected to demonstrate an improvement and regression towards the aim. The Department reserves the right to take action, to include cessation of production, in the case of repeated results outside the Table 7 control chart control limits.

On a daily basis, or whenever equipment type or sequence is modified, the Contractor shall perform density testing across the mat being placed, prior to being compacted by equipment at 12 in intervals. If the density values vary by more than 2.0% from the mean, the Contractor shall make adjustments to the screed until the inconsistencies are remedied. Failure to replace or repair defective placement equipment may result in a letter of suspension of work and notification of a quality control violation resulting in possible monetary penalties as governed by Section 106 – Quality.

The Contractor shall cease paving operations whenever one of the following occurs:

- a. The quality level for density using all quality control tests for the current Lot is less than 60 PWL.
- b. The Coarse Aggregate Angularity or Fine Aggregate Angularity value falls below the requirements of Section 703.07, Table 3: Aggregate Consensus Properties Criteria for the design traffic level.
- c. The Flat and Elongated Particles value exceeds 10% by ASTM D4791.
- d. There is any visible damage to the aggregate due to over-densification other than on variable depth shim courses.
- e. The Contractor fails to follow the approved QCP.

The Contractor shall notify the Resident in writing as to the reason for shutdown, as well as the corrective action, by the end of the workday. Failure to do so will be treated as a second incident under 106.4.6 QCP Non-compliance. The Department will only allow the continuation of paving operations when it is satisfied the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production. The Department

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

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

401.192 Quality Control for Method D, (sidewalks, drives, islands & incidentals) and visual acceptance items A QCP, certified QC personnel, or Prepave Meeting shall not be required for Item 403.209 - Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals) accepted under visual or Method D. An approved JMF shall be provided to the Resident prior to placement.

401.20 Acceptance Method A & C These methods utilize Quality Level Analysis and pay factor specifications. For Hot Mix Asphalt Pavement designated for acceptance under Quality Assurance provisions, the Department will sample once per subplot on a statistically random basis, test, and evaluate in accordance with the Acceptance Properties as outlined in Table 8:

TABLE 8: ACCEPTANCE PROPERTIES – METHOD A & C

Properties	Point of Sampling	Test Method
Gradation	Paver Hopper	AASHTO T 30
PGAB Content	Paver Hopper	AASHTO T 308
% TMD (In-Place Density)	Mat behind all Rollers	AASHTO T 269
Voids at $N_{design}$	Paver Hopper	AASHTO T 312
VMA at $N_{design}$	Paver Hopper	AASHTO T 312
Fines to Effective Binder	Paver Hopper	AASHTO T 312
VFB	Paver Hopper	AASHTO T 312

The Department will obtain samples of Hot Mix Asphalt Pavement in conformance with AASHTO R 97, Sampling Asphalt Mixtures, and the MaineDOT Policies and Procedures for HMA Sampling and Testing. The Contractor shall transport the samples in containers provided by the Department to the designated MaineDOT Laboratory within 48 hours except when otherwise noted in the project specific QCP or as directed by the Resident. Failure to deliver an acceptance sample to the designated acceptance laboratory will be considered the second incident under 106.4.6–QCP Non-Compliance.

Target values shall be as specified in the JMF. The Department will withhold reporting of the test results for the Acceptance sample until 7:00 AM, on the second working day of receipt of the sample, or after receipt of the Contractors results of the Acceptance sample split. Upon conclusion of each lot being evaluated under quality level analysis, where there is a minimum of four sublots, results shall be examined for statistical outliers, as stated in Section 106.7.2 - Statistical Outliers.

Lot sizes and subplot sizes shall be determined as outlined in Table 9.

TABLE 9: LOT AND SUBLOT SIZES – METHOD A & C

Lot Size*	Entire production per item per contract per year up to 6000 ton
Maximum Sublot Size – Mix	750 ton
Maximum Sublot Size – Density	Surface Layers – 250 ton Base / Intermediate Layers – 500 ton
Minimum Number of Samples – Mix	Four
Minimum Number of Samples – Density	Five

\*General – Lot and Sublot size may be adjusted to accommodate the work scope and schedule, or as otherwise agreed upon at the Prepave Meeting

If there is less than one-half of a subplot remaining at the end of production for the year, then it shall be combined with the previous subplot. If there is more than one-half subplot remaining at the end of production for the year, then it shall constitute the last subplot and shall be represented by test results. If it becomes apparent partway through a Lot that, due to an underrun, there will be insufficient mix quantity to obtain the minimum number of sublots needed, the Resident may adjust the size of the remaining sublots and select new sample locations based on the estimated quantity of material remaining in the Lot. Unanticipated over-runs of up to 1500 ton shall be rolled into the last lot. Cases where the lot is terminated prior to reaching completion shall be handled in accordance with Section 106.7.3 Early Termination of Lots. In cases where density incentive/disincentive provision apply, additional cores shall be taken to attain a minimum of three for the Lot.

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

TABLE 10: ACCEPTANCE LIMITS – METHOD A &amp; C

Property	USL and LSL	
	Method A	Method C
Percent Passing 4.75 mm and larger sieves	Target +/- 7%	Target +/- 7%
Percent Passing 2.36 mm to 1.18 mm sieves	Target +/- 4%	Target +/- 5%
Percent Passing 0.60 mm sieve	Target +/- 3%	Target +/- 4%
Percent Passing 0.30 mm to 0.075 mm sieve	Target +/- 2%	Target +/- 2%
PGAB Content	Target +/- 0.4%	Target +/- 0.4%
Voids at $N_{design}$	4.0% +/- 1.5%	N/A
Fines to Effective Binder	0.9 +/- 0.3	N/A
VMA at $N_{design}$	LSL from Table 1	N/A
VFB	Table 1 plus a 4% production tolerance for USL	N/A
% TMD (In-place Density)	94.5% +/- 2.5%	94.5% +/- 2.5%

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

TABLE 11: CEASE PRODUCTION – METHOD A &amp; C

Property	Percent Within Limits (PWL)	
	Method A	Method C
Percent Passing NMA sieve*	<60 PWL	<60 PWL
Percent Passing 2.36 mm sieve*		
Percent Passing 0.30 mm sieve*		
Percent Passing 0.075 mm sieve*		
PGAB Content		N/A
Voids at $N_{design}$		
Fines to Effective Binder*		
VMA at $N_{design}$		
VFB		
% TMD (In-place Density)		<60 PWL

\*Paving operations shall not be required to cease if the mean test value is equal to the LSL or USL and  $s = 0$ .

In cases where the Contractor is to cease paving operations based upon an Acceptance result or payfactor, the Contractor will submit a corrective action plan to the Department. The Department will only allow the continuation of paving operations when it is satisfied the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production.

401.201 Pay Adjustment - Method A & C The Department will use the following criteria for pay adjustment at the completion of the Lot using the pay adjustment factors under Section 106.7 - Quality Level Analysis.

Density Upon conclusion of each lot, density results shall be examined for statistical outliers as stated in Section 106.7.2. If the pay factor for Density falls below 0.80, all of the cores will be randomly re-cut by Sublot. A new pay factor will be calculated that combines all initial and retest results. If the resulting pay factor is below 0.80, the entire Lot shall be removed and replaced with material meeting the specifications at no additional cost to the Department, except that the Department may, when it appears that there is a distinct pattern of defective material, isolate any defective material by investigating each mix sample subplot and require removal of defective mix sample sublots only, leaving any acceptable material in place if it is found to be free of defective material. Pay factors equal to or greater than the reject level will be paid accordingly.

Mix Properties The Department will determine a pay factor (PF) using the applicable Acceptance Limits. If all three pay factors for PGAB Content, VMA at  $N_{design}$ , and Voids at  $N_{design}$  fall below 0.80 for Method A, then the composite pay factor for PGAB Content, VMA at  $N_{design}$ , and Voids at  $N_{design}$  shall be 0.50.

The following variables will be used for pay adjustment:

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

The Department will determine a pay adjustment using Table 12: Pay Adjustment Calculations as follows:

TABLE 12: PAY ADJUSTMENT CALCULATIONS – METHOD A & C

Acceptance Method	Mix Properties / Gradation	Density
Method A	$PA = (\text{Voids @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{VMA @ } N_d - 1.0)(Q)(P) \times 0.20 + (\text{PGAB Content PF} - 1.0)(Q)(P) \times 0.10$	$PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$
Method C	$PA = (\% \text{ Passing Nom. Max PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 2.36 mm PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 0.30 mm PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 0.075 mm PF} - 1.0)(Q)(P) \times 0.10 + (\text{PGAB Content PF} - 1.0)(Q)(P) \times 0.25$	$PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$

In addition, for 9.5 mm NMAS mixtures the following pay adjustment shall also apply:

The average percent passing for the 0.075 mm sieve shall be evaluated for each Lot. If the average is greater than 6.5%, a pay adjustment according to Table 13 below shall apply in addition to the other pay adjustments for the given method of testing.

TABLE 13: 0.075 MM SIEVE PAY ADJUSTMENT

Average Percent Passing 0.075 mm Sieve	Pay Adjustment
6.6% - 7.0%	-5%
> 7.0%	-10%

The Department shall notify the Contractor whenever the average of at least three samples in a given Lot is greater than 6.5%.

401.21 Acceptance Method B & D Unless otherwise stated in the 403 special provision, the Lot shall be the entire mix quantity per item per contract per year. The Department will sample once per subplot per pay item on a statistically random basis, test, and evaluate in accordance with the Acceptance Properties in Table 14. The Department will obtain samples of Hot Mix Asphalt Pavement in conformance with AASHTO R 97, Sampling Asphalt Mixtures, and the MaineDOT Policies and Procedures for HMA Sampling and Testing. The Contractor shall transport the samples in containers provided by the Department to the designated MaineDOT Laboratory within 48 hours except when otherwise noted in the project specific QCP or as directed by the Resident. Failure to deliver an acceptance sample to the designated acceptance laboratory will be considered the second incident under 106.4.6–QCP Non-Compliance. Target values shall be as specified in the JMF. The Department will withhold reporting of the test results for the Acceptance sample until 7:00 AM, on the second working day of receipt of the sample, or after receipt of the Contractors results of the Acceptance sample split.



TABLE 14: ACCEPTANCE PROPERTIES – METHOD B &amp; D

Properties	Point of Sampling		Test Method
	Method B	Method D	
Gradation	Paver Hopper	Paver Hopper or Truck	AASHTO T 30
PGAB Content	Paver Hopper	Paver Hopper or Truck	AASHTO T 308
% TMD (In-Place Density)	Mat behind all Rollers	Mat behind all Rollers	AASHTO T 269
Voids at $N_{design}$	Paver Hopper	N/A	AASHTO T 312
VMA at $N_{design}$	Paver Hopper	N/A	AASHTO T 312
Fines to Effective Binder	Paver Hopper	N/A	AASHTO T 312
VFB	Paver Hopper	N/A	AASHTO T 312

TABLE 15: LOT AND SUBLOT SIZES – METHOD B &amp; D

Lot Size*	Entire mix quantity per item per contract per year	
Maximum Sublot Size – Mix	(Lot size $\leq$ 1000 tons)	(Lot size $>$ 1000 tons)
	250 ton	750 ton
Sublot Size – Density	125 ton (Max 5 Sublots)	250 ton

\*General – Lot and Sublot size may be adjusted to accommodate the work scope and schedule, or as otherwise agreed upon at the Prepave Meeting

If there is less than one-half of a sublot remaining at the end of production for the year, then it shall be combined with the previous sublot. If there is more than one-half sublot remaining at the end of production for the year, then it shall constitute the last sublot.

TABLE 16: ACCEPTANCE LIMITS – METHOD B &amp; D

Property	USL and LSL	
	Method B	Method D
Percent Passing 4.75 mm and larger	Target +/- 7%	Target +/- 7%
Percent Passing 2.36 mm sieve	Target +/- 5%	Target +/- 7%
Percent Passing 1.18 mm sieve	Target +/- 5%	Target +/- 5%
Percent Passing 0.60 mm sieve	Target +/- 4%	Target +/- 4%
Percent Passing 0.30 mm sieve	Target +/- 3%	Target +/- 3%
Percent Passing 0.075 mm sieve	Target +/- 3%	Target +/- 3%
PGAB Content	Target +/- 0.5%	Target +/- 0.5%
Voids at $N_{design}$	4.0% +/- 2.0%	N/A
Fines to Effective Binder	0.9 +/- 0.3	N/A
VMA at $N_{design}$	LSL from Table 1	N/A
VFB	Table 1 plus a 4% production tolerance for USL	N/A
% TMD (In-place Density)	94.5% +/- 2.5%	LSL of 92.0%

The Contractor shall cease paving operations whenever two consecutive Method B or D tests fall outside specification limits on the same property. The Contractor will submit a corrective action plan to the Department. The Department will only allow the continuation of paving operations when it is satisfied the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production.

**401.211 Pay Adjustment - Method B & D** For items accepted under Method B or D, if the mix is within the tolerances listed in Table 16, the Department will pay the contract unit price, otherwise pay adjustments as shown in Table 17 shall be applied to the quantity of mix represented by the test. The Contractor shall cut one 6 in core per subplot unless otherwise noted in Section 403 - Hot Mix Asphalt Pavement. If the density result is not within the specified limits the disincentive shall apply. If the subplot density is less than 88.5 percent or greater than 99.0 percent of the subplot TMD, two additional cores shall be cut at random locations determined by the Department. If either of the additional cores has a density less than 88.5 percent or greater than 99.0 percent of the subplot TMD, the subplot shall be removed and replaced at no cost to the Department; otherwise, the average of the three cores will be used to determine the subplot pay adjustment.

TABLE 17: PAY ADJUSTMENTS – METHOD B &amp; D

Property	Method B		Method D	
Percent Passing 2.36 mm sieve	N/A		-2.0%	
Percent Passing 0.30 mm sieve	N/A		-1.0%	
Percent Passing 0.075 mm sieve	-2.0%		-2.0%	
PGAB Content	-5.0%		-5.0%	
Voids at $N_{design}$	-3.0%		N/A	
% TMD (In-place Density)	91.5% - 91.9% or 97.1% - 97.5%	-5.0%	91.5% - 91.9%	-5.0%
	90.5% - 91.4% or 97.6% - 98.5%	-10.0%	90.5% - 91.4%	-10.0%
	89.5% - 90.4% or 98.6% - 99.0%	-20.0%	89.5% - 90.4%	-20.0%
	88.5% - 89.4%	-30.0%	88.5% - 89.4%	-30.0%
	<88.5% or >99.0%	Reject	<88.5% or >99.0%	Reject

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

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

The Department will pay for the work specified in Section 401.12, for the HMA used, except that cleaning objectionable material from the pavement and furnishing and applying bituminous material to joints and contact surfaces is incidental. Payment for this work under the appropriate pay items shall be full compensation for all labor, equipment, materials, and incidentals necessary to meet all related contract requirements, including design of the JMF, implementation of the QCP, obtaining core samples, transporting cores and samples, filling core holes, applying emulsified asphalt to joints, and providing testing facilities and equipment. The Department will make a pay adjustment for quality as specified in Section 401.20 Acceptance Method A & B or 401.21 Acceptance Method C & D.

**401.50 Process for Dispute Resolution** At the time of Hot-Mix Asphalt sampling, the Department will obtain a split sample of each Acceptance test random sample for possible dispute resolution testing. The Contractor shall also obtain a split sample of the HMA at this same time. If the



Contractor wishes to retain the option of requesting dispute testing of the initial Acceptance sample, the Contractor will test their split of the Acceptance sample in accordance with applicable AASHTO procedure and accepted supplemental practice as described in the Department's HMA Sampling and Testing Policies and Procedures manual. The Contractor shall report their results to the Resident, with a copy to Contractor.mainedot@maine.gov by 7:00 AM, on the second working day from time of QA sampling, otherwise dispute resolution will not be initiated. The Department's dispute resolution split sample will be properly labeled and stored for a period of at least two weeks after it has been reported, or until the sample is tested. The properties eligible for dispute and the respective variances are shown in Table 18.

The Contractor may dispute the Department's Acceptance results and request that the dispute resolution split sample be tested by notifying the Department's Resident and QA Engineer in writing within two working days after the results of the Acceptance test are reported. The following shall be provided in the request:

- Acceptance sample reference number
- The specific test result(s) or property(ies) being disputed, and
- The complete, signed report of the Contractor's testing (In a lab certified by the NETTCP and MaineDOT) of their split of the Acceptance sample indicating that the variances in Table 18 for the specific test result(s) or property(ies) were exceeded.

TABLE 18: DISPUTE RESOLUTION VARIANCE LIMITS

Property	Method A & B	Method C & D*	Variance Limits
PGAB Content	Yes	Yes	+/- 0.4%
G <sub>mb</sub>	Yes	No	+/- 0.030
G <sub>mm</sub>	Yes	Only if referenced to a Core	+/- 0.020
Voids at N <sub>design</sub>	Only if G <sub>mb</sub> or G <sub>mm</sub> is not disputable	No	+/- 0.8%
VMA at N <sub>design</sub>	Only if G <sub>mb</sub> or G <sub>mm</sub> is not disputable	No	+/- 0.8%
Percent Passing 4.75 mm and larger sieves	No	Yes^	+/- 4.0%
Percent Passing 2.36 mm to 0.60 mm sieves	No	Yes^	+/- 3.0%
Percent Passing 0.30 mm to 0.15 mm sieves	No	Yes^	+/- 2.0 %
0.075 mm sieve	Only for 9.5 mm NMAS mixes	Yes	+/- 0.8%

\*Disputes will not be allowed on Item 403.209

^Disputes will only be allowed on Sieve Sizes used for pay adjustment calculations

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

value reported for the dispute resolution sample will replace the value reported for the initial Acceptance sample and will be used to re-calculate any other affected results or properties.

## SECTION 402 - PAVEMENT SMOOTHNESS

**402.00 Smoothness Projects** Projects to have their pavement smoothness analyzed in accordance with this Specification will be so noted in Special Provision 403 - Hot Mix Asphalt Pavement.

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

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

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

- Bridge decks and joints (no smoothness measurements will be taken within 100 ft of bridge joints)
- Acceleration and deceleration lanes
- Shoulders and ramps
- Side streets and roads
- Within 100 ft of transverse joints at the beginning and end of the project
- Within 100 ft of railroad crossings
- Urban areas with speed limits of 30 mph or lower

Each lot shall have 2 measurements made in each wheel path. The average of the 4 measurements will determine the smoothness for that lot. The smoothness measurements will be statistically evaluated for pay factors as described in Subsection 106.7 - Quality Level Analysis, using the specification limits shown below.

TABLE 1: ACCEPTANCE LIMITS

Level	USL
I	55 in/mile
II	65 in/mile
III	75 in/mile

Computation of Smoothness Pay Adjustment:

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

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

PF = smoothness pay factor for the Lot

P = Contract unit price for surface pavement

PA = pay adjustment

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

Localized surface tolerance defects will be subject to the provisions outlined in Section 401.11 Surface Tolerances.

Payment will be made under:

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

## SECTION 403 - HOT MIX ASPHALT PAVEMENT

403.01 Description This work shall consist of constructing one or more courses of Hot Mix Asphalt pavement on an approved base in accordance with these specifications, and in reasonably close conformity with the lines, grades, thickness and typical cross sections shown on the plans or established. The HMA pavement shall be composed of a mixture of aggregate, filler if required, and asphalt material.

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

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

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

403.05 Basis of Payment The accepted quantities of hot mix asphalt pavement will be paid for at the contract unit price per ton for the mixtures, including hot mix asphalt material complete in place. Method A, Method B, Method C and Method D shall be used for acceptance as specified in Section 401 - Hot Mix Asphalt Pavements. (See Complementary Notes, Section 403 - Hot Mix Asphalt Pavement, for Method location).

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
403.102 Hot Mix Asphalt Pavement for Special Areas	Ton
403.206 Hot Mix Asphalt, 25 mm Nominal Maximum Size	Ton
403.207 Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	Ton
403.2071 Hot Mix Asphalt, 19.0 mm Nominal Maximum Size (Polymer Modified)	Ton
403.2072 Asphalt Rich Hot Mix Asphalt, 19.0 mm Nominal Maximum Size (Asphalt Rich Base and Intermediate course)	Ton
403.208 Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	Ton
403.2081 Hot Mix Asphalt - 12.5 mm Nominal Maximum Size (Polymer Modified)	Ton
403.209 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Sidewalks, Drives, Islands & Incidentals)	Ton
403.210 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size	Ton
403.2101 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Polymer Modified)	Ton
403.2104 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Thin Lift Surface Treatment)	Ton
403.211 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Shimming)	Ton
403.2111 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Shimming, Polymer Modified))	Ton
403.212 Hot Mix Asphalt, 4.75 mm Nominal Maximum Size	Ton
403.213 Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course)	Ton
403.2131 Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course, Polymer Modified)	Ton
403.2132 Asphalt Rich Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course)	Ton
403.214 Hot Mix Asphalt, 4.75 Nominal Maximum Size (5/8" Surface Treatment)	Ton

**SECTION 400**  
**HOT MIX ASPHALT PAVEMENT**  
 (Weather and Seasonal Limitations)

The following section of Special Provision Section 400 – Weather and Seasonal Limitations Table3: SEASONAL AND TEMPERATURE LIMITATIONS has been replaced by the following Table 3: SEASONAL AND TEMPERATURE LIMITATIONS. All other requirements not amended or replaced by Table3 by this special provision shall be considered unchanged.

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

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

**TABLE 3: SEASONAL AND TEMPERATURE LIMITATIONS**

Description	Zone 1 Allowable Placement Dates	Zone 2 Allowable Placement Dates	Minimum Ambient Air Temperature
HMA Surface Course greater than or equal to 1” (Travelway)	May 1 to Saturday following October 1	April 15 to Saturday following October 15	50°F
HMA Surface Course less than 1” (Travelway)	May 15 to Saturday following September 15	May 15 to Saturday following October 1	
HMA Surface Course less than 1” considered to be “Night Work” (Travelway)	June 1 to the Saturday following September 1		
HMA Surface Course less than 1” (Shoulders)	May 15 to the Saturday following October 15		
HMA for Surface Course on Bridge Decks	May 1 to Saturday following October 1	April 15 to Saturday following October 15	
HMA for Base or Shim Course on Bridge Decks	April 15 to November 15		
HMA for use other than Travelway Surface Course (Shoulders greater than or equal to 1”, Intermediate, Base, Shim)	April 15 to November 15		40°F
HMA for curb, driveways, sidewalks, islands, or other incidentals	N/A		

With Use of Approved Warm Mix Technology as Compaction Aid (Surface Course Ambient Air Temperature Allowances)			
HMA Surface Course greater than or equal to 1” (Travelway)	May 1 to Saturday following October 1	April 15 to Saturday following October 15	Begin at 50°F and pave down to 45°F
HMA Surface Course less than 1” (Travelway)	May 15 to Saturday following October 1	May 15 to Saturday following October 15	
HMA Surface Course less than 1” considered to be “Night Work” (Travelway)	June 1 to the Saturday following September 15		
HMA Surface Course less than 1” (Shoulders)	May 15 to the Saturday following October 15		
With Use of Approved Warm Mix Technology as Compaction Aid (Seasonal Limitation Extensions)			
HMA Surface Course greater than or equal to 1” (Travelway)	Saturday following October 1 to Saturday following October 15	Saturday following October 15 to Saturday following October 29	50°F
HMA Surface Course less than 1” (Shoulders)	Saturday following October 15 to Saturday following October 29		50°F
HMA for use other than Travelway Surface Course (Shoulders greater than or equal to 1”, Intermediate, Base, Shim)	April 15 to Saturday following November 15		35°F

1. Shoulders paved with the travelway pass shall meet travelway ambient air temperatures
2. Refer to the 461 SP for UTBWC for seasonal and temperature requirements.

The ambient air temperature shall be determined by an approved thermometer placed in the shade at the paving location. Unless otherwise specified, the Contractor shall not place Hot Mix Asphalt Pavement on a wet or frozen surface regardless of the ambient air temperature. The Hot Mix Asphalt Pavement produced with an approved WMA technology shall meet the requirements of section 401.04 - Temperature Requirements, unless otherwise approved by the Department. For the purposes of this Section, the traveled way includes truck lanes, ramps, approach roads and auxiliary lanes.

**SPECIAL PROVISION**  
**SECTION 401**  
**HOT MIX ASPHALT PAVEMENT**

**401 HOT MIX ASPHALT LONGITUDINAL JOINT DENSITY**

401.30 Description The Department will measure the pavement density of longitudinal joints constructed between adjoining travel lanes; turn lanes, truck (climbing) lanes, and passing lanes will be considered travel lanes for longitudinal joint density testing unless otherwise noted in Section 403 – Hot Mix Asphalt Pavement. Core samples shall be tested according to AASHTO T-166. The Contractor shall cut 6-inch diameter cores at no additional cost to the Department by the end of the working day following paving. Pre-testing of the acceptance cores will not be allowed. If the Contractor and the Department mutually determine that a core is damaged, the Contractor shall cut new core(s) at the same offset and within 3 ft of the initial sample. The Contractor and the Department will mutually determine if underlying material is adhered to the core and if so will mark the core at the point where sawing is needed. The Department will place the cores in a secure container and the Contractor shall transport the cores to the designated MaineDOT lab. The cores will be saw cut by the Department to remove underlying layers. No recuts are allowed at a test location after the core has been tested.

For vertical longitudinal joints, cores shall be taken directly centered over the construction joint. For notch-wedge longitudinal joints, the cores shall be cut directly over the center of the tapered portion of the wedge.

As part of the project specific QCP, the Contractor shall include details as to methods of construction, rolling and compaction efforts, and action plan to adjust methods or equipment should the Quality level fall below 50 percent within limits. The Contractor shall be required to measure the joint density at randomly selected locations with a minimum frequency of one measurement per 750 linear feet. The Contractor shall have the option to cut calibration/verification cores at a rate not to exceed 1 per day.

If the Quality level for density falls below 50 percent within limits, the Contractor shall cease placement operations and submit a corrective action letter to the Department before proceeding with the Lot or before starting a new Lot. The Department will respond and either accept or reject the Contractor's proposed corrective action. If the Department accepts the corrective action, three stratified verification cores will be taken from the first 1500 foot section of longitudinal joint constructed for the purpose of evaluating the corrective action. These cores will be in addition to any Acceptance cores that may be designated in this area. The results from these cores shall be combined with the cores from the Lot in progress. Should the combined Quality level for density show an improvement, the Department will accept the corrective action and normal Acceptance sampling frequency shall resume. If an improvement has not been made to the combined Quality level for density, the Contractor shall cease production and submit an additional corrective action letter for consideration.

401.31 Acceptance This method utilizes Quality Level Analysis and pay factor specifications as described in Section 106. For Hot Mix Asphalt Pavement designated for acceptance under

Quality Assurance provisions, the Department will sample once per subplot on a statistically random basis, test, and evaluate in accordance with the following Acceptance Properties:

Lot size will be the entire length of longitudinal joint for the given HMA layer for the project, or equal Lots of a size agreed upon at the Pre-paving conference. The maximum subplot size shall be 2000 linear feet of longitudinal joint for density and the minimum number of sublots for any Lot shall be five. The Lot will be divided up into sublots of equal length. There shall be a separate Lot for each lift of HMA pavement, and Lots shall not be comprised of results from more than one HMA layer.

The Department will determine a pay factor using acceptance limits from Table 1.

TABLE 1: LONGITUDINAL JOINT DENSITY ACCEPTANCE LIMITS

PROPERTY	LSL
% TMD (In-Place Density)*	91.0%

\* The Theoretical Maximum Density will be determined from the average of the  $G_{mm}$  values used to determine the percent compaction of the nearest acceptance cores on either side of the Longitudinal Joint Core from each adjacent mat.

The Department will calculate the Pay Adjustment for Longitudinal Joint Density as follows:

Where

$$PA = (\text{joint density PF} - 1.0)(Q)(P) \times 0.40$$

PA = Pay Adjustment  
 Q = Quantity of traveled way pavement represented by PF in tons  
 P = Contract price per ton  
 PF = Pay Factor

If the joint density Pay Factor is less than 0.88, the Pay Adjustment shall be:

$$PA = (-0.05)(Q)(P)$$



## SPECIAL PROVISION SECTION 401

### HOT MIX ASPHALT

(Thin Lift Surface Treatment –  $\frac{3}{4}$  inch and 1 inch)

Description The Contractor shall furnish a uniformly blended, homogeneous mixture placed as one or more courses of Hot Mix Asphalt Pavement (HMA) on an approved base in accordance with the contract documents and in reasonably close conformity with the lines, grades, thickness, and typical cross sections shown on the plans or established by the Resident. The Department shall accept this work under Quality Assurance provisions as specified in Special Provision Section 400; Subsection 401 - Hot Mix Asphalt Pavement, and Standard Specifications Section 106 - Quality.

The Thin Lift Surface Treatment shall meet all of the Materials, Seasonal Limitations, Equipment, and Construction requirements of Section 401, with the following additions and changes.

Weather and Seasonal Limitations All work shall be in accordance with Division 400 – Pavements; Section 401 – Hot Mix Asphalt Pavement, subsection 401.06- Weather and Seasonal Limitations, with the exception of the following revisions;

1. For travelway paving the seasonal limits are extended to the Saturday following September 15<sup>th</sup> for surface courses placed less than 1 inch during conditions defined as night work, and October 1<sup>st</sup> for surface courses less than 1 inch during conditions defined as day work.
2. Shoulder surface courses that are less than 1 inch and are paved separately from the travelway shall be completed by the Saturday following October 15<sup>th</sup>.

The minimum pavement surface temperature for application of the tack coat and placement of the wearing course is 50° F.

Materials 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.

Compaction As a minimum, compaction of the Thin Lift Surface Treatment will be obtained using a minimal roller train consisting of a 10 ton vibratory roller, 16 ton pneumatic roller, and a 10 ton finish roller. Once the methods are established, rolling patterns, equipment, and methods will become part of the QCP. Failure to conform to these requirements will be treated as a second incident under 106.4.6 QCP Non-compliance.

The Contractor will be required to provide a QCT onsite for the placement of the Thin Lift Surface Treatment to monitor placement activities and maximize the density of the material for each day of placement. The QCT will be required to perform density testing of the mixture using a density meter (according to ASTM D 2950). A control section will be established at the beginning of the first day of production to establish roller patterns. The control section mixture will be rolled until the density readings show less than 1 pcf change for the final roller passes. This density will be used as the target TMD for the mixture. The remainder of the areas to be paved shall be compacted to a minimum density of 98% of the target density as determined in the control section.

The Contractor shall record and provide reports of each day's results, including a daily paving report listing the mixture type, mixture temperatures, equipment used, environmental conditions, and number of roller passes used to obtain the target TMD. Reports shall be signed by the QCT and presented to the Department's representative by the end of the working day. If this option is selected, the QCT will be required to monitor the densities for the entire production run. The QCT shall be required to be onsite during all mainline paving operations.

The Department may halt the production and placement of the Thin Lift Surface Treatment and require the construction of a new test strip if the Department finds that material being produced, hauled, or placed does not meet the requirements of Sections 401.08 through 401.18.

Method of Measurement The Department will measure Hot Mix Asphalt pavement by the ton in accordance with Section 109 - Measurement and Payment.

Basis of Payment The Department will pay for the Work, in place and accepted, in accordance with the applicable sections of this Special Provision; at the contract unit price per ton for the Pay Item listed in Special Provision Section 403 – Hot Mix Asphalt.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
403.2104 9.5mm HMA - Thin Lift Surface Treatment	Ton
403.21041 9.5mm HMA – Polymer Modified Thin Lift Surface Treatment	Ton

**SPECIAL PROVISION**  
**SECTION 401 - HOT MIX ASPHALT PAVEMENT**  
(HMA with Fine Micro-Deval Requirement)

The following subsections of the most current version of Specification 401 – Hot Mix Asphalt Pavements have been revised and amended by the following:

401.01 Description The Contractor shall compose Hot Mix Asphalt (HMA) Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. If denoted in Special Provision 403 - Hot Mix Asphalt Pavement, the mixtures shall meet the additional aggregate requirements of this special provision.

401.02 Materials Materials shall meet the requirements specified in Section 700 – Materials, unless otherwise revised in this special provision:

Aggregates for HMA Pavement	703.07
HMA Mixture Composition	703.09

The HMA blend, minus any RAP used, shall have a Fine Micro-Deval value of 15.0 or less as determined by weighted average of individual fine aggregate source values determined through ASTM D7428.

SPECIAL PROVISION  
SECTION 401  
HOT MIX ASPHALT PAVEMENT  
(Material Transfer Vehicle Option)

Description The Contractor may elect to use a material transfer vehicle at their option to transfer hot mix asphalt to the paver on mainline travelways, shoulders, and ramps as denoted in Special Provision 403 - Hot Mix Asphalt Pavement.

Material transfer vehicles shall operate as an independent unit not attached to the paver. It shall be a commercially manufactured unit specifically designed to transfer the hot mix from haul trucks to the paver without depositing the mix on the roadway. A separate hopper with a capacity of 14 ton shall be inserted into the regular paver hopper. The material transfer vehicle or the hopper insert shall be designed so that the mix receives additional internal mixing action either in the material transfer vehicle or the paver hopper.

Method of Measurement Hot mix asphalt pavement transferred by the material transfer vehicle and hopper insert will be measured by the ton.

Basis of Payment The accepted quantities of hot mix asphalt pavement transferred by the material transfer vehicle and hopper insert will be paid for at a price of \$2.00 per ton.

Payments will be made under:

<u>Pay Item:</u>	<u>Pay Unit:</u>
403.40 Material Transfer Vehicle (MTV)	Ton

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

Desc. Of Course	Grad Design.	Item Number	Total Thick	No. Of Layers	Comp. Notes
<b><u>3" HMA Overlay Areas - Full Depth Reclamation</u></b>					
<b><u>Travelway, Shoulders &amp; Sideroads (As Indicated)</u></b>					
Wearing	12.5 mm	403.2081	1 ½"	1	2,4,10,22,24,25,26,43
Base	12.5 mm	403.213	1 ½"	1	4,10,22,41,43
<b><u>Variable Depth Mill with 1 ½" HMA Overlay with Variable Depth Shim</u></b>					
<b><u>Travelway &amp; Shoulders (As Indicated)</u></b>					
Wearing	12.5 mm	403.2081	1 ½"	1	2,4,10,22,24,25,26
Shim	9.5 mm	403.211	variable	1	4,10,20
<b><u>Drives, Sidewalks, Island, Misc. (As Indicated or As Directed)</u></b>					
Wearing	9.5 mm	403.209	2"	1	3,20,30,32

**COMPLEMENTARY NOTES**

2. The required PGAB shall be a storage-stable, homogeneous, polymer modified asphalt binder that meets **PG 64E-28** grading requirements in AASHTO M 332. All polymer modified asphalt grades utilized on the Project shall be treated with an approved liquid anti-strip. PG binders shall be treated either at the asphalt source terminal with the required dose rate on the delivery documentation, or at the hot mix asphalt plant utilizing a system integrated with the plants controls that will introduce a minimum 0.50 percent anti-strip by weight of asphalt binder used unless a rate is otherwise recommended by the anti-strip manufacturer. The PGAB and anti-strip blend shall meet the **PG 64E-28** requirements. The Contractor shall provide supporting test data showing the PGAB and anti-strip blend meet the required criteria.
3. The aggregate qualities shall meet the design traffic level of <3 million ESALS for mix placed under this contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
4. 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 **65 gyrations**.
10. Section 106.6 Acceptance, (2) **Method D** as specified Section 401.21 - Quality Assurance Methods B and D. The Contractor may request a contract modification to change to testing method "C" prior to work starting on this item.
20. 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.
22. Longitudinal joint density testing shall be applied to the specified HMA layer. See Special Provision 401 – Hot Mix Asphalt Longitudinal Joint Density for project specifics.
24. See Special Provision 401 - HMA with Fine Micro-Deval Requirement for project specifics.
25. The Contractor may, at their option, use a Material Transfer Vehicle (MTV) for **all mainline travelway and adjacent shoulders surface course** if paved in the same operation. See Special Provision 401 – Material Transfer Vehicle for specifics.

26. The final pavement surface shall be evaluated for smoothness in accordance with the most current 400 Special Provision section 402 – Pavement Smoothness. Acceptance limits shall be as outlined under the **Level II** classification.
30. 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.
32. Compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **3-5 ton** vibratory roller. Areas less than 2 feet wide shall be compacted with a minimum of a **150 pound** plate compactor. 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.
41. The entire HMA base pavement section (consisting of all base layers) shall be completed before winter suspension. Any surface or base HMA placed after the seasonal limitations shall be considered temporary and removed and replaced the following construction season. The Department will not be responsible for costs or time related to the placement, removal or replacement of temporary pavement.
43. The contractor shall mill a stepped butt joint into the existing pavement at both the beginning and end joints for each pavement layer excluding the bottom base layer. For each layer, the stepped joint shall be cut to the depth and width of the pavement layer being placed and extend 5 feet beyond the immediate underlying layer. The **butt joint** for the overlying layer shall be **completed prior** to placing the adjacent layer. The Resident may extend this length as determined by the condition of the match point. No additional payment will be made for the milling of the butt joints but will instead be considered incidental to associated paving items.

#### Tack Coat

A tack coat of emulsified asphalt, RS-1, RS-1h, CRS-1 or CRS-1h, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.030 gal/yd<sup>2</sup>, and on milled pavement approximately 0.05 gal/yd<sup>2</sup> prior to placing a new course. A fog coat of emulsified asphalt shall be applied between shim /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 0.030 gal/yd<sup>2</sup>. Tack used will be paid for at the contract unit price for Item 409.15 Bituminous Tack Coat.

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

Desc. Of Course	Grad Design.	Item Number	Total Thick	No. Of Layers	Comp. Notes
<b><u>4" HMA Overlay Areas - Reconstruction</u></b>					
<b><u>Travelway, Shoulders &amp; Sideroads (As Indicated)</u></b>					
Wearing	12.5 mm	403.2081	1 ½"	1	2,4,10,22,24,25,26,43
Base	12.5 mm	403.213	2 ½"	1	4,10,22,41,43
<b><u>Variable Depth Mill with 1 ½" HMA Overlay with Variable Depth Shim</u></b>					
<b><u>Travelway &amp; Shoulders (As Indicated)</u></b>					
Wearing	12.5 mm	403.2081	1 ½"	1	2,4,10,22,24,25,26
Shim	9.5 mm	403.211	variable	1	4,10,20
<b><u>Drives, Sidewalks, Island, Misc. (As Indicated or Directed)</u></b>					
Wearing	9.5 mm	403.209	2"	1	3,20,30,32

**COMPLEMENTARY NOTES**

2. The required PGAB shall be a storage-stable, homogeneous, polymer modified asphalt binder that meets **PG 64E-28** grading requirements in AASHTO M 332. All polymer modified asphalt grades utilized on the Project shall be treated with an approved liquid anti-strip. PG binders shall be treated either at the asphalt source terminal with the required dose rate on the delivery documentation, or at the hot mix asphalt plant utilizing a system integrated with the plants controls that will introduce a minimum 0.50 percent anti-strip by weight of asphalt binder used unless a rate is otherwise recommended by the anti-strip manufacturer. The PGAB and anti-strip blend shall meet the **PG 64E-28** requirements. The Contractor shall provide supporting test data showing the PGAB and anti-strip blend meet the required criteria.
3. The aggregate qualities shall meet the design traffic level of <3 million ESALS for mix placed under this contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
4. 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 **65 gyrations**.
10. Section 106.6 Acceptance, (2) **Method D** as specified Section 401.21 - Quality Assurance Methods B and D. The Contractor may request a contract modification to change to testing method "C" prior to work starting on this item.
20. 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.
22. Longitudinal joint density testing shall be applied to the specified HMA layer. See Special Provision 401 – Hot Mix Asphalt Longitudinal Joint Density for project specifics.
24. See Special Provision 401 - HMA with Fine Micro-Deval Requirement for project specifics.
25. The Contractor may, at their option, use a Material Transfer Vehicle (MTV) for **all mainline travelway and adjacent shoulders surface course** if paved in the same operation. See Special Provision 401 – Material Transfer Vehicle for specifics.

26. The final pavement surface shall be evaluated for smoothness in accordance with the most current 400 Special Provision section 402 – Pavement Smoothness. Acceptance limits shall be as outlined under the **Level II** classification.
30. 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.
32. Compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **3-5 ton** vibratory roller. Areas less than 2 feet wide shall be compacted with a minimum of a **150 pound** plate compactor. 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.
41. The entire HMA base pavement section (consisting of all base layers) shall be completed before winter suspension. Any surface or base HMA placed after the seasonal limitations shall be considered temporary and removed and replaced the following construction season. The Department will not be responsible for costs or time related to the placement, removal or replacement of temporary pavement.
43. The contractor shall mill a stepped butt joint into the existing pavement at both the beginning and end joints for each pavement layer excluding the bottom base layer. For each layer, the stepped joint shall be cut to the depth and width of the pavement layer being placed and extend 5 feet beyond the immediate underlying layer. The **butt joint** for the overlying layer shall be **completed prior** to placing the adjacent layer. The Resident may extend this length as determined by the condition of the match point. No additional payment will be made for the milling of the butt joints but will instead be considered incidental to associated paving items.

#### Tack Coat

A tack coat of emulsified asphalt, RS-1, RS-1h, CRS-1 or CRS-1h, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.030 gal/yd<sup>2</sup>, and on milled pavement approximately 0.05 gal/yd<sup>2</sup> prior to placing a new course. A fog coat of emulsified asphalt shall be applied between shim /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 0.030 gal/yd<sup>2</sup>. Tack used will be paid for at the contract unit price for Item 409.15 Bituminous Tack Coat.



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

Desc. Of Course	Grad Design.	Item Number	Total Thick	No. Of Layers	Comp. Notes
<b><u>¾" HMA Overlay w/ Variable Depth Shim</u></b>					
<b><u>1 ½" Mill &amp; ¾" HMA Overlay w/ Shim</u></b>					
<b><u>Travel Lanes, Shoulders &amp; Side Roads (As Indicated)</u></b>					
Wearing	9.5 mm	403.21041	¾"	1	2,4,10,20,24,25,26,30
Shim	9.5 mm	403.211	variable	1/more	4,10,20,30
<b><u>CB/Structure Adjustments &amp; Granite Curb install/reset Areas (As Indicated or Directed)</u></b>					
Wearing	9.5 mm	403.21041	¾"	1	2,4,10,20,24,25,30,53
Shim	9.5 mm	403.211	variable	1/more	4,10,20,30,53
Base	12.5 mm	403.213	4 ½" or match	2/more	4,10,30,32,53
<b><u>Spot Shims (As Directed)</u></b>					
Shim	9.5 mm	403.211	variable	1/more	4,10,20,30
<b><u>Drives, Sidewalks, ADA ramps, Misc. (As Directed)</u></b>					
Wearing	9.5 mm	403.209	1-2"	1/more	3,20,30,32

**COMPLEMENTARY NOTES**

2. The required PGAB shall be a storage-stable, homogeneous, polymer modified asphalt binder that meets **PG 64E-28** grading requirements in AASHTO M 332. All polymer modified asphalt grades utilized on the Project shall be treated with an approved liquid anti-strip. PG binders shall be treated either at the asphalt source terminal with the required dose rate on the delivery documentation, or at the hot mix asphalt plant utilizing a system integrated with the plants controls that will introduce a minimum 0.50 percent anti-strip by weight of asphalt binder used unless a rate is otherwise recommended by the anti-strip manufacturer. The PGAB and anti-strip blend shall meet the **PG 64E-28** requirements. The Contractor shall provide supporting test data showing the PGAB and anti-strip blend meet the required criteria.
3. The design traffic level for mix placed shall be <3 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
4. 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 **65 gyrations**.
10. Section 106.6 Acceptance, (2) **Method D** as specified Section 401.21 - Quality Assurance Methods B and D. The Contractor may request a contract modification to change to testing method "C" prior to work starting on this item.
20. 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.
24. See Special Provision 401 - Thin Lift Surface Treatment for project specifics.
25. See Special Provision 401 - HMA with Fine Micro-Deval Requirement for project specifics.
26. The Contractor may, at their option, use a Material Transfer Vehicle (MTV) for **all mainline travelway and adjacent shoulders surface course** if paved in the same operation. See Special Provision 401 – Material Transfer Vehicle for specifics.

30. 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.
32. In areas inaccessible to a **10 ton** roller, compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **3-5 ton** vibratory roller. Areas less than 2 feet wide shall be compacted with a minimum of a **150 pound** plate compactor. 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.
53. At the discretion of the Contractor, the use of concrete fill will be allowed in lieu of pavement and gravel to back fill around granite curbing (Type 1 & 5). When utilized, at least 3" of HMA shall be placed on top of the concrete fill for cover on the mainline edge of curb (face of curb). At minimum, the Concrete shall be a 3000 psi Class S or Class Fill Concrete. **Flowable fill shall not be permitted.** Unless otherwise specified, there will not be additional compensation for the Concrete Fill but shall be considered incidental to the 609 items.

#### Tack Coat

A tack coat of emulsified asphalt, RS-1, RS-1h, CRS-1 or CRS-1h, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.030 gal/yd<sup>2</sup>, and on milled pavement approximately 0.05 gal/yd<sup>2</sup> prior to placing a new course. A fog coat of emulsified asphalt shall be applied between shim /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 0.030 gal/yd<sup>2</sup>. Tack used will be **paid for at the contract unit price** for Item 409.15 Bituminous Tack Coat.

**SPECIAL PROVISION**  
**SECTION 424**  
**ASPHALT RUBBER CRACK SEALER – Type 2**

Description This work shall consist of furnishing all labor, equipment and materials necessary to clean, fill and seal longitudinal and transverse cracks in bituminous concrete pavement courses. Materials are to be thoroughly applied to seal the cracks. This work shall consist of the furnishing and placement of crack sealing material in the cracks of existing bituminous concrete pavement in accordance with these Special Provisions. This work shall consist of crack cleaning and drying, material supply and heating, preparation and application material, material finishing or shaping, and providing and installing barrier material or curing materials as required.

Materials Asphalt Rubber Crack Sealer shall be an asphalt and rubber compound designed for a temperature range of 64-28 °C, and which improves the strength and performance of the base asphalt cement. Hot pour rubber crack sealant material shall conform to ASTM D-6690, Type 2.

Cone Penetration	90 max
Flow @ 60°C [140°F]	< 1/4 inch
Bond, non-immersed	Three ½ inch specimens pass 3 cycles @ 50% extension @ -20
Resilience, %	N/A
Asphalt Compatibility, ASTM D5329	pass*

\* There shall be no failure in adhesion, formation of any oily exudate at the interface between the sealant and asphaltic concrete or other deleterious effects on the asphaltic concrete or sealant when tested at 140°F.

The Contractor shall provide the Resident or authorized representative with a copy of the material manufacturer's recommendations pertaining to heating, application, and reheating prior to the beginning of operations or the changing of materials.

**EQUIPMENT**

Equipment Equipment used in the performance of the work shall be subject to the Resident's or authorized representative's approval and shall be maintained in a satisfactory working condition at all times. As a minimum, the equipment required will consist of the following:

- (1) Air Compressor and air wand: A portable air compressor and air wand shall be supplied to clean the cracks to be sealed prior to using a hot air lance. The air compressor shall be coupled with hose and air wand and be capable of furnishing not less than 150 CFM of air and not less than 100 psi pressure through a 5/8"- inch diameter nozzle. A 1/2 -inch or 3/4-inch nozzle may be used with approval of the Inspector as long as the pressure requirements are being met. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water. A single air compressor may be utilized to supply air to both the air wand and hot air lance with the condition that it will consistently supply the required air volume and pressures for each operation simultaneously.
- (2) Sweeper: Manually operated, gas powered air-broom or self-propelled sweeper designed especially for use in cleaning highway and airfield pavements shall be used to remove debris, dirt, and dust from the cracks.
- (3) Hot Air Lance: The hot air lance shall be independent of the air wand unit. The hot air lance shall be operated with propane and compressed air in combination and provide 1000 ft/sec of heated air at 2000°F - 3000°F. The lance should draw propane from no smaller than a 100 lb tank using separate hoses for propane and air draw. The hoses shall be wrapped together with reflectorized wrap to keep them together and to protect workers in low light situations. A single air compressor may be utilized to supply air to both the air wand and hot air lance with the condition that it will consistently supply the required air volume and pressures for each operation simultaneously.
- (4) Hand Tools: Hand tools shall consist of shall consist of brooms, shovels, metal bars with chisel shaped ends, and any other tools which may be satisfactorily used to prepare cracks to be sealed. Other tools such as, but not limited to, V-shaped squeegee or flat squeegee may be necessary to prevent excessive overband width and thickness.
- (5) Melting Kettle: The unit used to melt the joint sealing compound shall be a double boiler, indirect fired type. The space between inner and outer shells shall be filled with a suitable heat transfer oil or substitute having a flash point of not less than 608°F. The kettle shall be equipped with a satisfactory means of agitating and mixing the joint sealer at all times. This may be accomplished by continuous stirring with mechanically operated paddles and/or a continuous circulating gear pump attached to the heating unit. The kettle must be equipped with thermostatic control calibrated between 200°F and 550°F. The Contractor shall either provide a jacketed thermometer that accurately displays the sealant temperature within the kettle or provide the Resident or authorized representative with a suitable device for verifying the sealant temperature in the kettle. Temperatures must be able to be checked at any time during the heating of material, application of material, or at the end of the application operation.

## GENERAL CONSTRUCTION REQUIREMENTS

Weather Asphalt Rubber Crack Sealer shall not be applied on a wet surface, or when the atmospheric temperature is below 50°F in a shaded area at the job site, or when weather conditions are otherwise unfavorable to proper construction procedures.

Preparations of Cracks All cracks shall be blown free of loose material, dirt, vegetation, and other debris by high pressure air prior to the used of the hot air lance. Material removed from the crack shall be removed from the pavement surface by means of compressed air, power sweeper or appropriate hand tools as required. Cracks showing evidence of vegetation after being blown out shall be additionally cleaned by appropriate hand tools and additionally blown out. All cracks must be blown clean with the high-pressure air wand in advance of the hot air lance. All cracks shall be heated via the hot air lance no more than 5 minutes prior to the crack being sealed. Distance between the hot air lance and the crack sealing unit should be no more than 50 ft to eliminate re-invasion of water, debris, and other incompressible materials. All debris, vegetation, and water shall be removed to enhance adhesion of the crack sealing material. THIS WORK SHALL NOT BE DONE IN INCLEMENT WEATHER.

Preparation and Placement of Sealer The rubber crack sealer material shall be heated and applied at the temperature specified by the manufacturer and approved by the Resident or authorized representative. Any material that has been heated above the manufacturer's specification shall not be used. Material that is reheated or held at temperature for an extended period of time may be used as allowed by the manufacturer's specification and approval of the Resident or authorized representative. A copy of the manufacture's specification shall be provided to the Project when requested.

The Contractor shall provide the Resident or authorized representative with a suitable device for verifying the sealant temperature in the kettle and at the application site.

Any loose material on the surface or in the crack, which may contaminate the crack sealer or impede bonding of the sealant to the pavement, is to be removed by hand tools prior to crack filling. No crack filling material shall be applied in a crack that is wet or where frost, snow, or ice is present. The ambient air temperature must be 50 or higher.

Any over application or spills are to be removed to the satisfaction of the Resident or authorized representative. Any sealed areas with damaged or contaminated sealer or visible voids are to be removed, prepared and resealed. Defective or leaking valves and wands will be repaired or replaced before work continues. If repairs or replacement of defective equipment cannot be accomplished immediately then the Department may permit work to continue but deduct any excess quantities placed as it determines.

Cracks ½ inch up to 1 ½ inch in may be sealed with Type II crack seal. Generally, repairs wider than 1 ½ inches or those that extend below the surface layer may require a change to different sealant material type or treatment method in order repair cracks.

For projects where sealants will be covered and a hot mix asphalt overlay is being installed over the sealant all cracks will be “**flush filled**”, meaning cracks are filled to a point that the sealant is flush with the existing pavement surface. If the work scope requires a flush fill a nozzle sized to fill the cracks shall be used. Minimal to no overbanding will be permitted.

For projects where the sealants are left un-covered with a hot mix overlay and traffic will be permitted to travel over the sealants for the anticipated sealant life, some overband may be permitted. If the work scope required crack filling and sealing with overband, then a shoe sized to meet the overband width shall be used. Generally, the shoe width and the sealer overbanding area shall range from 1 inch – 1.5 inch. Overbanding width may vary from the range specified depending on the width and severity of the cracks.

Sealer shall be delivered to the crack while the cracks are still hot from the hot air lance preparation through a pressure hose line and applicator nozzle or shoe.

The applicator shall be followed by a V-shaped squeegee to minimize the thickness of any overband. The sealer shall be applied at a rate that produces a coating thickness of 1/8 - inch, typical.

If the sealed area is to be opened to traffic immediately, a barrier material (de-tackifier) such as Glenzoi, Black Beauty grit, or an equivalent product approved by the Resident shall be provided by the Contractor and shall be applied to the crack sealer to prevent pickup as directed by the Resident or authorized representative.

If sealed areas are to be paved over with a hot mix asphalt treatment a 48 hour minimum cure time and use of barrier material (de-tackifier) will be required. Cure times may be extended if excessive pick-up of the crack sealants occurs.

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

Method of Measurement Asphalt Rubber Crack Sealer will be measured by the pound of sealant used. The manufacturer's weights of the sealant for each block (pill), counted as they are loaded, will be accepted as a basis for measurement.

Should tank checks be approved to verify material usage or calculate initial or final gallons remaining in the tanker, a calibrated tank gauge or tank stick shall be used to measure the tank gallons. Volume corrections shall be calculated using Table:1 to correct the gallon volume to 60 ° F.

For those approved cases the Department has determined the weight of this material to be 9.7 pounds per gallon. The Department will use this conversion value for all materials measured by the gallon and converted to pounds. The corrected volume and resultant pounds shall be made part of the method of measurement, with consideration given to blocks (pills) added during the day and applied in an acceptable manner.

Basis of Payment The accepted quantity of Asphalt Rubber Crack Sealer will be paid for at the contract unit price per pound complete in place. This price shall be full compensation for furnishing and placing crack sealer, including cleaning cracks and furnishing and placing barrier materials if necessary.

Payment will be made under:

Pay Item

Pay Unit

424.22 Asphalt Rubber Crack Sealer Type 2, Applied

Pound



Conversion Table:1

t	M	t	M	t	M	t	M	t	M	t	M
100	0.9861	135	0.9740	170	0.9621	205	0.9503	240	0.9385	275	0.9269
101	0.9857	136	0.9737	171	0.9618	206	0.9499	241	0.9382	276	0.9266
102	0.9854	137	0.9734	172	0.9614	207	0.9496	242	0.9379	277	0.9263
103	0.9851	138	0.9730	173	0.9611	208	0.9493	243	0.9375	278	0.9259
104	0.9847	139	0.9727	174	0.9607	209	0.9489	244	0.9372	279	0.9256
105	0.9844	140	0.9723	175	0.9604	210	0.9486	245	0.9369	280	0.9253
106	0.9840	141	0.9720	176	0.9601	211	0.9483	246	0.9365	281	0.9250
107	0.9837	142	0.9716	177	0.9597	212	0.9479	247	0.9362	282	0.9246
108	0.9833	143	0.9713	178	0.9594	213	0.9476	248	0.9359	283	0.9243
109	0.9830	144	0.9710	179	0.9590	214	0.9472	249	0.9356	284	0.9240
110	0.9826	145	0.9706	180	0.9587	215	0.9469	250	0.9352	285	0.9236
111	0.9823	146	0.9703	181	0.9584	216	0.9466	251	0.9349	286	0.9233
112	0.9819	147	0.9699	182	0.9580	217	0.9462	252	0.9346	287	0.9230
113	0.9816	148	0.9696	183	0.9577	218	0.9459	253	0.9342	288	0.9227
114	0.9813	149	0.9693	184	0.9574	219	0.9456	254	0.9339	289	0.9223
115	0.9809	150	0.9689	185	0.9570	220	0.9452	255	0.9336	290	0.9220
116	0.9806	151	0.9686	186	0.9567	221	0.9449	256	0.9332	291	0.9217
117	0.9802	152	0.9682	187	0.9563	222	0.9446	257	0.9329	292	0.9213
118	0.9799	153	0.9679	188	0.9560	223	0.9442	258	0.9326	293	0.9210
119	0.9795	154	0.9675	189	0.9557	224	0.9439	259	0.9322	294	0.9207
120	0.9792	155	0.9672	190	0.9553	225	0.9436	260	0.9319	295	0.9204
121	0.9788	156	0.9669	191	0.9550	226	0.9432	261	0.9316	296	0.9200
122	0.9785	157	0.9665	192	0.9547	227	0.9429	262	0.9312	297	0.9197
123	0.9782	158	0.9662	193	0.9543	228	0.9426	263	0.9309	298	0.9194
124	0.9778	159	0.9658	194	0.9540	229	0.9422	264	0.9306	299	0.9190
125	0.9775	160	0.9655	195	0.9536	230	0.9419	265	0.9302	300	0.9187
126	0.9771	161	0.9652	196	0.9533	231	0.9416	266	0.9299	301	0.9184
127	0.9768	162	0.9648	197	0.9530	232	0.9412	267	0.9296	302	0.9181
128	0.9764	163	0.9645	198	0.9526	233	0.9409	268	0.9293	303	0.9177
129	0.9761	164	0.9641	199	0.9523	234	0.9405	269	0.9289	304	0.9174
130	0.9758	165	0.9638	200	0.9520	235	0.9402	270	0.9286	305	0.9171
131	0.9754	166	0.9635	201	0.9516	236	0.9399	271	0.9283	306	0.9167
132	0.9751	167	0.9631	202	0.9513	237	0.9395	272	0.9279	307	0.9164
133	0.9747	168	0.9628	203	0.9509	238	0.9392	273	0.9276	308	0.9161
134	0.9744	169	0.9624	204	0.9505	239	0.9389	274	0.9273	309	0.9158

Legend: t = observed temperature in degrees Fahrenheit.

M = multiplier for reducing volumes to the basis of 60° F.



Conversion Table:1

t	M	t	M	t	M	t	M	t	M
310	0.9154	350	0.9024	390	0.8896	430	0.8768	470	0.8643
311	0.9151	351	0.9021	391	0.8892	431	0.8765	471	0.8640
312	0.9148	352	0.9018	392	0.8889	432	0.8762	472	0.8636
313	0.9145	353	0.9015	393	0.8886	433	0.8759	473	0.8633
314	0.9141	354	0.9011	394	0.8883	434	0.8756	474	0.8630
315	0.9138	355	0.9008	395	0.8880	435	0.8753	475	0.8627
316	0.9135	356	0.9005	396	0.8876	436	0.8749	476	0.8624
317	0.9132	357	0.9002	397	0.8873	437	0.8746	477	0.8621
318	0.9128	358	0.8998	398	0.8870	438	0.8743	478	0.8618
319	0.9125	359	0.8995	399	0.8867	439	0.8740	479	0.8615
320	0.9122	360	0.8992	400	0.8864	440	0.8737	480	0.8611
321	0.9118	361	0.8989	401	0.8861	441	0.8734	481	0.8608
322	0.9115	362	0.8986	402	0.8857	442	0.8731	482	0.8605
323	0.9112	363	0.8982	403	0.8854	443	0.8727	483	0.8602
324	0.9109	364	0.8979	404	0.8851	444	0.8724	484	0.8599
325	0.9105	365	0.8976	405	0.8848	445	0.8721	485	0.8596
326	0.9102	366	0.8973	406	0.8845	446	0.8718	486	0.8593
327	0.9099	367	0.8969	407	0.8841	447	0.8715	487	0.8590
328	0.9096	368	0.8966	408	0.8838	448	0.8712	488	0.8587
329	0.9092	369	0.8963	409	0.8835	449	0.8709	489	0.8583
330	0.9089	370	0.8960	410	0.8832	450	0.8705	490	0.8580
331	0.9086	371	0.8957	411	0.8829	451	0.8702	491	0.8577
332	0.9083	372	0.8953	412	0.8826	452	0.8699	492	0.8574
333	0.9079	373	0.8950	413	0.8822	453	0.8696	493	0.8571
334	0.9076	374	0.8947	414	0.8819	454	0.8693	494	0.8568
335	0.9073	375	0.8944	415	0.8816	455	0.8690	495	0.8565
336	0.9070	376	0.8941	416	0.8813	456	0.8687	496	0.8562
337	0.9066	377	0.8937	417	0.8810	457	0.8683	497	0.8559
338	0.9063	378	0.8934	418	0.8806	458	0.8680	498	0.8556
339	0.9060	379	0.8931	419	0.8803	459	0.8677	499	0.8552
340	0.9057	380	0.8928	420	0.8800	460	0.8674		
341	0.9053	381	0.8924	421	0.8797	461	0.8671		
342	0.9050	382	0.8921	422	0.8794	462	0.8668		
343	0.9047	383	0.8918	423	0.8791	463	0.8665		
344	0.9044	384	0.8915	424	0.8989	464	0.8661		
345	0.9040	385	0.8912	425	0.8984	465	0.8658		
346	0.9037	386	0.8908	426	0.8781	466	0.8655		
347	0.9034	387	0.8905	427	0.8778	467	0.8652		
348	0.9031	388	0.8902	428	0.8775	468	0.8649		
349	0.9028	389	0.8899	429	0.8772	469	0.8646		

Legend: t = observed temperature in degrees Fahrenheit.

M = multiplier for reducing volumes to the basis of 60° F.

SPECIAL PROVISION  
SECTION 424  
Mastic-Based Crack Sealing

Description This work shall consist of furnishing all labor, equipment and materials necessary to clean, fill and seal longitudinal and transverse cracks in bituminous concrete pavement courses. Materials are to be thoroughly applied to seal the cracks. This work shall consist of the furnishing and placement of mastic-based crack sealing material in the cracks of existing bituminous concrete pavement in accordance with these Special Provisions. This work shall consist of crack cleaning and drying, material supply and heating, preparation and application material, material finishing or shaping, and providing and installing barrier material or curing materials as required.

The Department will allow mastic-based sealing materials as an option for Ultra-Thin Bonded Wearing Course (UTBWC) and other treatments that specify Type 2 or Type 4 sealants in the contract. If the option to utilize Mastic based sealing materials is requested the change shall be subject to approval by the Department prior to the start of work, and sealant and equipment requirements shall meet the following criteria.

MATERIALS

The mastic-based materials are hot-applied, pourable, self-adhesive mastics designed for maintenance and repair of asphalt and Portland cement concrete pavements. Hot pour mastic materials are composed of highly modified polymer asphalt binder and up to 2% synthetic fiber (by weight) as required by the application and approved by the Department.

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

<u>POLYMER MODIFIED BINDER</u>	
Cone Penetration, 77°F (25°C) (ASTM D5329)	60 max
Cone Penetration, 122°F (50°C) (ASTM D5329)	120 max
Softening Point, (ASTM D36)	200°F (93°C) min
Flexibility, 1" (25.4 mm), 180°, 10 sec) (ASTM D3111 modified)	Pass at 32°F (0°C)
<u>AGGREGATE</u>	
Abrasion Resistance (ASTM C131)	35% max
<u>BLENDED PRODUCT</u>	
Flexibility, 32°F (0°C) (ASTM D5329)	Pass
Adhesion, 77°F (25°C) (ASTM D5329)	25 PSI (172 KPA)
min	
Specific Gravity	1.7 -2.0
Minimum Application Temperature	375°F (190°C) *
Maximum Application Temperature	400°F (204°C)

Test ASTM D8260	Type I Specification Limits
Mastic Resilience (ASTM (8260)	50% minimum
Effects of Rapid Deformation (ASTM D2794) (-7°C)	3 passing specimens no chipping, cracking or separation 8 N-m
Crack Bridging (ASTM C1305 modified) (-7°C)	Pass 3 cycles
Mastic Stability (ASTM D8260) (70°C)	40.0 mm maximum

## EQUIPMENT

Equipment Equipment used in the performance of the work shall be subject to the Resident's or authorized representative's approval and shall be maintained in a satisfactory working condition at all times. As a minimum, the equipment required will consist of the following:

(1) Air Compressor and air wand: A portable air compressor and air wand shall be supplied to clean the cracks to be sealed prior to using a hot air lance. The air compressor shall be coupled with hose and air wand and be capable of furnishing not less than 150 CFM of air and not less than 100 psi pressure through a 5/8"- inch diameter nozzle. A 1/2 - inch or 3/4-inch nozzle may be used with approval of the Inspector as long as the pressure requirements are being met. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water. A single air compressor may be utilized to supply air to both the air wand and hot air lance with the condition that it will consistently supply the required air volume and pressures for each operation simultaneously.

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

(3) Hot Air Lance: The hot air lance shall be independent of the air wand unit. The hot air lance shall be operated with propane and compressed air in combination and provide 1000 ft/sec of heated air at 2000°F - 3000°F. The lance should draw propane from no smaller than a 100 lb tank using separate hoses for propane and air draw. The hoses shall be wrapped together with reflectorized wrap to keep them together and to protect workers in low light situations. A single air compressor may be utilized to supply air to both the air wand and hot air lance with the condition that it will consistently supply the required air volume and pressures for each operation simultaneously.

(4) Hand Tools: Hand tools shall consist of shall consist of brooms, shovels, metal bars with chisel shaped ends, and any other tools which may be satisfactorily used to prepare cracks to be sealed. Other tools such as, but not limited to, V-shaped squeegee or flat squeegee may be necessary to prevent excessive overband width and thickness.

(5) Melting Kettle: The unit used to melt the mastic-based crack sealing material shall be a double boiler, indirect fired type. The space between inner and outer shells shall be filled with a suitable heat transfer oil or substitute having a flash point of not less than 608°F. The kettle shall be equipped with a satisfactory means of agitating and mixing the joint

sealer at all times. This may be accomplished by continuous stirring with mechanically operated paddles and/or a continuous circulating gear pump attached to the heating unit. The kettle must be equipped with thermostatic control calibrated between 200°F and 550°F. The Contractor shall either provide a jacketed thermometer that accurately displays the sealant temperature within the kettle or provide the Resident or authorized representative with a suitable device for verifying the sealant temperature in the kettle. Temperatures must be able to be checked at any time during the heating of material, application of material, or at the end of the application operation.

## GENERAL CONSTRUCTION REQUIREMENTS

Weather Mastic based crack sealing materials shall not be applied on a wet surface, or when the atmospheric temperature is below 45 °F in a shaded area at the job site, or when weather conditions are otherwise unfavorable to proper construction procedures.

Preparations of Cracks All cracks shall be blown free of loose material, dirt, vegetation, and other debris by high pressure air prior to the used of the hot air lance. Material removed from the crack shall be removed from the pavement surface by means of compressed air, power sweeper or appropriate hand tools as required. Cracks showing evidence of vegetation after being blown out shall be additionally cleaned by appropriate hand tools and additionally blown out. All cracks must be blown clean with the high-pressure air wand in advance of the hot air lance. All cracks shall be heated via the hot air lance no more than 5 minutes prior to the crack being sealed. Distance between the hot air lance and the crack sealing unit should be no more than 50 ft to eliminate re-invasion of water, debris, and other incompressible materials. All debris, vegetation, and water shall be removed to enhance adhesion of the crack sealing material. THIS WORK SHALL NOT BE DONE IN INCLEMENT WEATHER.

Preparation and Placement of Sealer Mastic based crack sealing material shall be heated and applied at the temperature specified by the manufacturer and approved by the Resident or authorized representative. Any material that has been heated above the manufacturer's specification shall not be used. Material that is reheated or held at temperature for an extended period of time may be used as allowed by the manufacturer's specification and approval of the Resident or authorized representative. A copy of the manufacture's specification shall be provided to the Project when requested.

The Contractor shall provide the Resident or authorized representative with a suitable device for verifying the sealant temperature in the kettle and at the application site.

Any loose material on the surface or in the crack, which may contaminate the crack sealer or impede bonding of the sealant to the pavement, is to be removed by hand tools prior to crack filling. No crack filling material shall be applied in a crack that is wet or where frost, snow, or ice is present. The ambient air temperature must be 50 or higher.

Any over application or spills are to be removed to the satisfaction of the Resident or authorized representative. Any sealed areas with damaged or contaminated sealer or visible voids are to be removed, prepared and resealed. Defective or leaking valves and wands will be repaired or replaced before work continues. If repairs or replacement of defective

equipment cannot be accomplished immediately then the Department may permit work to continue but deduct any excess quantities placed as it determines.

Cracks ½ inch up to 1 ½ inch in may be sealed with mastic-based crack seal. Generally, repairs wider than 1 ½ inches or those that extend below the surface layer may require a change to different mastic material type or treatment method in order repair cracks.

For projects where mastic-based crack sealing materials will be covered and a hot mix asphalt overlay is being installed over the sealant all cracks will be **“flush filled”**, meaning cracks are filled to a point that the sealant is flush with the existing pavement surface. If the work scope requires a flush fill a nozzle sized to fill the cracks shall be used. Minimal to no overbanding will be permitted.

For projects where the mastic-based crack sealing materials are left un-covered with a hot mix overlay and traffic will be permitted to travel over the sealants for the anticipated sealant life, some overband may be permitted.

If the work scope allows crack filling and sealing with overband, then a shoe sized to meet the overband width shall be used. Generally, the shoe width and the sealer overbanding area shall range from 1 inch – 1.5 inch. Overbanding width may vary from the range specified depending on the width and severity of the cracks.

Sealer shall be delivered to the crack while the cracks are still hot from the hot air lance preparation through a pressure hose line and applicator nozzle or shoe.

The applicator shall be followed by a V-shaped squeegee to minimize the thickness of any overband. The sealer shall be applied at a rate that produces a coating thickness of 3/32 - inch, typical.

If the sealed area is to be opened to traffic immediately, a barrier material (de-tackifier) such as Glenzoi, Black Beauty grit, or an equivalent product approved by the Resident shall be provided by the Contractor and shall be applied to the crack sealer to prevent pickup as directed by the Resident or authorized representative.

If sealed areas are to be paved over with a hot mix asphalt treatment then a 48 hour minimum cure time and use of barrier material (de-tackifier) will be required. Cure times may be extended if excessive pick-up of the crack sealants occurs.

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

Method of Measurement Mastic based crack sealing materials will be measured by the pound of sealant used. The manufacturer’s weights of the sealant for each block (pill), counted as they are loaded, will be accepted as a basis for measurement.

Should tank checks be approved to verify material usage or calculate initial or final gallons remaining in the tanker, a calibrated tank gauge or tank stick shall be used to measure the tank gallons. Volume corrections shall be calculated using Table:1 to correct the gallon volume to 60 ° F.

For those approved cases the Department has determined the weight of this material to be 10.63 pounds per gallon. The Department will use this conversion value for all materials measured by the gallon and converted to pounds. The corrected volume and resultant pounds shall be made part of the method of measurement, with consideration given to blocks (pills) added during the day and applied in an acceptable manner

Basis of Payment The accepted quantity of Mastic-Based Crack Sealing will be paid for at the contract unit price per pound complete in place. This price shall be full compensation for furnishing and placing crack sealer, including cleaning cracks and furnishing and placing barrier materials if necessary.

**Conversion Table:1**

t	M	t	M	t	M	t	M	t	M	t	M
100	0.9861	135	0.9740	170	0.9621	205	0.9503	240	0.9385	275	0.9269
101	0.9857	136	0.9737	171	0.9618	206	0.9499	241	0.9382	276	0.9266
102	0.9854	137	0.9734	172	0.9614	207	0.9496	242	0.9379	277	0.9263
103	0.9851	138	0.9730	173	0.9611	208	0.9493	243	0.9375	278	0.9259
104	0.9847	139	0.9727	174	0.9607	209	0.9489	244	0.9372	279	0.9256
105	0.9844	140	0.9723	175	0.9604	210	0.9486	245	0.9369	280	0.9253
106	0.9840	141	0.9720	176	0.9601	211	0.9483	246	0.9365	281	0.9250
107	0.9837	142	0.9716	177	0.9597	212	0.9479	247	0.9362	282	0.9246
108	0.9833	143	0.9713	178	0.9594	213	0.9476	248	0.9359	283	0.9243
109	0.9830	144	0.9710	179	0.9590	214	0.9472	249	0.9356	284	0.9240
110	0.9826	145	0.9706	180	0.9587	215	0.9469	250	0.9352	285	0.9236
111	0.9823	146	0.9703	181	0.9584	216	0.9466	251	0.9349	286	0.9233
112	0.9819	147	0.9699	182	0.9580	217	0.9462	252	0.9346	287	0.9230
113	0.9816	148	0.9696	183	0.9577	218	0.9459	253	0.9342	288	0.9227
114	0.9813	149	0.9693	184	0.9574	219	0.9456	254	0.9339	289	0.9223
115	0.9809	150	0.9689	185	0.9570	220	0.9452	255	0.9336	290	0.9220
116	0.9806	151	0.9686	186	0.9567	221	0.9449	256	0.9332	291	0.9217
117	0.9802	152	0.9682	187	0.9563	222	0.9446	257	0.9329	292	0.9213
118	0.9799	153	0.9679	188	0.9560	223	0.9442	258	0.9326	293	0.9210
119	0.9795	154	0.9675	189	0.9557	224	0.9439	259	0.9322	294	0.9207
120	0.9792	155	0.9672	190	0.9553	225	0.9436	260	0.9319	295	0.9204
121	0.9788	156	0.9669	191	0.9550	226	0.9432	261	0.9316	296	0.9200
122	0.9785	157	0.9665	192	0.9547	227	0.9429	262	0.9312	297	0.9197
123	0.9782	158	0.9662	193	0.9543	228	0.9426	263	0.9309	298	0.9194
124	0.9778	159	0.9658	194	0.9540	229	0.9422	264	0.9306	299	0.9190
125	0.9775	160	0.9655	195	0.9536	230	0.9419	265	0.9302	300	0.9187
126	0.9771	161	0.9652	196	0.9533	231	0.9416	266	0.9299	301	0.9184
127	0.9768	162	0.9648	197	0.9530	232	0.9412	267	0.9296	302	0.9181
128	0.9764	163	0.9645	198	0.9526	233	0.9409	268	0.9293	303	0.9177
129	0.9761	164	0.9641	199	0.9523	234	0.9405	269	0.9289	304	0.9174
130	0.9758	165	0.9638	200	0.9520	235	0.9402	270	0.9286	305	0.9171
131	0.9754	166	0.9635	201	0.9516	236	0.9399	271	0.9283	306	0.9167
132	0.9751	167	0.9631	202	0.9513	237	0.9395	272	0.9279	307	0.9164
133	0.9747	168	0.9628	203	0.9509	238	0.9392	273	0.9276	308	0.9161
134	0.9744	169	0.9624	204	0.9505	239	0.9389	274	0.9273	309	0.9158

Legend: t = observed temperature in degrees Fahrenheit.

M = multiplier for reducing volumes to the basis of 60° F.



**Conversion Table:1**

t	M	t	M	t	M	t	M	t	M
310	0.9154	350	0.9024	390	0.8896	430	0.8768	470	0.8643
311	0.9151	351	0.9021	391	0.8892	431	0.8765	471	0.8640
312	0.9148	352	0.9018	392	0.8889	432	0.8762	472	0.8636
313	0.9145	353	0.9015	393	0.8886	433	0.8759	473	0.8633
314	0.9141	354	0.9011	394	0.8883	434	0.8756	474	0.8630
315	0.9138	355	0.9008	395	0.8880	435	0.8753	475	0.8627
316	0.9135	356	0.9005	396	0.8876	436	0.8749	476	0.8624
317	0.9132	357	0.9002	397	0.8873	437	0.8746	477	0.8621
318	0.9128	358	0.8998	398	0.8870	438	0.8743	478	0.8618
319	0.9125	359	0.8995	399	0.8867	439	0.8740	479	0.8615
320	0.9122	360	0.8992	400	0.8864	440	0.8737	480	0.8611
321	0.9118	361	0.8989	401	0.8861	441	0.8734	481	0.8608
322	0.9115	362	0.8986	402	0.8857	442	0.8731	482	0.8605
323	0.9112	363	0.8982	403	0.8854	443	0.8727	483	0.8602
324	0.9109	364	0.8979	404	0.8851	444	0.8724	484	0.8599
325	0.9105	365	0.8976	405	0.8848	445	0.8721	485	0.8596
326	0.9102	366	0.8973	406	0.8845	446	0.8718	486	0.8593
327	0.9099	367	0.8969	407	0.8841	447	0.8715	487	0.8590
328	0.9096	368	0.8966	408	0.8838	448	0.8712	488	0.8587
329	0.9092	369	0.8963	409	0.8835	449	0.8709	489	0.8583
330	0.9089	370	0.8960	410	0.8832	450	0.8705	490	0.8580
331	0.9086	371	0.8957	411	0.8829	451	0.8702	491	0.8577
332	0.9083	372	0.8953	412	0.8826	452	0.8699	492	0.8574
333	0.9079	373	0.8950	413	0.8822	453	0.8696	493	0.8571
334	0.9076	374	0.8947	414	0.8819	454	0.8693	494	0.8568
335	0.9073	375	0.8944	415	0.8816	455	0.8690	495	0.8565
336	0.9070	376	0.8941	416	0.8813	456	0.8687	496	0.8562
337	0.9066	377	0.8937	417	0.8810	457	0.8683	497	0.8559
338	0.9063	378	0.8934	418	0.8806	458	0.8680	498	0.8556
339	0.9060	379	0.8931	419	0.8803	459	0.8677	499	0.8552
340	0.9057	380	0.8928	420	0.8800	460	0.8674		
341	0.9053	381	0.8924	421	0.8797	461	0.8671		
342	0.9050	382	0.8921	422	0.8794	462	0.8668		
343	0.9047	383	0.8918	423	0.8791	463	0.8665		
344	0.9044	384	0.8915	424	0.8989	464	0.8661		
345	0.9040	385	0.8912	425	0.8984	465	0.8658		
346	0.9037	386	0.8908	426	0.8781	466	0.8655		
347	0.9034	387	0.8905	427	0.8778	467	0.8652		
348	0.9031	388	0.8902	428	0.8775	468	0.8649		
349	0.9028	389	0.8899	429	0.8772	469	0.8646		

**Legend:** t = observed temperature in degrees Fahrenheit.  
M = multiplier for reducing volumes to the basis of 60° F.



SPECIAL PROVISION  
SECTION 424  
 POLYMER MODIFIED ASPHALT CRACK SEALANT w/ FIBER

Description This work shall consist of crack cleaning utilizing compressed air and hand tools as required to prepare cracks for sealant installation, drying of the prepared cracks, material supply and heating, preparation and application of material, material finishing or shaping, and providing and installing barrier material or curing materials used to seal longitudinal and transverse cracks in bituminous concrete pavements as directed and in accordance with these Special Provisions.

The Department will allow Polymer Modified Asphalt Crack Sealant with fiber as an option for Ultra-Thin Bonded Wearing Course (UTBWC) and other treatments that specify Type 2 or Type 4 sealants in the contract. If the option to utilize Polymer Modified Asphalt Crack Sealant with fiber is selected the sealant and equipment requirements shall meet the following criteria and shall be subject to approval by the Department prior to the start of work.

MATERIALS

Polymer Modified Asphalt Crack Sealant with fiber (PMACS) shall be a polymer modified asphalt-fiber compound designed specifically for improving the strength and performance of the parent asphalt used in the sealant.

The asphalt binder shall consist of a blend of neat asphalt binder, crumb rubber, and SBS polymer and meet the following specifications:

- Modification at a minimum shall consist 7% crumb rubber and 3-4% SBS polymer. The maximum particle size for the crumb rubber shall be 80 mesh
- The performance grade of the base asphalt binder prior to modification shall be a PG 58-28
- OB DSR (AASHTO T315) @ 76: Min 1.00 kPa
- MSCR (AASHTO T350) @ 64 JnR3.2 < 0.50

As a minimum the sealant will meet PG 64E-28 requirements after modification. The asphalt supplier shall provide testing results for both the neat and modified asphalt binders

Fiber reinforcing materials shall be short-length polyester fibers having the following properties:

Length*	0.25 in. ± 0.02 in.
Elongation at Break (ASTM D2256-90)	35% ± 3%
Melting Point (ASTM D3418-82)	>475°F
Crimps/Inch (ASTM 03937-90)	None
Cross-Section	Round
Denier (ASTM D1577-90)	4.5 Nominal dpf
Tensile Strength (ASTM D2256-90)	>70,000 psi
Diameter	0.0008 in.**
Specific Gravity (ASTM D792-91)	1.32 to 1.40

\* At temperatures ranging from ambient to maximum finished product mix temperature

\*\* Subject to normal variations

The modified asphalt-fiber compound shall be mixed to a maximum rate of 8% fiber (weight to weight) of asphalt cement unless otherwise approved by the Department.

The polymer modified asphalt-fiber compound shall be thoroughly mixed for a minimum of one hour at the required temperature range of 320°F to 375°F before application can begin. To ensure a uniform fiber distribution in the sealant, and also to limit fluctuations in the application temperature of the blended material, the contractor must have a full tanker of sealant mixed, heated to the proper application temperature, and ready for testing at the start of each work day. Once that batch of sealant is emptied from the tanker, crack sealing operations will cease for the remainder of the day.

No new material will be allowed to be added to the tanker during the workday under any circumstances. Bulk tankers shall be filled at the approved asphalt supplier's facility, and accompanied by a bill of lading, material data sheet, and total pounds of material loaded.

A Manufacturer's certificate of material compliance will be furnished to the Department certifying conformance to the above material specifications, including the following:

- Performance Grade of Unmodified Asphalt: PG 58-28 (standard) AASHTO M-320, Table 1
- 7% chemically-modified crumb rubber (CMCR) Composed of 100% 80-mesh recycled tire rubber
- Specially formulated polymer package to include 3-4% polymer
- Performance Grade of Modified Asphalt: PG 64E-28
- A maximum of 8% polyester reinforcing fibers

Blending of the fibers with the modified asphalt binder shall be in accordance with the recommendations of the manufacturer of the fibers and supplier of the polymer modified asphalt, with final approval made by the Department.

The contractor shall provide the Resident or authorized representative with a copy of the material manufacturer's recommendations for the sealant material being provided pertaining to heating, mixing, application, and reheating prior to the beginning of operations, or the changing of materials.

Material Temperatures Minimum polymer modified asphalt-fiber sealant application temperature shall be 320°F and not exceed 375°F.

## EQUIPMENT

Equipment used in the performance of the work shall be subject to the Resident's or authorized representative's approval and shall be maintained in a satisfactory working condition at all times. As a minimum, the equipment required will consist of the following:

(1) Air Compressor and air wand A portable air compressor and air wand shall be supplied to clean the cracks to be sealed prior to using a hot air lance. The air compressor shall be coupled with hose and air wand and be capable of furnishing not less than 150 CFM of air at not less than 100 psi pressure through a 5/8"- inch diameter nozzle. A 1/2 -inch or 3/4-inch nozzle may be used with approval of the Inspector as long as the pressure requirements are being met. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water. A single air compressor may be utilized to supply air to both the air wand and hot air lance with the condition that it will consistently supply the required air volume and pressures for each operation simultaneously.

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

(3) Hot Air Lance The hot air lance shall be independent of the air wand unit. The hot air lance shall be operated with propane and compressed air in combination and provide 1000 ft/sec of heated air at 2000°F - 3000°F, at not less than 120 psi. The lance should draw propane from no smaller than a 100 lb. tank using separate hoses for propane and air draw. The hoses shall be wrapped together with reflectorized wrap to keep them together and to protect workers in low light situations. A single air compressor may be utilized to supply air to both the air wand and hot air lance with the condition that it will consistently supply the required air volume and pressures for each operation simultaneously.

(4) Application Wand The application wand shall apply a controlled flow of material via an insulated or heated hose. The nozzle shall distribute the material as called for in this specification.

A pressure regulator shall be provided to regulate pressure at the nozzle. A bypass line into the holding tank is required for use when the nozzle is shut off. Sealant shall be installed using a nozzle for flush filled applications, or a small to medium application disc for overband permitted installations, selected to give a narrow overband over the cracks being sealed and minimize final overband thickness above the pavement surface.

(5) Hand Tools Hand tools shall consist of shall consist of brooms, shovels, metal bars with chisel shaped ends, and any other tools which may be satisfactorily used to prepare cracks to be sealed. Other tools such as, but not limited to, V-shaped squeegee or flat squeegee may be necessary to prevent excessive overband width and thickness.

(6) Bulk Tanker: The bulk tanker unit used to heat and maintain the modified asphalt crack sealant compound shall have an approximate capacity of 3,000 to 5,000 gallons and be equipped to maintain the sealant compound at the recommended application temperature. The unit shall be of the indirect fired type, and shall be equipped with a remote heat exchanger and hot oil circulation pump capable of maintaining a consistent temperature of the heat transfer oil. The heat transfer oil shall be circulated to all sides and the bottom of the tank containing the crack sealant compound making a continuous loop back to the heat exchanger and having a flash point of not less than 600°F. The bulk tanker shall be equipped with a satisfactory means of mixing and agitating the crack sealant at all times. This may be accomplished by continuous stirring with mechanically operated paddles and/or by a circulating gear pump attached to the bulk tanker. The bulk tanker must be equipped with a thermostatic control calibrated between 200°F and 550°F and must be capable of pumping an 8% fiber content blend.

Documentation shall be provided for each tanker use with verified gallons or pounds of material that each tanker holds. If full tankers are provided on a daily basis, and each tanker is emptied daily, then the verified gallons or pounds each tanker holds may be used for calculation of payment.

If partial loads are supplied, or material remains in the tanker at the end of the day or contract, a means to calculated material usage must be provided in the form of either calibrated tank checks corrected to 60°F, or certified scale weights of the material load at the beginning or end of the day as applicable.

## GENERAL CONSTRUCTION REQUIREMENTS

Weather Crack Sealant Material shall not be applied on a wet surface, when the atmospheric temperature is below 50°F in a shaded area at the job site, or when weather conditions are otherwise unfavorable to proper construction procedures.

Equipment Equipment used in the performance of the work shall meet the requirements of the material and equipment section of this special provision and approved by the Department. Equipment shall be maintained in a satisfactory working condition at all times.

Preparation All cracks to be sealed shall be blown free of loose material, dirt, vegetation, and other debris by the high pressure air wand. Material removed from the crack shall be removed from the pavement surface by means of a power sweeper or appropriate hand tools as required. Cracks showing evidence of vegetation after being blown out shall be additionally cleaned by appropriate hand tools and additionally blown out. All cracks must be blown clean with the high-pressure air wand in advance of the hot air lance. All cracks shall be heated via the hot air lance a maximum of 5 minutes prior to the crack sealant being applied. Distance between the hot air lance and the crack sealing unit should be no more than 50 ft to eliminate reinvasion of water, debris, and other incompressible material. All debris, vegetation, and water shall be removed to enhance adhesion of the crack sealing material. THIS WORK SHALL NOT BE DONE IN INCLEMENT WEATHER.

Preparation and Placement of Sealer The polymer modified asphalt-fiber material shall be heated, mixed and applied at the temperature specified by the manufacturer and approved by the Resident or authorized representative. The polymer modified asphalt-fiber compound shall be thoroughly mixed for a minimum of one hour before application can begin. Any material that has been heated above the manufacturer's specification shall not be used. and approval of the Resident or authorized representative. The Contractor shall provide the Resident or authorized representative with a suitable device for verifying the sealant temperature in the kettle and at the application site. Any over application or spills are to be removed to the satisfaction of the Resident or authorized representative. Any sealed areas with damaged or contaminated sealer or visible voids are to be removed, prepared and resealed at no additional cost to the Department.

Sealer shall be delivered to the crack while cracks are still hot from the hot air lance preparation through a pressure hose line, applicator nozzle or applicator shoe depending on crack filling requirements.

For projects where sealants will be covered and a hot mix asphalt overlay is being installed over the sealant cracks will be **“flush filled”**, meaning cracks are filled to a point that the sealant is flush with the existing pavement surface. Minimal, to no overbanding will be permitted.

For projects where the sealants are left un-covered and traffic will be permitted to travel over the sealants for the anticipated sealant life, some overband may be permitted. The sealer overbanding wand shall be equipped with an applicator disc or shoe that allows for a minimal final overband and depth. Overband will be kept to a minimum and not exceed a maximum of 1 1/2-inch-wide and 3/32 inch thick. The applicator may be followed by a squeegee to minimize the thickness of the overband.

Any loose material on the surface or in the crack which may contaminate the crack sealer or impede bonding of the sealant to the pavement, is to be removed by hand tools prior to crack filling. No crack filling material shall be applied in a crack that is wet or where frost, snow, or ice is present.

Minimum polymer modified asphalt-fiber sealant\_application temperature shall be 320°F and not exceed 375°F.

If the sealed area is to be opened to traffic immediately, a barrier material (de-tackifier) such as Glenzoi, Black Beauty grit, or an equivalent product approved by the Resident shall be provided by the Contractor be applied to the crack sealer to prevent pickup as directed by the Resident or authorized representative.

If the sealed areas are to be paved over with a hot mix treatment, then a 48-hour minimum cure time and use of barrier material (de-tackifier) will be required. Cure times may be extended if excessive pick-up of the crack sealants occurs.

Quality of Work Excess of spilled sealer shall be removed from the pavement by approved methods and discarded. Any quality of work determined to be below normal acceptable standards will not be accepted, and will be corrected and/or replaced as directed by the Resident or authorized representative at no additional cost to the Department.

Method of Measurement Polymer modified asphalt-fiber sealant will be measured by the pound of sealant used. The manufacturer's weight per tanker of sealant will be accepted as the basis for measurement. Materials supplied by weight will be accompanied by a bill of lading and material certification.

The Department may, at their discretion, verify the manufacturers weights provided by re-weighing the tankers at independent scale facilities.

The Department may, on a case-by-case basis, approve and perform tank checks to measure the sealant by the gallon and convert to pounds.

Should tank checks be approved to verify material usage or calculate initial or final gallons remaining in the tanker, a calibrated tank gauge or tank stick shall be used to measure the tank gallons. Volume corrections shall be calculated using Table:1 to correct the gallon volume to 60 ° F.

For those approved cases the Department has determined the weight of this material to be 8.37 pounds per gallon. The Department will use this conversion value for all materials measured by the gallon and converted to pounds.

Basis of Payment The accepted quantity of polymer modified asphalt-fiber sealant will be paid for at the contract unit price per pound for the item listed in the contract schedule of items, complete in place. This price shall be full compensation for furnishing and placing crack sealer, including cleaning cracks, heating and drying cracks, all labor, and furnishing and placing barrier or blotter materials as necessary.

**Conversion Table:1**

t	M	t	M	t	M	t	M	t	M	t	M
100	0.9861	135	0.9740	170	0.9621	205	0.9503	240	0.9385	275	0.9269
101	0.9857	136	0.9737	171	0.9618	206	0.9499	241	0.9382	276	0.9266
102	0.9854	137	0.9734	172	0.9614	207	0.9496	242	0.9379	277	0.9263
103	0.9851	138	0.9730	173	0.9611	208	0.9493	243	0.9375	278	0.9259
104	0.9847	139	0.9727	174	0.9607	209	0.9489	244	0.9372	279	0.9256
105	0.9844	140	0.9723	175	0.9604	210	0.9486	245	0.9369	280	0.9253
106	0.9840	141	0.9720	176	0.9601	211	0.9483	246	0.9365	281	0.9250
107	0.9837	142	0.9716	177	0.9597	212	0.9479	247	0.9362	282	0.9246
108	0.9833	143	0.9713	178	0.9594	213	0.9476	248	0.9359	283	0.9243
109	0.9830	144	0.9710	179	0.9590	214	0.9472	249	0.9356	284	0.9240
110	0.9826	145	0.9706	180	0.9587	215	0.9469	250	0.9352	285	0.9236
111	0.9823	146	0.9703	181	0.9584	216	0.9466	251	0.9349	286	0.9233
112	0.9819	147	0.9699	182	0.9580	217	0.9462	252	0.9346	287	0.9230
113	0.9816	148	0.9696	183	0.9577	218	0.9459	253	0.9342	288	0.9227
114	0.9813	149	0.9693	184	0.9574	219	0.9456	254	0.9339	289	0.9223
115	0.9809	150	0.9689	185	0.9570	220	0.9452	255	0.9336	290	0.9220
116	0.9806	151	0.9686	186	0.9567	221	0.9449	256	0.9332	291	0.9217
117	0.9802	152	0.9682	187	0.9563	222	0.9446	257	0.9329	292	0.9213
118	0.9799	153	0.9679	188	0.9560	223	0.9442	258	0.9326	293	0.9210
119	0.9795	154	0.9675	189	0.9557	224	0.9439	259	0.9322	294	0.9207
120	0.9792	155	0.9672	190	0.9553	225	0.9436	260	0.9319	295	0.9204
121	0.9788	156	0.9669	191	0.9550	226	0.9432	261	0.9316	296	0.9200
122	0.9785	157	0.9665	192	0.9547	227	0.9429	262	0.9312	297	0.9197
123	0.9782	158	0.9662	193	0.9543	228	0.9426	263	0.9309	298	0.9194
124	0.9778	159	0.9658	194	0.9540	229	0.9422	264	0.9306	299	0.9190
125	0.9775	160	0.9655	195	0.9536	230	0.9419	265	0.9302	300	0.9187
126	0.9771	161	0.9652	196	0.9533	231	0.9416	266	0.9299	301	0.9184
127	0.9768	162	0.9648	197	0.9530	232	0.9412	267	0.9296	302	0.9181
128	0.9764	163	0.9645	198	0.9526	233	0.9409	268	0.9293	303	0.9177
129	0.9761	164	0.9641	199	0.9523	234	0.9405	269	0.9289	304	0.9174
130	0.9758	165	0.9638	200	0.9520	235	0.9402	270	0.9286	305	0.9171
131	0.9754	166	0.9635	201	0.9516	236	0.9399	271	0.9283	306	0.9167
132	0.9751	167	0.9631	202	0.9513	237	0.9395	272	0.9279	307	0.9164
133	0.9747	168	0.9628	203	0.9509	238	0.9392	273	0.9276	308	0.9161
134	0.9744	169	0.9624	204	0.9505	239	0.9389	274	0.9273	309	0.9158

**Legend:** t = observed temperature in degrees Fahrenheit.

M = multiplier for reducing volumes to the basis of 60° F.



**Conversion Table:1**

t	M	t	M	t	M	t	M	t	M
310	0.9154	350	0.9024	390	0.8896	430	0.8768	470	0.8643
311	0.9151	351	0.9021	391	0.8892	431	0.8765	471	0.8640
312	0.9148	352	0.9018	392	0.8889	432	0.8762	472	0.8636
313	0.9145	353	0.9015	393	0.8886	433	0.8759	473	0.8633
314	0.9141	354	0.9011	394	0.8883	434	0.8756	474	0.8630
315	0.9138	355	0.9008	395	0.8880	435	0.8753	475	0.8627
316	0.9135	356	0.9005	396	0.8876	436	0.8749	476	0.8624
317	0.9132	357	0.9002	397	0.8873	437	0.8746	477	0.8621
318	0.9128	358	0.8998	398	0.8870	438	0.8743	478	0.8618
319	0.9125	359	0.8995	399	0.8867	439	0.8740	479	0.8615
320	0.9122	360	0.8992	400	0.8864	440	0.8737	480	0.8611
321	0.9118	361	0.8989	401	0.8861	441	0.8734	481	0.8608
322	0.9115	362	0.8986	402	0.8857	442	0.8731	482	0.8605
323	0.9112	363	0.8982	403	0.8854	443	0.8727	483	0.8602
324	0.9109	364	0.8979	404	0.8851	444	0.8724	484	0.8599
325	0.9105	365	0.8976	405	0.8848	445	0.8721	485	0.8596
326	0.9102	366	0.8973	406	0.8845	446	0.8718	486	0.8593
327	0.9099	367	0.8969	407	0.8841	447	0.8715	487	0.8590
328	0.9096	368	0.8966	408	0.8838	448	0.8712	488	0.8587
329	0.9092	369	0.8963	409	0.8835	449	0.8709	489	0.8583
330	0.9089	370	0.8960	410	0.8832	450	0.8705	490	0.8580
331	0.9086	371	0.8957	411	0.8829	451	0.8702	491	0.8577
332	0.9083	372	0.8953	412	0.8826	452	0.8699	492	0.8574
333	0.9079	373	0.8950	413	0.8822	453	0.8696	493	0.8571
334	0.9076	374	0.8947	414	0.8819	454	0.8693	494	0.8568
335	0.9073	375	0.8944	415	0.8816	455	0.8690	495	0.8565
336	0.9070	376	0.8941	416	0.8813	456	0.8687	496	0.8562
337	0.9066	377	0.8937	417	0.8810	457	0.8683	497	0.8559
338	0.9063	378	0.8934	418	0.8806	458	0.8680	498	0.8556
339	0.9060	379	0.8931	419	0.8803	459	0.8677	499	0.8552
340	0.9057	380	0.8928	420	0.8800	460	0.8674		
341	0.9053	381	0.8924	421	0.8797	461	0.8671		
342	0.9050	382	0.8921	422	0.8794	462	0.8668		
343	0.9047	383	0.8918	423	0.8791	463	0.8665		
344	0.9044	384	0.8915	424	0.8989	464	0.8661		
345	0.9040	385	0.8912	425	0.8984	465	0.8658		
346	0.9037	386	0.8908	426	0.8781	466	0.8655		
347	0.9034	387	0.8905	427	0.8778	467	0.8652		
348	0.9031	388	0.8902	428	0.8775	468	0.8649		
349	0.9028	389	0.8899	429	0.8772	469	0.8646		

Legend: t = observed temperature in degrees Fahrenheit.

M = multiplier for reducing volumes to the basis of 60° F.



SPECIAL PROVISION  
SECTION 424  
 CRACK REPAIR with HOT POUR MASTIC

Description This work shall consist of preparing and repairing areas identified for crack repair in existing bituminous or concrete pavement layers using hot pour mastic. The hot pour mastic shall be supplied in solid form in boxes containing pre-measured binder blended with aggregates. Products to be used will be subject to approval by the Department. Repair areas will be free of sand, vegetation, water, and any previously placed rubber crack seal or crack repair materials, including cold patch. Preparation, such as cleaning and drying of the cracks by use of oil free compressed air and hot air lance shall be considered included the price per pound of crack repair mastic. Any pavement removal required will be paid for under the appropriate item as described in this Special Provision.

MATERIALS

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

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

Property Requirement

POLYMER MODIFIED BINDER

Cone Penetration, 77°F (25°C) (ASTM D5329)	60 max
Cone Penetration, 122°F (50°C) (ASTM D5329)	120 max
Softening Point, (ASTM D36)	200°F (93°C) min
Flexibility, 1" (25.4 mm), 180°, 10 sec) (ASTM D3111 modified)	Pass at 32°F (0°C)

AGGREGATE

Abrasion Resistance (ASTM C131)	35% max
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BLENDED PRODUCT

Flexibility, 32°F (0°C) (ASTM D5329)	Pass
Adhesion, 77°F (25°C) (ASTM D5329)	25 PSI (172 KPA) min
Specific Gravity	1.7 -2.0
Minimum Application Temperature	375°F (190°C) *
Maximum Application Temperature	400°F (204°C)
Test ASTM D8260	Type I Specification Limits
Mastic Resilience (ASTM (8260)	50% minimum
Effects of Rapid Deformation (ASTM D2794) (-7°C)	3 passing specimens no chipping, cracking or separation 8 N-m
Crack Bridging (ASTM C1305 modified) (-7°C)	Pass 3 cycles
Mastic Stability (ASTM D8260) (70°C)	40.0 mm maximum

## EQUIPMENT

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

(a) Air Compressor Air compressors shall be portable and capable of furnishing not less than 4 yd<sup>3</sup> of air per minute at not less than 90 psi pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water.

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

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

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

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

If required in the contract the router or crack saw equipment for preparing cracks shall be of a rotary impact type cutter, equipped with a carbide bit or a diamond-blade crack saw which will provide a reservoir of specified dimensions.

## CONSTRUCTION REQUIREMENTS

Weather Hot Pour Mastics shall not be applied on a wet or damp surface, or when the atmospheric temperature is below 45°F in a shaded area at the job site, or when weather conditions are otherwise unfavorable to proper crack repair procedures.

Preparation All cracks shall be prepared to receive the mastic material. All cracks must be cleaned of debris, dried and heated to ensure optimal bonding of the sealant material to the existing pavement and crack edges. All cracks shall be flush filled with pre-blended mastic with minimal overband in the same workday as directed by the Resident or authorized representative.

Cracks greater than 1 inch in width shall be thoroughly cleaned by use of compressed air and dried by use of a hot air lance. Any loose or broken materials will be removed from the repair area before placing mastic materials. If it is determined that additional pavement removal or preparation is needed by means of milling, sawing, or cutting of existing pavement the work will be paid under an appropriate pay item. All materials routed, sawn, cut, or otherwise removed from the areas to be repaired shall immediately be removed from the crack and surrounding paved area by use of compressed air sweeping, or combination of both.

Cracks 1 inch in width to 6 inch width, or repairs that are more structural in nature, such as potholes, depressions, fills or repairs around utility adjustments shall be filled with mastic pre-blended with standard weight aggregates. Generally repairs wider than 6 inches, or those that extend below the surface layer may require additional pavement removal or change in crack treatment type.

All mastic materials shall be heated to between 380°F and 410°F and thoroughly agitated prior to application. A non-contact infrared thermometer shall be used periodically to monitor the temperature of the material as it exits the kettle. Material may not be used if it is heated beyond the safe heating temperature of 410°F, exceeds the recommended pot life, or is reheated more than one time.

The mastics may be applied to large or excessive slope repair areas when the material has been heated to the lower end of the temperature range, or with the addition of 1% of an approved synthetic fiber to minimize material flow and cooling time.

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

The repair area shall be filled flush to the pavement surface. The material shall be poured into the repair area and worked using boxed or v-shaped squeegees, tools, lutes or heated irons. Care should be taken not to over work the material and cause unequal dispersion of the aggregate within the repair. The material may be applied in multiple lifts to accommodate material shrinkage or flow during cooling.

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

Do not allow traffic on the repaired areas for one ½ hour, or until the material has cooled enough to support traffic and tracking is minimal.

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

Method of Measurement Crack Repair with Hot Pour Mastic will be measured by the pound of mastic used. The manufacturer's weights of the mastic for each block (pill), counted as they are loaded, will be accepted as a basis for measurement.

Should tank checks be approved to verify material usage or calculate initial or final gallons remaining in the kettle, a calibrated kettle gauge or tank stick shall be used to measure the kettle gallons. Volume corrections shall be calculated using Table:1 to correct the gallon volume to 60 ° F.

For those approved cases the Department has determined the weight of this material to be 15.5 pounds per gallon. The Department will use this conversion value for all materials measured by the gallon and converted to pounds. The corrected volume and resultant pounds shall be made part of the method of measurement, with consideration given to blocks (pills) added during the day and applied in an acceptable manner

Basis of Payment The accepted quantity of Crack Repair with Hot Pour Mastic will be paid for at the contract unit price per pound. This price will be full compensation for furnishing the appropriate material type for the repair being done, heating, placing and finishing the mastic materials, as well as cleaning and preparing the areas for installation of the mastic, including the use of compressed air, hot air lance, and any sweeping required to remove contaminants from and dry the areas to be treated. Areas identified as requiring pavement removal by means of cutting, sawing, grinding, or routing will be paid under an appropriate contract item.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
424.38 Crack Repair, Hot Pour Mastic	Pound

**Conversion Table:1**

t	M	t	M	t	M	t	M	t	M	t	M
100	0.9861	135	0.9740	170	0.9621	205	0.9503	240	0.9385	275	0.9269
101	0.9857	136	0.9737	171	0.9618	206	0.9499	241	0.9382	276	0.9266
102	0.9854	137	0.9734	172	0.9614	207	0.9496	242	0.9379	277	0.9263
103	0.9851	138	0.9730	173	0.9611	208	0.9493	243	0.9375	278	0.9259
104	0.9847	139	0.9727	174	0.9607	209	0.9489	244	0.9372	279	0.9256
105	0.9844	140	0.9723	175	0.9604	210	0.9486	245	0.9369	280	0.9253
106	0.9840	141	0.9720	176	0.9601	211	0.9483	246	0.9365	281	0.9250
107	0.9837	142	0.9716	177	0.9597	212	0.9479	247	0.9362	282	0.9246
108	0.9833	143	0.9713	178	0.9594	213	0.9476	248	0.9359	283	0.9243
109	0.9830	144	0.9710	179	0.9590	214	0.9472	249	0.9356	284	0.9240
110	0.9826	145	0.9706	180	0.9587	215	0.9469	250	0.9352	285	0.9236
111	0.9823	146	0.9703	181	0.9584	216	0.9466	251	0.9349	286	0.9233
112	0.9819	147	0.9699	182	0.9580	217	0.9462	252	0.9346	287	0.9230
113	0.9816	148	0.9696	183	0.9577	218	0.9459	253	0.9342	288	0.9227
114	0.9813	149	0.9693	184	0.9574	219	0.9456	254	0.9339	289	0.9223
115	0.9809	150	0.9689	185	0.9570	220	0.9452	255	0.9336	290	0.9220
116	0.9806	151	0.9686	186	0.9567	221	0.9449	256	0.9332	291	0.9217
117	0.9802	152	0.9682	187	0.9563	222	0.9446	257	0.9329	292	0.9213
118	0.9799	153	0.9679	188	0.9560	223	0.9442	258	0.9326	293	0.9210
119	0.9795	154	0.9675	189	0.9557	224	0.9439	259	0.9322	294	0.9207
120	0.9792	155	0.9672	190	0.9553	225	0.9436	260	0.9319	295	0.9204
121	0.9788	156	0.9669	191	0.9550	226	0.9432	261	0.9316	296	0.9200
122	0.9785	157	0.9665	192	0.9547	227	0.9429	262	0.9312	297	0.9197
123	0.9782	158	0.9662	193	0.9543	228	0.9426	263	0.9309	298	0.9194
124	0.9778	159	0.9658	194	0.9540	229	0.9422	264	0.9306	299	0.9190
125	0.9775	160	0.9655	195	0.9536	230	0.9419	265	0.9302	300	0.9187
126	0.9771	161	0.9652	196	0.9533	231	0.9416	266	0.9299	301	0.9184
127	0.9768	162	0.9648	197	0.9530	232	0.9412	267	0.9296	302	0.9181
128	0.9764	163	0.9645	198	0.9526	233	0.9409	268	0.9293	303	0.9177
129	0.9761	164	0.9641	199	0.9523	234	0.9405	269	0.9289	304	0.9174
130	0.9758	165	0.9638	200	0.9520	235	0.9402	270	0.9286	305	0.9171
131	0.9754	166	0.9635	201	0.9516	236	0.9399	271	0.9283	306	0.9167
132	0.9751	167	0.9631	202	0.9513	237	0.9395	272	0.9279	307	0.9164
133	0.9747	168	0.9628	203	0.9509	238	0.9392	273	0.9276	308	0.9161
134	0.9744	169	0.9624	204	0.9505	239	0.9389	274	0.9273	309	0.9158

**Legend:** t = observed temperature in degrees Fahrenheit.  
M = multiplier for reducing volumes to the basis of 60° F.

Conversion Table:1

t	M	t	M	t	M	t	M	t	M
310	0.9154	350	0.9024	390	0.8896	430	0.8768	470	0.8643
311	0.9151	351	0.9021	391	0.8892	431	0.8765	471	0.8640
312	0.9148	352	0.9018	392	0.8889	432	0.8762	472	0.8636
313	0.9145	353	0.9015	393	0.8886	433	0.8759	473	0.8633
314	0.9141	354	0.9011	394	0.8883	434	0.8756	474	0.8630
315	0.9138	355	0.9008	395	0.8880	435	0.8753	475	0.8627
316	0.9135	356	0.9005	396	0.8876	436	0.8749	476	0.8624
317	0.9132	357	0.9002	397	0.8873	437	0.8746	477	0.8621
318	0.9128	358	0.8998	398	0.8870	438	0.8743	478	0.8618
319	0.9125	359	0.8995	399	0.8867	439	0.8740	479	0.8615
320	0.9122	360	0.8992	400	0.8864	440	0.8737	480	0.8611
321	0.9118	361	0.8989	401	0.8861	441	0.8734	481	0.8608
322	0.9115	362	0.8986	402	0.8857	442	0.8731	482	0.8605
323	0.9112	363	0.8982	403	0.8854	443	0.8727	483	0.8602
324	0.9109	364	0.8979	404	0.8851	444	0.8724	484	0.8599
325	0.9105	365	0.8976	405	0.8848	445	0.8721	485	0.8596
326	0.9102	366	0.8973	406	0.8845	446	0.8718	486	0.8593
327	0.9099	367	0.8969	407	0.8841	447	0.8715	487	0.8590
328	0.9096	368	0.8966	408	0.8838	448	0.8712	488	0.8587
329	0.9092	369	0.8963	409	0.8835	449	0.8709	489	0.8583
330	0.9089	370	0.8960	410	0.8832	450	0.8705	490	0.8580
331	0.9086	371	0.8957	411	0.8829	451	0.8702	491	0.8577
332	0.9083	372	0.8953	412	0.8826	452	0.8699	492	0.8574
333	0.9079	373	0.8950	413	0.8822	453	0.8696	493	0.8571
334	0.9076	374	0.8947	414	0.8819	454	0.8693	494	0.8568
335	0.9073	375	0.8944	415	0.8816	455	0.8690	495	0.8565
336	0.9070	376	0.8941	416	0.8813	456	0.8687	496	0.8562
337	0.9066	377	0.8937	417	0.8810	457	0.8683	497	0.8559
338	0.9063	378	0.8934	418	0.8806	458	0.8680	498	0.8556
339	0.9060	379	0.8931	419	0.8803	459	0.8677	499	0.8552
340	0.9057	380	0.8928	420	0.8800	460	0.8674		
341	0.9053	381	0.8924	421	0.8797	461	0.8671		
342	0.9050	382	0.8921	422	0.8794	462	0.8668		
343	0.9047	383	0.8918	423	0.8791	463	0.8665		
344	0.9044	384	0.8915	424	0.8989	464	0.8661		
345	0.9040	385	0.8912	425	0.8984	465	0.8658		
346	0.9037	386	0.8908	426	0.8781	466	0.8655		
347	0.9034	387	0.8905	427	0.8778	467	0.8652		
348	0.9031	388	0.8902	428	0.8775	468	0.8649		
349	0.9028	389	0.8899	429	0.8772	469	0.8646		

Legend: t = observed temperature in degrees Fahrenheit.  
M = multiplier for reducing volumes to the basis of 60° F.

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:

The accepted quantity of 60 inch Reinforced Concrete Pipe Class III – Including Fish Weirs will be paid at the contract Linear Foot unit price. Precast concrete fish weirs (and the connection to reinforced concrete pipe segments) shall be designed by the Contractor and the supplier and submitted to the Department for review and acceptance. The Linear Foot price shall be full compensation for all labor, equipment, materials and incidentals necessary to design, manufacture, furnish and install the reinforced concrete pipe and fish weirs.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
603.256    60 inch Reinforced Concrete Pipe Class III – Including Fish Weirs	Linear Foot
603.275    72 inch Reinforced Concrete Pipe Class III	Linear Foot
603.53     96 inch Reinforced Concrete Pipe Class IV	Linear Foot



**SPECIAL PROVISION**  
**SECTION 606**  
**GUARDRAIL**  
**(Anchorage Assembly)**

Description This work shall consist of furnishing and installing anchorage assemblies in accordance with current Standard Specifications and as shown in the attached detail on both sides of each 1.2 m guardrail opening as indicated on the plans.

Materials Materials shall meet the requirements specified in the following subsections of Division 700 - Materials:

Timber Preservative	708.05
Metal Beam Rail	710.04
Timber Posts	710.07
Guardrail Hardware	710.08

**CONSTRUCTION REQUIREMENTS**

Posts Posts shall be laid out at the typical offset as if no gaps were being introduced into the guardrail. Gap shall be located as shown on project plans or as directed by the Resident. The first post on either side of the gap shall be offset 0.3 m (1 ft) and the second post shall be offset 0.15 m (0.5 ft). This approximates a 46 m (151 ft) radius. The Contractor shall stake the spacing of posts in the field for the approval of the Resident prior to excavating post holes. See the attached detail.

Rails The beam immediately adjacent to the gap shall be a full length 3.81 m (12.5 ft) beam. It may be necessary to use a half length of beam in order to get the gap where it needs to be. Cut areas around the ends and at additional bolt holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint, or as directed by the project Resident. Holes shall not be burned.

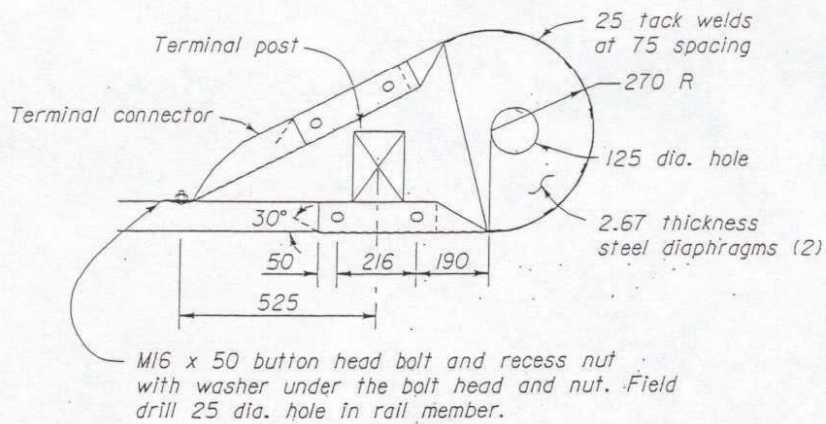
Method of Measurement Anchorage assemblies will be measured by the unit (each) complete in place and will include one 3.81 m (12.5 ft) beam and all components shown on the attached detail.

Basis of Payment The accepted quantity of anchorage assemblies will be paid for at the contract unit price per each, complete in place and will include one 3.81 m (12.5 ft) beam and all components shown on the attached detail. Payment shall be full compensation for furnishing and installing all components as shown on the attached detail and for incidentals necessary to complete the work.

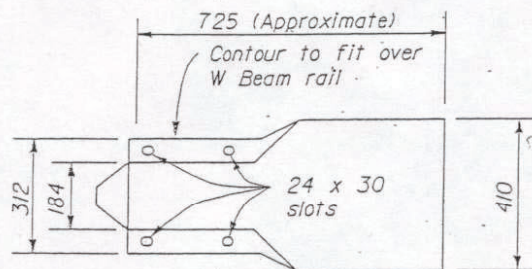
Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
606.259      Anchorage Assembly	Each

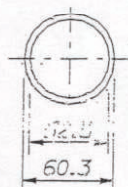
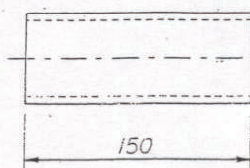
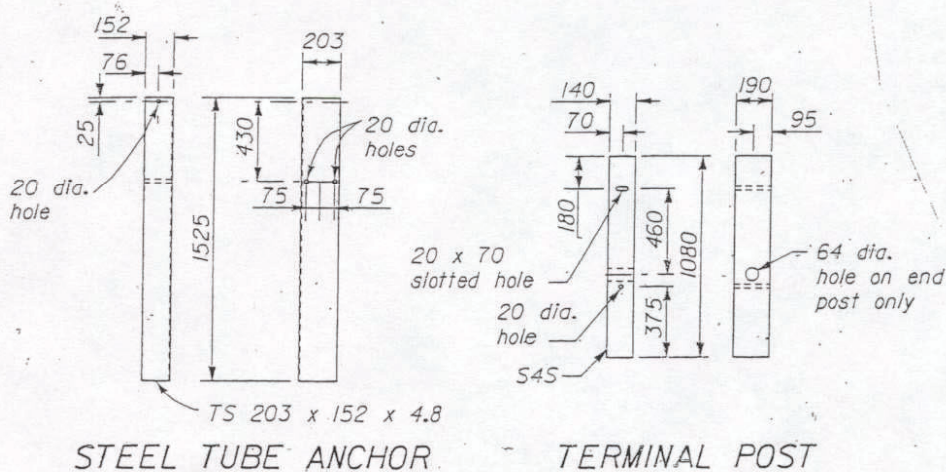




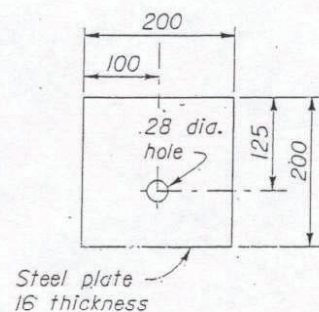
PLAN



ELEVATION  
TYPE I END SECTION ASSEMBLY



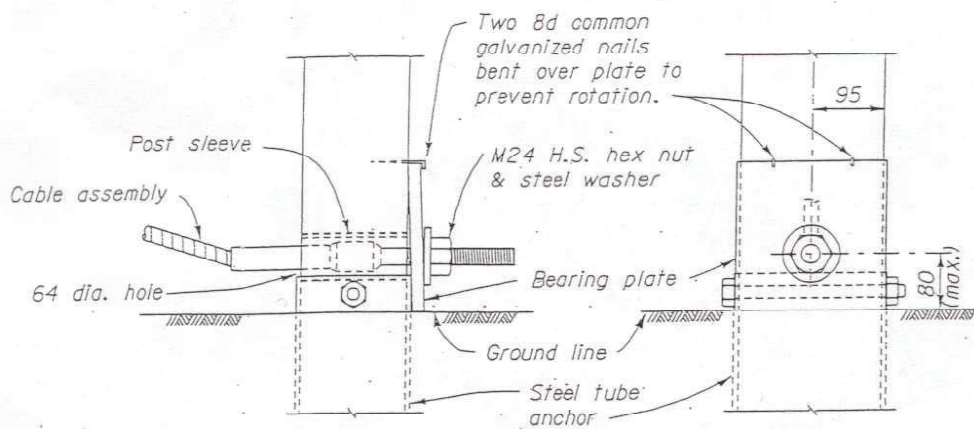
GALVANIZED STANDARD PIPE  
POST SLEEVE



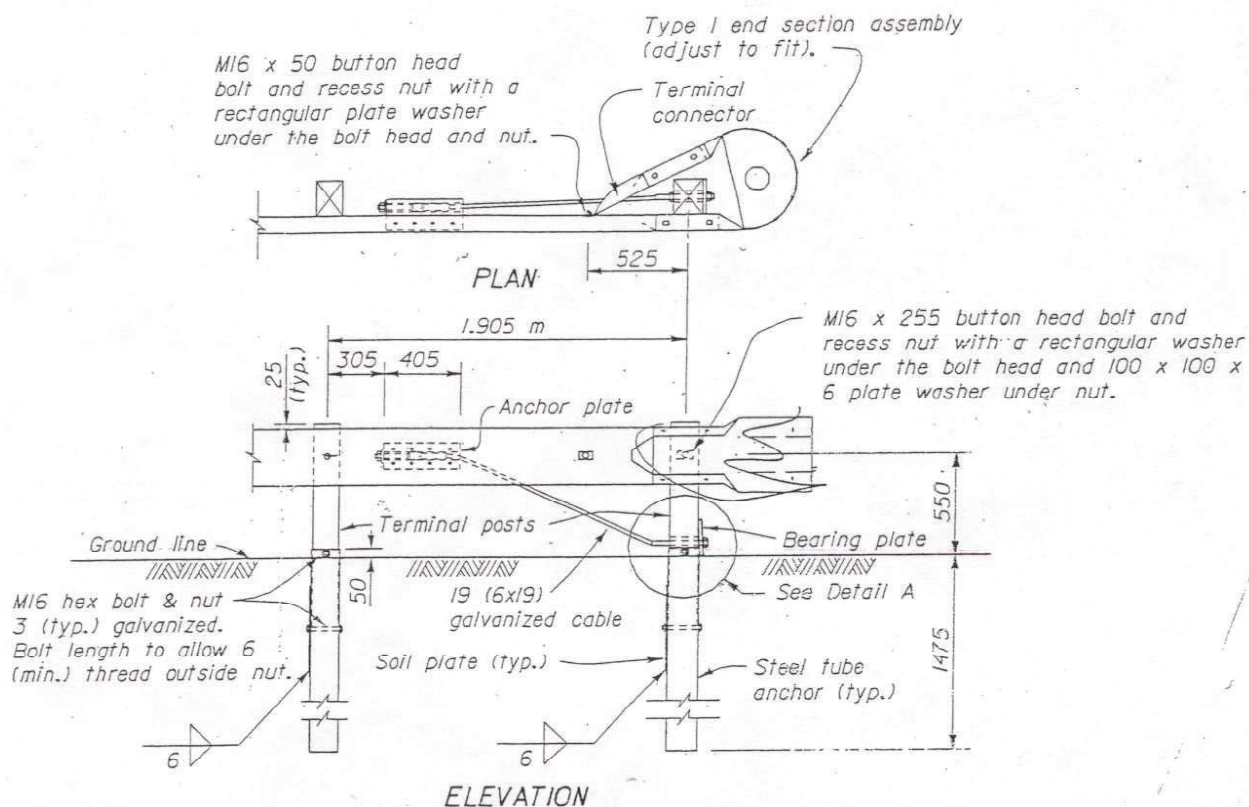
BEARING PLATE

## Anchorage Assembly

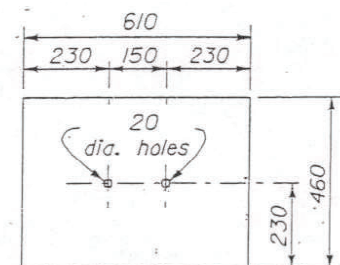




DETAIL A



ANCHORAGE ASSEMBLY



Steel plate 6 thickness

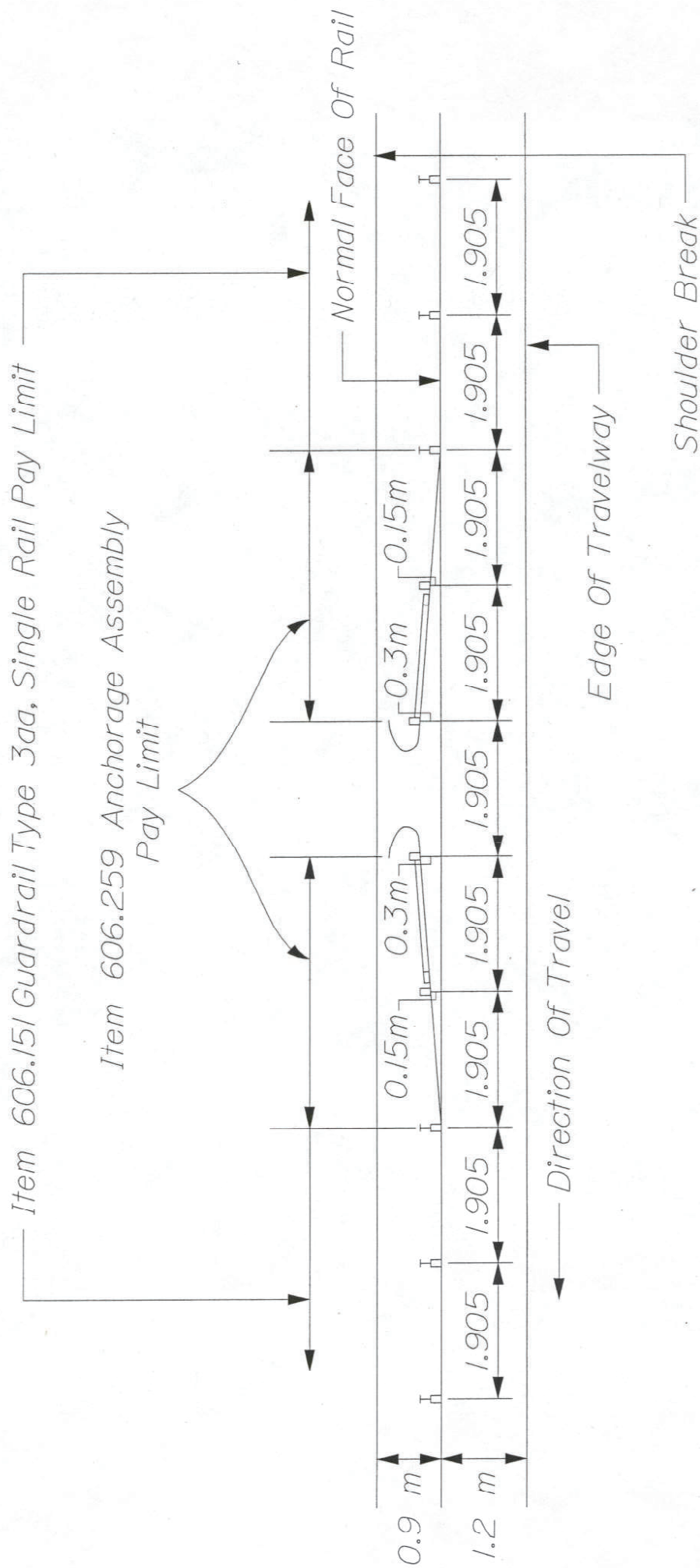
SOIL PLATE

(2 reqd.)

NOTES:

1. Unless otherwise shown, dimension are in millimeters.
2. Dimensional tolerances not shown or implied are intended to be those consistent with the proper functioning of the part, including its appearance, and accepted manufacturing practices.
3. Furnish hardware in metric sizes shown. Equivalent imperial sizes may be used when metric sizes are not available.

# Anchorage Assembly



# Harrison Pedestrian Access Gaps Pin. # 8473.00

**SPECIAL PROVISION**  
**SECTION 610**  
**Streambed Rock Features: Rock Bands and Rock Clusters**

610.01 Description This work consists of furnishing and placing large stones in the streambed outside of a culvert to simulate naturally occurring Streambed Rock Features.

610.02 Materials Material for Streambed Rock Features (Rock Bands, Rock Clusters, Cobble Bars) shall consist of (1) hard, sound durable stone that will not disintegrate by exposure to water or weather, (2) streambed gravel (see SP 203) or other gravel readily available on the project, and Special Fill (see SP 203).

Stone for Streambed Rock Features shall be subangular to subrounded and may be obtained by screening oversized rock from earth borrow pits or as fieldstone. Unwashed stone, and stone with naturally fractured faces will be allowed. Material from blasting or crushing operations will not be allowed unless approved by the Resident. Large stone and rock that is harvested and set aside during excavation may be suitable for use in Stream Rock Features. Final determination of stone suitability shall be made by the Resident.

Stone shall be a well-graded mix of 6-inch to 15-inch Boulder & Cobble with 50% larger than 9-inch

Special Fill is described in Special Provision 203, Special Fill.

Rock Bands shall be a mixture of (3 parts Boulder/Cobble : 1 part gravel).

Rock Clusters shall consist of stone only.

The Contractor shall identify the source and proposed stones for inspection at least ten (10) working days prior to the start of the stream channel construction. The grading of stone shall be determined by the Resident by visual inspection in accordance with the Standard Specifications, Section 610.032.d Inspection.

610.03a Construction Requirements

1. Rock Bands

- a. Place material for rock bands according to the location, shape, orientation and height as shown on the plans or as directed by the Resident.
- b. Place rock bands inside the culvert in a compact mass laterally across the width of the constructed channel on a firm layer of streambed material as described in Special Provision Section 203 – Special Fill. Seal voids by washing in suitable filler material, paying particular attention to where bands meet culvert walls, banklines and top of first Special Fill lift. The top of the stone should not protrude above the average finished streambed surface more than 3 inches, as shown on the plans.

- c. The stone for rock bands shall be in close contact and securely interlocked with all stones firmly embedded in the special fill forming the streambed. Loose or excessively protruding stones shall be embedded, reoriented, or rearranged by machine or handwork as required to achieve the specified shape, thickness, and elevations.

## 2. **Rock Clusters**

- a. Rock Clusters shall be placed in compact groupings as shown on the plans, from culvert wall to no farther than midpoint, oriented pointing upstream from bankline to toe. The boulders shall be embedded in the streambed about ½ of typical boulder height; rocks shall protrude 3 to 9 inches above finished streambed surface.
- b. Place and spread Special Fill around and on top of clusters.

**610.04 Method of Measurement** Streambed Rock Features quantity shall be measured by the cubic yard, complete in place.

**610.05 Basis of Payment** The accepted quantity of Streambed Rock Features will be paid for at the contract unit price per cubic yard complete in place. Payment shall be full compensation for furnishing all materials, equipment, and labor and washing-in with water.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
610.212 Streambed Rock Features	CY

SPECIAL PROVISION

SECTION 610

STONE FILL, RIPRAP, STONE BLANKET, AND STONE DITCH PROTECTION

Stream Channel Rock: Void-Filled Riprap for Banklines and Aprons

610.01 Description This work shall consist of furnishing and placing a mixture of stone and gravel to create longitudinal banklines inside a culvert and for placement as inlet and outlet riprap aprons. The mixture is referred to as Void-Filled Riprap.

610.02 Materials Void-Filled Riprap shall conform to the following requirements:

Plain riprap - shall be stone meeting the requirements of Section 703.26 - Plain and Hand Laid Riprap.

Crushed Stone 5-inch – shall be a well graded mix of crushed stone with a maximum size of 5 inches and a minimum size of 3/4 inches.

Aggregate – shall be aggregate meeting the requirements of Section 703.06 - Type C aggregate for base, Type D aggregate for subbase gravel or Streambed Gravel as described in Special Provision 203-Special Fill.

Where applicable, suitable material excavated on-site within the limits of the stream channel in accordance with Special Provision Section 203, Excavation and Embankment - Dredge Materials, may be used in the Void-Filled Riprap mixture with the approval of the Resident.

a. Mix proportions: Void-Filled Riprap shall be pre-mixed in the proportions listed in the following table:

Stone:	Void-fill material:	
Plain Riprap	Crushed Stone 5-inch	Aggregate
3 parts	1 part	1 part

The mix proportions and materials listed in the table are approximate and may be adjusted by the Resident to obtain a mix that maintains contact between the larger stones for stability and has sufficient material to chock and fill the voids in the riprap. Void-Filled Riprap shall conform to the requirements at the time it is placed.

b. Inspection - The Contractor shall identify the source and proposed materials for inspection at least 10 working days prior to the start of stream channel and riprap embankment construction. The grading of the stone for Void-Filled Riprap shall be determined by the Resident by visual inspection in accordance with the Standard Specifications, Section 610.032.d Inspection.



610.03 Construction Requirements Mix and place Void-Filled Riprap in the areas specified on the plans and as follows:

1. Void-Filled Riprap shall be thoroughly pre-mixed and placed in a manner that minimizes segregation. After initial placement, areas that consist primarily of void-fill material shall be remixed with the larger stone as necessary.
2. Place Void-Filled Riprap in a single lift on the first lift of Special Fill. All stones shall be securely interlocked and tamped into place such that contact between the stones is maintained, with void-fill material between the larger stones. Larger stones should extend to, and may protrude above, the average surface but shall be well embedded in the mix. The larger stones should be in contact in a manner that is similar to the placement of plain riprap.
3. Void-filled riprap shall be thoroughly washed-in with water immediately after placement. After the initial washing-in, place and spread additional void-fill material on the surface and wash-in until the remaining voids are filled. The Contractor shall allow sufficient time for the Resident to review the void-filled riprap placement. The final lift of special fill shall not be placed until the banklines have been approved by the Resident.
4. After settlement and washing-in, the minimum height of the Void-Filled Riprap shall be as shown on the plans. Placement of areas of only void-fill material to achieve the full height or thickness will not be allowed.
5. Prior to cofferdam removal and exposure to natural flow conditions the Void-Filled Riprap shall be at the specified height and thickness, thoroughly wetted with voids filled, and reviewed and approved by the Resident.

610.04 Method of Measurement

Void-Filled Riprap will be measured in place by the cubic yard.

610.05 Basis of Payment

The accepted quantity of Void-Filled Riprap will be paid for at the contract price per cubic yard complete in place. Payment shall be full compensation for furnishing all materials, equipment, and labor and washing-in with water.

Payment will be made under:

Pay Item

Pay Unit

610.213 Void-Filled Riprap

CY

**SPECIAL PROVISION**  
**SECTION 643**  
**TRAFFIC SIGNALS**  
**(Temporary Traffic Signals)**

The following is added to the Standard Specifications Section 643:

The Contractor shall install and maintain temporary traffic signals at all times when lane closures/alternating one-way traffic is implemented for replacement of large culverts.

Signal heads at each approach to the work area shall be mounted on a temporary structure supplied by the contractor and approved by the Resident. Two heads shall face traffic on each approach. All signal heads shall have 12-inch red, yellow, and green circular LED indications with 5-inch back plates and yellow retroreflective tape along each boarder.

Temporary stop lines shall be provided for the approaches that do not currently have stop lines. Temporary stop lines shall be removed by the contractor at completion of the temporary traffic signal operations. Stop line detection shall be provided on each approach. The contractor shall determine the method of detection with the Resident's approval.

At the Resident's direction, the contractor shall supply sign R10-7 "DO NOT BLOCK INTERSECTION" at intersections, streets, and driveways the resident deems adversely impacted by the use of temporary signals.

The contractor shall initially program the signal controller with the following phasing and timing (in seconds):

**Table 1** – Station 118+44 (35 MPH – Closure Length 300± ft)

	Phase 1 (NWB Route 1)	Phase 2 (SEB Route 1)	Phase 3 (Drive 1) <i>(Sta. 117+25± Lt.)</i>	Phase 4 (Drive 2) <i>(Sta. 117+65± Rt.)</i>
Green	20	20	5	5
Yellow	4	4	3	3
All Red	15	15	3	3
Delay	0	0	5	5
Recall	Rest in Red	Rest in Red	Rest in Red	Rest in Red

\*Phases 3&4 detectors shall always place a locking call on Phase 1

\*Ring Sequence shall be 3/4/1/2



**Table 2 – Station 200+61 (50 MPH – Closure Length 400± ft)**

	Phase 1 (NWB Route 1)	Phase 2 (SEB Route 1)	Phase 3 (Drive 1 / Runamuck Lane) (Sta. 202+05± LT)	Phase 7 (Drive 2) (Sta. 201+80± Rt.)
Green	20	20	5	5
Yellow	5	5	3	3
All Red	20	20	3	3
Delay	0	0	5	5
Recall	Rest in Red	Rest in Red	Rest in Red	Rest in Red

\*Phase 3 detectors shall always place a locking call on Phase 2

\*Phase 4 detectors shall always place a locking call on Phase 2

\*Ring Sequence shall be 3/4/2/1

**Table 3 – Station 351+94 (40 MPH Closure Length 400± ft)**

	Phase 1 (NB Route 1)	Phase 2 (SB Route 1)	Phase 3 (Pivot Drive) (Sta. 350+45± LT)
Green	20	20	5
Yellow	4	4	3
All Red	20	20	3
Delay	0	0	5
Recall	Rest in Red	Rest in Red	Rest in Red

\*Phase 3 detectors shall always place a locking call on Phase 1

\*Ring Sequence shall be 3/1/2

Timing information is based on a design speed of 15 MPH through the closure. The specified signal timing may be adjusted by a Licensed Professional Engineer as operation requires. The Resident may increase the All-Red Clearance times as necessary for the safety of the traveling public.

643.18 Method of Measurement Replace the third paragraph with the following:

Each stop line detection system installed, connected to appropriate phases in the controller cabinet, complete and operational, will not be measured for payment but will be considered incidental to the Temporary Traffic Signal Pay Item.

643.19 Basis of Payment Replace the fourth paragraph with the following:

The stop bar detection will be considered incidental to the Temporary Traffic Signal, which will be full compensation for materials, labor, and equipment for each detection system installed, fully operational and removed. If loop detectors are used as the stop bar detection system, loops may be abandoned in place.

Milbridge-Cherryfield  
WIN 20405.00  
September 6, 2024

Payment will be made under:

<u>Pay Item</u>	<u>Description</u>	<u>Pay Unit</u>
643.72	Temporary Traffic Signal	Lump Sum

SPECIAL PROVISION  
SECTION 652  
STAGED CONSTRUCTION AND TRAFFIC CONTROL

DESCRIPTION

This work shall consist of furnishing, installing, maintaining, and removing traffic control devices and staged construction items necessary to maintain the temporary travelway as specified in the Contract Documents and Standard Specifications.

Use of staged construction and traffic control is anticipated at the following culvert replacement locations:

- Sta. 118+44: 72" RCP
- Sta. 200+61: 96" RCP
- Sta. 351+94: 13'x 8' Concrete Box

MATERIALS

All materials utilized shall meet the appropriate requirements of the Standard Specifications and the Contract Documents.

GEOMETRIC AND APPROACH REQUIREMENTS

Horizontal Alignment

Horizontal curve radii shall not be less than 200 feet at the centerline of the temporary roadway.

Vertical Alignment

Grades shall not exceed 10% and all grade changes will accommodate all legal highway vehicle components and attached loads.

CONSTRUCTION REQUIREMENTS

At or before the preconstruction meeting the contractor shall submit a Staged Construction and Traffic Control Plan (SCTCP) to the Department. The Department will review the SCTCP for completeness and conformity with Federal requirements, Contract provisions, the current edition of the MUTCD, and Department policies and procedures. The Department will review and provide comments to the Contractor within 14 days of receipt of the SCTCP. No review or comment by the Department, or any failure to review or comment, shall operate to absolve the Contractor of its responsibility to design and implement the plan in accordance with the Contract, or to shift any responsibility to the Department. If the SCTCP is determined by the Department to be operationally ineffective, the Contractor shall submit modifications of the SCTCP to the Department for review, and shall implement these changes at no additional cost to the Contract. Nothing in this section shall negate the Contractor's obligations set forth in Section 110 – Indemnification, bonding, and Insurance.

The creation and modifications of SCTCP shall be considered incidental to the related 652 items.

This plan shall address:

- Construction staging and phasing
- Maintenance of the required travelway width and impacts to vehicle movement
- Traffic Control items to be utilized
- Any shoring, excavation, fill or other items not included in the plan set design
- Removal of any materials placed outside of the final limits of impacts and beyond the neat lines of the plans
- Sections of the plan dealing with shoring and/or horizontal/vertical design shall be stamped by a professional engineer licensed in the State of Maine.

The Contractor is ultimately responsible for all costs associated with obtaining all additional and required permits and/or property rights required by their plan. Certain rights and permits must be acquired by the Department. The Contractor shall factor the time and cost for these acquisitions into their plan.

METHOD OF MEASUREMENT

Staged Construction and Traffic Control will be measured and paid as one lump sum.

BASIS OF PAYMENT

The lump sum price will be full compensation for the design of the Staged Construction and Traffic Control Plan and for all items not included in the Bid Documents and utilized as depicted. All 652 items utilized by the SCTCP and included in the schedule of items shall be paid for separately. All additional shoring, excavating, placement of fill, piles, permits, rights, and any other work associated with this item shall be considered incidental.

Incremental payment will be made on the following schedule:

- |                                      |     |
|--------------------------------------|-----|
| - Approval of SCTCP                  | 25% |
| - Installation of SCTCP items        | 25% |
| - Removal of SCTCP items             | 25% |
| - All work related to SCTCP complete | 25% |

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
652.61            Staged Construction and Traffic Control	LS

SPECIAL PROVISION  
SECTION 652  
MAINTENANCE OF TRAFFIC

Approaches. Approach signing shall include the following signs at a minimum. Field conditions may warrant the use of additional signs as determined by the Resident.

Road Work Next X\* Miles  
Road Work 500 Feet (Ahead)  
End Road Work

Work Areas. At each work site, signs and channelizing devices shall be used as directed by the Resident.

Signs include:

Road Work xxxx<sup>1</sup>.  
One Lane Road Ahead  
Flagger Sign

Other typical signs include:

Be Prepared to Stop  
Low Shoulder  
Bump  
Pavement Ends

The above lists of Approach signs and Work Area signs are representative of the contract requirements. Other sign legends may be required.

Unless otherwise defined in Special Provision 105/107 or submitted and approved in the Traffic Control Plan, the following shall apply:

- The Contractor shall conduct their operations in such a manner that the roadway will not be restricted to one lane for more than 2,500 feet at each work area and no more than 4,000 feet for paving, milling, and crack seal/repair work areas.
- Where more than one work area restricts traffic to one lane operation, these work areas shall be separated by at least 1 mile of two-way operation.

**Temporary Centerline** A temporary centerline shall be placed each day on all new pavement to be used by traffic. The temporary centerline, when specified of reflectorized traffic paint, shall conform to the standard marking patterns used for permanent markings. Failure to apply a temporary centerline daily will result in a Traffic Control Violation and suspension of paving operations until temporary markers are applied to all previously placed pavement.

<sup>1</sup> "Road Work Ahead" to be used in short duration operations and "Road Work xx feet" to be used in stationary operations as directed by the Resident.

SPECIAL PROVISION  
SECTION 801  
TEST PITS

801.01 DESCRIPTION

This work shall consist of excavating test pits to locate buried site features at locations identified on the plans and/or as directed by the Resident.

801.02 CONSTRUCTION REQUIREMENTS

The work shall be done in a manner that maintains safe passage of the traveling public at all times. Coordination with the utilities (or facility owner) shall be completed prior to completion of the test pit activities. Test pits shall be completed in a manner that does not damage utilities or other buried site features. The Contractor shall repair any damage to the Resident's satisfaction at no additional cost.

The Contractor shall measure the depth (below existing grade) to the top and bottom of any buried features uncovered. The Contractor shall review this information with the Resident to determine if conflicts with proposed features may occur.

Once the test pit is complete, the Contractor shall backfill the hole, place and compact gravel, pavement, loam, etc. over the test pits in a manner consistent with the existing conditions and in accordance with applicable standard specifications.

801.03 METHOD OF MEASUREMENT

Test Pits will be measured for payment by each. At least 10 CY of material must be excavated to qualify as a test pit.

801.04 BASIS OF PAYMENT

The accepted quantity of Test Pits will be paid for at the contract unit price per each, which shall be full compensation for all labor, materials, tools, equipment, and incidentals necessary to complete the work. Associated traffic control will not be paid for separately and is considered incidental to the test pit item.

Payment will be made under:

<u>Pay Item</u>	<u>Description</u>	<u>Pay Unit</u>
801.03	Test Pits	Each

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  
PVC Pipes & Fittings

703.02 for class AA  
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 15<sup>th</sup> and April 1<sup>st</sup> 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 feet 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 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 in. PVC Sanitary Sewer (SDR-35)	Linear Foot
801.16 6 in. PVC Sanitary Sewer (SDR-35)	Linear Foot
801.17 8 in. PVC Sanitary Sewer (SDR-35)	Linear Foot



## 2020 STANDARD DETAIL UPDATES

Standard Details and Standard Detail updates are available at:  
<http://maine.gov/mdot/contractors/publications/standarddetail/>

<b><u>Detail #</u></b>	<b><u>Description</u></b>	<b><u>Posted Date</u></b>
502(19)	Bridge Drains	3/17/2023
502(15)	Bridge Drains	3/17/2023
502(20)	Bridge Drains	3/17/2023
502(23)	Bridge Drains	3/17/2023
502(24)	Bridge Drains	3/17/2023
502(25)	Bridge Drains	3/17/2023
502(26)	Bridge Drains	3/17/2023
504(07)	Diaphragm & Crossframe Notes	3/17/2023
507(20)	Steel Approach Railing 3-Bar	2/11/2021
507(21)	Steel Approach Railing 3-Bar	2/11/2021
507(22)	Steel Approach Railing 3-Bar	2/11/2021
507(23)	Steel Approach Railing 3-Bar	2/11/2021
507(27)	Steel Approach Railing	2/11/2021
526(01)	Portable Concrete Barrier	1/14/2021
526(01A)	Portable Concrete Barrier	1/14/2021
526(01B)	Portable Concrete Barrier	1/14/2021
526(02)	Portable Concrete Barrier	1/14/2021
526(02A)	Portable Concrete Barrier	1/14/2021
526(03)	Portable Concrete Barrier	1/14/2021
526(04)	Portable Concrete Barrier	1/14/2021
526(04A)	Portable Concrete Barrier	1/14/2021
526(04B)	Portable Concrete Barrier	1/14/2021
526(05)	Permanent Concrete Barrier	3/17/2023
526(21)	Permanent Concrete Barrier	3/17/2023
526(22)	Concrete Transition Barrier	3/17/2023
526(38)	Concrete Transition Barrier	3/17/2023
526(39)	Texas Classic Rail	3/17/2023
526(55)	Texas Classic Rail	3/17/2023

603(10)	Concrete Pipe Ties	6/10/2021
605(01)	Underdrain	7/8/2022
605(01)	Underdrain Notes	7/8/2022
606(17)	Midway Splice Guardrail Transition	6/10/2022
606(23)	Standard Bridge Transition – Type “1”	2/11/2021
606(24)	Standard Bridge Transition – Type “1A”	2/11/2021
608(02)	Detectable Warnings	6/10/2021
609(09)	Precast Concrete Vertical Curb	2/11/2021
627(07)	Crosswalk	2/22/2022
627(08)	Crosswalk	2/22/2022
643(11)	ATCC Cabinet	12/14/2020
645(06)	H Beam Posts Highway Signing	12/17/2024
801(11)	Pedestrian Ramp Notes	11/20/2023
801(12)	Pedestrian Ramp Requirements	11/20/2023
801(13)	Ramp Length Table	11/20/2023
801(14)	Parallel Pedestrian Ramp	11/20/2023
801(15)	Perpendicular Pedestrian Ramp – Option 1	11/20/2023
801(16)	Parallel Pedestrian Ramp – Option 2A	11/20/2023
801(17)	Perpendicular Pedestrian Ramp – Option 2A	11/20/2023
801(18)	Parallel Pedestrian Ramp – Option 2B	11/20/2023
801(19)	Perpendicular Pedestrian Ramp – Option 2B	11/20/2023
801(20)	Parallel Pedestrian Ramp – Option 3	11/20/2023
801(21)	Perpendicular Pedestrian Ramp – Option 3	11/20/2023
801(22)	Side Street Pedestrian Ramp	11/20/2023
801(23)	Parallel Pedestrian Ramp – Esplanade	11/20/2023
801(24)	Perpendicular Pedestrian Ramp – Esplanade	11/20/2023
801(25)	Island Crossings	11/20/2023
801(26)	Blended Transition	11/20/2023
801(26)	Blended Transition	1/19/2024
801(27)	Pedestrian Ramp Adjacent to Driveway or Entrance	11/20/2023
802(05)	Roadway Culvert End Slope Treatment	1/03/2017
802(05)	Roadway Culvert End Slope Treatment	11/01/2024

**SUPPLEMENTAL SPECIFICATIONS**  
**(Corrections, Additions, & Revisions to Standard Specifications – March 2020)**

**SECTION 101**  
**CONTRACT INTERPRETATION**

101.2 Definitions

Construction Easement revise this definition by removing it in its entirety and replace with:  
**“A right acquired by the Department for a specific use of private property outside of the established Right-of-Way. Examples include but are not limited to Drainage Easements, Construction and Maintenance Easements, and Slope Easements. Construction Easement areas, including Temporary Construction Limits and Temporary Road Limits, outside of the Right-of-Way remain private property. No use other than to access and perform the specified work activity is permitted without written permission of the owner.”**

Construction Limit Line Remove this definition in its entirety.

Holidays Amend this paragraph by adding “**Juneteenth**” between ‘Memorial Day’ and ‘Independence Day’.

Plans Revise this paragraph by removing “**Standard Details, Supplemental Standard Details**” from the first sentence.

Project Limits Revise this definition by removing it in its entirety and replacing it with:  
**“Areas within the Right-of-Way, Construction Easements, or Temporary Construction Limits shown on the Plans or otherwise indicated in the Contract. If no Project Limits are indicated in the Contract, the Project Limits shall be determined by the Department. For a related Maine statute, see 23 MRSA § 653. “**

Right-Of-Way Revise this definition by removing it in its entirety and replacing it with:  
**“The area of land, property, or interest therein, acquired for or devoted to the Project or other purposes. Portions of the Right-of-Way may be used for storage of materials and equipment and the location of engineering facilities, subject to written approval by the Department.”**

Amend this Section by adding the following two definitions (that replace Construction Limit Line);

Temporary Construction Limits **The area within which the Contractor may access and perform the Physical Work and outside of which Work may not be performed without written authorization by the property owner.**

Temporary Road Limits **The area within which the Contractor may construct and maintain a temporary detour for maintenance of traffic.**

## SECTION 102 BIDDING

102.11 Bid Responsiveness Revise the paragraph that states  
“The Bid is not signed by a duly authorized representative of the Bidder.” So that it reads:

“The Bid is not signed by a duly authorized representative of the Bidder.

- Properly submitted electronic bids meet this requirement.
- Paper bids must include at least one signed copy of the Contract Agreement Offer & Award form.”

## SECTION 103 AWARD AND CONTRACTING

103.3.1 Qualification Requirement for Award Revise this subsection so that it reads:

**“103.3.1 Qualification Requirement for Award If the Notice to Contractors lists a Prequalification requirement, the Apparent Successful Bidder must successfully complete the Prequalification process as a condition of Award. The Apparent Successful Bidder who does not already hold an Annual Prequalification shall have 21 days to provide the Department with their Prequal documents or the Department may move on to the next low bidder.”**

## SECTION 104 GENERAL RIGHTS AND RESPONSIBILITIES

104.2.1 Furnishing of Right-of-Way Revise this subsection by removing it in its entirety and replace with the new subsection:

**“104.2.1 Furnishing of Property Rights The Department will secure all necessary rights to real property within the Project Limits shown on the Right-of-Way Plans that are provided with the Bid Documents. For related provisions, see Sections 104.3.2 – Furnishing of Other Property Rights, Licenses and Permits and 105.4.5 - Maintenance of Existing Structures. For related definitions, see Construction Easements and Right-of-Way.”**

104.3.2 Furnishing of Other Property Rights, Licenses and Permits Revise this subsection by replacing “104.2.1 Furnishing of Right-of-Way” with “**104.2.1 Furnishing of Property Rights**”.

## SECTION 105 GENERAL SCOPE OF WORK

105.10.1.4 Race-conscious Project Goals Revise the second paragraph of this section so it reads as follows:

**“At the time of the bid opening, all Bidders shall submit with their bid a Disadvantaged Business Enterprise (DBE) Commitment Form provided by the Department. This form will list the DBE and non-DBE firms that are proposed to be used during the execution of the Work. This form must be filled out in its entirety. The dollar total of each commitment shall be totaled and a percentage determined.”**

105.10.2 Requirements Applicable to All Contracts Under section A, number 2, in the first sentence of the first paragraph, revise this Section by replacing the word “handicap” in two places with the word “disability” so it now reads:

**“2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, State that all qualified applicants will receive consideration for employment without regard to race, color, sexual orientation, religious creed, sex, national origin, ancestry, age, physical disability, or mental disability.”**

## SECTION 106 QUALITY

106.6 Acceptance Revise this Subsection by replacing the paragraph beginning with “Acceptance of Hot Mix Asphalt Pavement will be based” with:

**“Acceptance of Hot Mix Asphalt Pavement will be based on Method A or C Statistical Acceptance, or Method B or D Acceptance as specified. The method of acceptance for each item is defined in Special Provision, Section 403, Hot Mix Asphalt Pavement. When items of Hot Mix Asphalt Pavement are not so designated, Method A will be utilized whenever there are more than 1000 tons per Hot Mix Asphalt Pavement item, and Method B will be utilized when there are less than or equal to 1000 tons per Hot Mix Asphalt Pavement item.”**

Revise Subsection “B” by removing it and replacing it with:

**“B. Items not designated for Statistical Acceptance will utilize Method B or D Acceptance testing to validate the quality of the material incorporated into the Project. For material paid under Item 403.209 – Method D, or designated to be visually accepted, the Contractor shall provide the Department with a Certification Letter that indicates that the material supplied complies with the Specifications. Test results representative of the certified material shall be attached to the letter.**

**The Department will randomly sample and test the certified Material for properties noted in Table 1 of Section 502 - Structural Concrete or Table 14 of Section –401.21**

**Acceptance Method B & D. Material will be subject to rejection as noted in Structural Concrete Section 502.195 - Quality Assurance Method C Concrete or Hot Mix Asphalt, Section 401.2022 Pay Adjustment – Method B & D.”**

106.7.1 Standard Deviation Method Revise 106.7.1, subsection H by removing the following from the first paragraph:

“Method B:  $PF = [70 + (\text{Quality Level} * 0.33)] * 0.01$ ”

106.9.1 Warranty by Contractor Revise the third paragraph of this section so that it reads:

**“For a related provision regarding obligations regarding plantings, see section 621.36 – Maintenance Period. “**

## SECTION 107 TIME

107.3.1 General Amend this paragraph by adding “**Juneteenth**” between ‘Patriot’s Day’ and ‘the Friday after Thanksgiving’.

## SECTION 108 PAYMENT

108.2.3 Mobilization Payments Replace Standard Specification 108.2.3 – Mobilization Payments with the following:

**“108.2.3 Mobilization Payments “Mobilization” includes the mobilization and demobilization of all resources as many times as necessary during the Work.**

**Percent Mobilization Bid will be determined by taking the amount Bid for Mobilization and dividing by the Total Contract Amount less Mobilization.  $Mob / (Total Contract - Mob)$ .**

**Payment will be made at the following intervals:**

<b>% Mobilization Bid</b>	<b>% Mobilization Paid at Contract Award</b>	<b>% Mobilization Paid after the Department determines 50% of the work is Complete</b>	<b>% Mobilization Paid at Final Acceptance</b>
<b>10% or less</b>	<b>50%</b>	<b>50%</b>	
<b>More than 10% to 15%</b>	<b>33%</b>	<b>33%</b>	<b>34%</b>
<b>More than 15% to 20%</b>	<b>25%</b>	<b>25%</b>	<b>50%</b>
<b>More than 20% to 30%</b>	<b>15%</b>	<b>15%</b>	<b>70%</b>
<b>Greater than 30%</b>	<b>10%</b>	<b>10%</b>	<b>80%</b>

108.3 Retainage Revise the third paragraph of this section so that it reads:

**“Upon Final Acceptance, and determination by the department that there are no claims either by or on the Contractor or Subcontractors; no over payments by the department; no LDs due; and no disincentives due, the Department will reduce Retent to 1% of the original Contract Award amount, or \$100,000, whichever is less, as it deems desirable and prudent.”**

108.4.1 Price Adjustment for Hot Mix Asphalt Revise this section by removing it in its entirety and replacing it with the following:

**“108.4.1 Price Adjustment for Hot Mix Asphalt: For each Contract, a price adjustment for performance graded binder will be made for the following pay items, when the total quantity of Hot Mix Asphalt included in these items is in excess of 500 tons, based on the estimated quantities of these items at the time of bid.**

<b>Item 403.102</b>	<b>Hot Mix Asphalt – Special Areas</b>
<b>Item 403.207</b>	<b>Hot Mix Asphalt - 19 mm</b>
<b>Item 403.2071</b>	<b>Hot Mix Asphalt - 19 mm (Polymer Modified)</b>
<b>Item 403.2072</b>	<b>Hot Mix Asphalt - 19 mm (Asphalt Rich Base)</b>
<b>Item 403.208</b>	<b>Hot Mix Asphalt - 12.5 mm</b>
<b>Item 403.2081</b>	<b>Hot Mix Asphalt - 12.5 mm (Polymer Modified)</b>
<b>Item 403.2084</b>	<b>Hot Mix Asphalt - 12.5 mm (Highly Modified HiMAP)</b>
<b>Item 403.209</b>	<b>Hot Mix Asphalt - 9.5 mm (sidewalks, drives, &amp; incidentals)</b>
<b>Item 403.210</b>	<b>Hot Mix Asphalt - 9.5 mm</b>
<b>Item 403.2101</b>	<b>Hot Mix Asphalt - 9.5 mm (Polymer Modified)</b>
<b>Item 403.2104</b>	<b>Hot Mix Asphalt - 9.5 mm (Thin Lift Surface Treatment)</b>
<b>Item 403.21041</b>	<b>Hot Mix Asphalt - 9.5 mm (Polymer Modified Thin Lift Surface Treatment)</b>
<b>Item 403.211</b>	<b>Hot Mix Asphalt – Shim</b>
<b>Item 403.2111</b>	<b>Hot Mix Asphalt – Shim (Polymer Modified)</b>
<b>Item 403.212</b>	<b>Hot Mix Asphalt - 4.75 mm (Shim)</b>



Item 403.213	Hot Mix Asphalt - 12.5 mm (base and intermediate course)
Item 403.2131	Hot Mix Asphalt - 12.5 mm (base and intermediate course Polymer Modified)
Item 403.2132	Hot Mix Asphalt - 12.5 mm (Asphalt Rich Base and intermediate course)
Item 403.301	Hot Mix Asphalt (Asphalt Rubber Gap-Graded)
Item 461.13	Light Capital Pavement
Item 461.210	9.5 mm HMA - Paver Placed Surface
Item 461.2101	Hot Mix Asphalt - 9.5 mm (Polymer Modified)
Item 461.216	Hot Mix Asphalt (Shim)
Item 462.30	Ultra-Thin Bonded Wearing Course
Item 462.301	Polymer Modified Ultra-Thin Bonded Wearing Course

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

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

Item 403.102–6.2%
Item 403.207–5.2%
Item 403.2071–5.2%
Item 403.2072–5.8%
Item 403.208–5.6%
Item 403.2081–5.6%
Item 403.2084 – 6.2%
Item 403.209–6.2%
Item 403.210–6.2%
Item 403.2101–6.2%
Item 403.2104–6.2%
Item 403.21041–6.2%
Item 403.211–6.2%
Item 403.2111–6.2%
Item 403.212–6.8%
Item 403.213–5.6%
Item 403.2131–5.6%
Item 403.2132–6.2%
Item 403.301–6.2%
Item 461.13–6.7%
Item 461.210 – 6.4%
Item 461.2101 – 6.4%
Item 461.216 – 6.7%
Item 462.30–0.0021 tons/SY
Item 462.301–0.0021 tons/SY”

## SECTION 110 INDEMNIFICATION, BONDING, AND INSURANCE

110.3.9 Administrative & General Provisions Amend this subsection by adding “**Automobile Liability**” under letter A) Additional Insured to the list of exceptions.

10. Assurance Required by 49 CFR: 26.13(a)(b) Revise this section by removing it in its entirety and replacing it with the following:

**“a. MaineDOT shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE Program or the requirements of 49 CFR part 26. MaineDOT shall take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. MaineDOT’s DBE Program, as required by 49 CFR part 26 and as approved by DOT, is incorporated by reference in this agreement. The implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the MaineDOT of its failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the MaineDOT of its failure to carry out its approved program, the Department may impose sanctions as provided for under 49 CFR Part 26, and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Remedies Act of 1986 (31 U.S.C. 3801 et seq.). This language will appear in financial assistance agreements with sub-recipients.**

**b. The contractor, sub-recipient, 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 recipient deems appropriate, including, but not limited to:**

- 1. Withholding monthly progress payments;**
- 2. Assessing sanctions;**
- 3. Liquidated damages; and/or**
- 4. Disqualifying the contractor from future bidding as non-responsible.”**

## SECTION 206 STRUCTURAL EXCAVATION

206.01 Description – *Structural Earth Excavation, Below Grade* delete the entire sentence and replace with “**shall consist of the removal of excavation required for unknown or unanticipated subsurface condition. See 206.04 – Method of Measurement for pay limits.**”

206.04 Method of Measurement – Drainage and Minor Structures Paragraph 1, sentence 2, delete the remainder of the sentence beginning with “...provided the maximum allowable...” And replace with: **“....in accordance with the following limits:”**

- **Vertical pay limits:**
  - **Below a plane parallel with and 12 inches below the bottom of the drainage or minor structure or**
  - **Below the excavation limits shown in the Bid Documents; whichever is greater.**
- **Horizontal pay limits – The maximum allowable horizontal dimensions shall not exceed those bounded by vertical surfaces 18 inches outside the base, or extreme limits of, the structure, and to the vertical neat lines of underdrain trenches, as shown in the Contract Documents.**

## SECTION 401 HOT MIX ASPHALT PAVEMENT

401.19 Contractor Quality Control Amend this Section by adding the following to the end:  
**“Failure to comply with the approved QCP will result in work suspension and pay reductions as outlined in Section 106.4.6. The Quality Control Plan Value shall be the total bid value for all items covered by the QCP as identified in Special Provision 403.”**

## SECTION 501 FOUNDATION PILES

501.044 Special Requirements for Steel Pipe Piles and Steel Casings Amend this section by deleting it in its entirety and replacing with:

**Pipe piles shall be driven closed ended, unless otherwise specified. When open-ended pipe piles are specified or when the ends are not completely closed ended when driven, the inside of the pile shall be thoroughly cleaned out, and the inside walls cleaned by jetting or other means approved by the Resident. The sediment control required for the cleaning operations shall be covered in the Contractor’s SEWPCP.**

**Pipe piles shall be inspected and approved by the Resident immediately before concrete is placed in them. They shall be free from rupture and undue deformation and shall be free from water unless the Resident determines that the concrete can be placed without damage to the pile and such that the discharged water will be contained. The Contractor shall provide lights and other equipment necessary to enable the Resident to inspect each pipe pile.**

**Portland cement concrete for filling the pipe piles shall be placed in one continuous operation to fill the pile completely without causing water contamination. An internal type vibrator shall be used in the top 25 feet. Pile heads shall be protected and cured in accordance with Section 502, Structural Concrete.**

The placing of concrete and the driving of piles shall be scheduled so that fresh and setting concrete will not be injured by the pile driving.

Concrete shall not be placed in pipe piles until pile driving has progressed beyond a radius of 15 feet from the pile to be concreted. If pile heave is detected for pipe piles that have been filled with concrete, the piles shall be redriven to the original position after the concrete has attained sufficient strength and a proper hammer-pile cushion system, is in place and is satisfactory to the Resident.

When a reinforcing steel cage is specified, it shall be placed inside the piles to allow for a minimum of 2 inches of concrete cover and the piles shall be filled with concrete to the elevation shown on the Plans.

Full-length pipe piles and steel casings shall be used wherever practicable; however, splicing may be permitted when approved by the Resident. The method of splicing shall be as follows:

- a. Steel pipe piles and steel casings shall be spliced by full penetration butt joint welds.
- b. When the pipe piles and steel casings are to be spliced while in a vertical position, splicing shall be accomplished utilizing single-bevel groove welds with the use of back-up rings. When the pipe piles and steel casings are to be spliced while in a horizontal position, splicing shall be accomplished utilizing single-vee groove welds with the use of back-up rings.
- c. Welded joints shall conform to the Standard Details.

501.047 Splicing Piles Amend this section by deleting it in its entirety and replacing it with:

Full-length piles shall always be used wherever practicable. When full-length piles cannot be used, the number of splices, locations, and details shall be noted in the QCP. Piles fabricated from multiple pieces will be acceptable only if they comply with the following:

H-Beam Piles <sup>a</sup>		Pipe Piles and Steel Casings <sup>a,b</sup>	
Lengths	Maximum No. Field Splices	Lengths	Maximum No. Field Splices
Less than 20 ft.	0	Less than 20 ft.	0
Over 20 – 35 ft.	1	Over 20 – 40 ft.	1
Over 35 – 79 ft.	2	Over 40 – 60 ft.	2
Over 79 ft.	1 per 40 ft.	Over 60 – 80 ft.	3
		Over 80 ft.	1 per 20 ft.
<sup>a</sup> Pile lengths less than 10 feet will not be spliced, except as the final (top) section of the pile. <sup>b</sup> Where pipe piles are used for pile bent piers, no splices will be allowed in the length of pile from the cutoff elevation to 2 feet below the channel bottom.			

When pre-planned splicing is approved, the pile piece of lesser length shall be placed at the tip of the pile (the first part of the pile that enters the ground).

**When splicing is allowed, the work shall be done in accordance with the following:**

- A. Welding shall be done in accordance with the requirements of the AWS D1.1 welding code.**
- B. Qualify welders in accordance with the most recent edition of the AWS D1.5 code.**
- C. Submit a written Weld Procedure Specification (WPS) for each joint to be included as part of the QCP. The WPSs shall be provided to the Fabrication Engineer for review and approval prior to beginning welding. Provide copies of the approved WPSs to the welder, QC Inspector and Resident prior to beginning welding. Welding performed without an approved WPS and approved QCP will be considered Unacceptable Work.**
- D. Provide a list of qualified welders with copies of their AWS certifications to the Fabrication Engineer for review prior to beginning welding. Welders shall have in their possession, at the time of welding, a valid certification for the process and position to be used in production from the AWS. The welder shall show the Resident their credentials upon request.**
- E. The Contractor shall only use electrodes that are on the Department's Qualified Products List for Welding Electrodes or shall submit alternative electrodes for review and approval by the Fabrication Engineer. Electrodes used shall match those approved for use in the WPS.**
- F. Welding shall not be done: When the temperature in the immediate vicinity of the weld is below 0°F; when the surfaces are damp or exposed to rain, snow, or high wind; or when the welders or welding operators are exposed to inclement conditions.**
- G. The pile shall be preheated to and maintained at 150°F minimum, within 6 inches from the joint during welding.**
- H. Power sources for welders shall have meters indicating amperage/voltage that have been calibrated within 1 year at the time of welding.**
- I. The Contractor shall provide the Department with notice, a minimum of, 7 Days prior to the start of any welding.**
- J. The Contractor shall provide a QC Inspector to perform QC for the welds in accordance with the AWS D1.1 welding code. The QC Inspector shall be an AWS Certified Welding Inspector (CWI) in conformance with the requirements of AWS QC1, Standard for AWS Certifications of Welding Inspectors. The Contractor may submit, in lieu of a CWI, an alternative QC Inspector with documented training and experience in metals fabrication, inspection, and testing for approval by the Fabrication Engineer. The QC Inspector shall be someone other than the welder performing the welds to be inspected.**
- K. The QC Inspector shall inspect all production stages of the welded splice to ensure that workmanship and materials meet the requirements of the AWS D1.1 welding code and the Contract. The QC Inspector shall submit a signed record of all weld inspection documentation to the Resident after welding is completed.**

**Record of weld inspection shall include, but not be limited to, the following:**

- 1. Name of QC Inspector**
- 2. Project WIN and Location**
- 3. Date**
- 4. Weather conditions**
- 5. Type, size, length, and location of welds.**

6. Confirmation of appropriate equipment and materials used, including proper handling of welding electrodes.
7. Confirmation that welder has approved WPS onsite, and welding is performed in accordance with approved WPS.
8. Confirmation that welder is qualified to perform work per approved WPS. Include name and certifications of qualified welder who performed the work.
9. Confirm that 100% visual testing, in accordance with AWS D1.1 Table 8.1, has been conducted and any subsequent repairs are made prior to non-destructive testing (NDT).
10. Document NDT testing including name of NDT technician, NDT personnel qualifications, type and extent of NDT testing performed, and include NDT testing reports provided by the NDT testing technician.

L. Piles shall not be driven until all pile welding has been inspected and accepted by the Department.

#### **501.0471 Specific Requirements for Splicing H-Beam Piles**

A. Damaged material shall be removed from the end of the driven pile. Lifting holes shall be repaired or trimmed off. The ends of both pieces to be spliced shall be cut off square with the longitudinal axis of the pile and beveled per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.

B. The Contractor shall use an approved mechanical splicer or a full penetration butt weld for the entire cross section of the pile. Mechanical splicers shall be installed per the manufacturer's recommendations, except that the flanges shall be welded using a complete joint penetration weld, per the AWS D1.1 welding code.

C. In addition to the 100% visual testing (VT) performed by the QC Inspector, the Contractor shall perform NDT on the first two welded splices of the same type/size. The welds shall be radiographically (RT) or ultrasonically (UT) tested for their full length for acceptance per Table 8.2 of AWS D1.1. If both RT/UT-tested splices are determined to be acceptable, no further NDT will be required. If either of the first two RT/UT-tested splices contain defects warranting rejection, RT/UT testing of splices shall continue until two consecutive splices are found to be acceptable.

D. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

#### **501.0472 Specific Requirements for Splicing Steel Pipe Piles and Steel Casings**

A. Damaged material shall be removed from the end of the driven pile. Lifting holes shall be trimmed off. The ends of both pieces to be spliced shall be cut off square with the longitudinal axis of the pile and beveled per the approved WPS. All cutting shall be



done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.

**B. Splices shall be welded using an AWS D1.1 Complete Joint Penetration butt weld with a backer ring.**

**C. In addition to the 100% VT performed by the QC Inspector, the Contractor shall perform NDT on the first two welded splices of the same type/size. The welds shall be RT or UT tested for their full length for acceptance per Table 8.2 of AWS D1.1. If both RT/UT-tested splices are determined to be acceptable, no further NDT will be required. If either of the first two RT/UT-tested splices contain defects warranting rejection, RT/UT testing of splices shall continue until two consecutive splices are found to be acceptable.**

**D. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.**

501.048 Prefabricated Pile Tips Amend this section by deleting it in its entirety and replacing it with:

**Welding of pile tips shall be done in accordance with the following:**

**A. Welding shall be done in accordance with the requirements of the AWS D1.1 welding code.**

**B. Qualify welders in accordance with the most recent edition of the AWS D1.5 code.**

**C. Submit a written WPS for each tip to be included as part of the QCP. The WPSs shall be provided to the Fabrication Engineer for review and approval prior to beginning welding. Provide copies of the approved the WPS to the welder and Resident prior to beginning welding. Welding performed without an approved WPS and approved QCP will be considered Unacceptable Work.**

**D. Provide a list of qualified welders with copies of their AWS certifications to the Fabrication Engineer for review prior to beginning welding. Welders shall have in their possession, at the time of welding, a valid certification for the process and position to be used in production from the AWS or other organization acceptable to the Resident. The welder shall show the Resident their credentials upon request.**

**E. The Contractor shall only use electrodes that are on the Department's Qualified Products List for Welding Electrodes or shall submit alternative electrodes for review and approval by the Fabrication Engineer. Electrodes used shall match those approved for use in the WPS.**

**F. Pile tips shall be approved by the Resident.**



**G. Welding shall not be done: When the temperature in the immediate vicinity of the weld is below 0°F; when the surfaces are damp or exposed to rain, snow, or high wind; or when the welders or welding operators are exposed to inclement conditions.**

**H. The pile shall be preheated to and maintained at 150°F minimum within 6 inches from the joint during welding.**

**I. Power sources for welders shall have meters indicating amperage/voltage that have been calibrated within 1 year at the time of welding.**

**J. Pile tips may be welded to the piles by the pile supplier upon approval by the Department. Approval is contingent upon submission of the following: A welding QC Plan; proof that the proposed welder(s) is certified per AWS D1.5; and an AWS D1.1 WPS, with base metal preheated to a minimum of 150°F. The Contractor shall provide notice a minimum of 14 Days prior to the start of any welding by the pile supplier. At a minimum, welds shall be 100% visually inspected by the pile supplier's QC representative.**

**K. The Contractor shall provide a QC Inspector to perform QC for the welds in accordance with the AWS D1.1 welding code. The QC Inspector shall be an CWI in conformance with the requirements of AWS QC1, Standard for AWS Certifications of Welding Inspectors. The Contractor may submit, in lieu of a CWI, an alternative QC Inspector with documented training and experience in metals fabrication, inspection, and testing for approval by the Fabrication Engineer. The QC Inspector shall be someone other than the welder performing the welds to be inspected.**

**L. The QC Inspector shall inspect all production stages of the welded splice to ensure that workmanship and materials meet the requirements of the AWS D1.1 welding code and the Contract. The QC Inspector shall submit a signed record of all weld inspection documentation to the Resident after welding is completed.**

**M.**

**Record of weld inspection shall include, but not be limited to, the following:**

- 1. Name of QC Inspector**
- 2. Project WIN and Location**
- 3. Date**
- 4. Weather conditions**
- 5. Type, size, length, and location of welds.**
- 6. Confirmation of appropriate equipment and materials used, including proper handling of welding electrodes.**
- 7. Confirmation that welder has approved WPS onsite, and welding is performed in accordance with approved WPS.**
- 8. Confirmation that welder is qualified to perform work per approved WPS. Include name and certifications of qualified welder who performed the work.**
- 9. Confirm that 100% VT, in accordance with AWS D1.1 Table 8.1, has been conducted and any subsequent repairs are made prior to NDT.**
- 10. Document NDT testing including name of NDT technician, NDT personnel qualifications, type and extent of NDT testing performed, and include NDT testing reports provided by the NDT testing technician.**

- N. The Contractor shall provide notice a minimum of 7 Days prior to the start of any field welding.
- O. Piles shall not be driven until all pile welding has been inspected and accepted by the Department.

#### **501.0481 Specific Requirements for Installing H-Beam Pile Tips**

- A. Damaged material shall be removed from the end of the driven pile, as applicable. Lifting holes shall be trimmed off. The end of the pile to which the tip is to be attached shall be cut off square with the longitudinal axis of the pile and prepared per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.
- B. Regarding weld size, prefabricated pile tips shall be attached to H-beam piles with 5/16-inch groove welds along each flange, or as recommended by the manufacturer of the pile tips, whichever weld size is larger.
- C. The QC Inspector shall, at a minimum, perform 100% VT on each pile tip weld.
- D. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

#### **501.0482 Specific Requirements for Installing Steel Pipe Pile Tips**

- A. Damaged material shall be removed from the end of the driven pile, as applicable. Lifting holes shall be trimmed off. The end of the pile to which the tip is to be attached shall be cut off square with the longitudinal axis of the pile and prepared per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.
- B. Unless otherwise shown on the Plans, steel pipe piles shall have pointed cast steel pile tips.
- C. Regarding weld size, prefabricated pile tips shall be attached to steel pipe piles with a continuous 5/16-inch groove weld along the full perimeter of the pile, or as recommended by the manufacturer of the pile tips, whichever weld size is larger.
- D. The QC Inspector shall, at a minimum, perform 100% VT on each pile tip weld.
- E. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

501.05 Method of Measurement

c. Piles in Place Revise the third paragraph by replacing the “10” with “20” so that it reads:

Unused pile cutoffs **20** feet or more in length, except those required to accommodate the Contractor’s construction method, as discussed herein, will remain the property of the Department and will be stored at a bridge maintenance yard nearest the project. Hauling and unloading of piles will be done by the Contractor or by the Department, depending upon availability of services.

SECTION 502  
STRUCTURAL CONCRETE

502.09 Forms and Falsework Amend this subsection by adding the subsection title “**502.10 Placing Concrete**” after section “D” Removal of Forms and False work” and after the paragraph beginning with “2. Forms and False work, including blocking...”. So that a new subsection starts and reads:

**“502.10 Placing Concrete**

**A. General Concrete shall not be placed until forms ....”**

502.1701 Quality Control, Method A and B Revise this Section so that the first paragraph and the first sentence of the second paragraph read:

**“502.17 Quality Control The Contractor shall control the quality of the concrete through testing, inspection, and practices which shall be described in the QCP, sufficient to assure a product meeting the Contract requirements. The QCP shall meet the requirements of Section 106, Quality, and this specification. No work under this item shall proceed until the QCP is submitted to and approved by the Department. Failure to comply with the approved QCP will result in work suspension and pay reductions as outlined in Section 106.4.6. The Quality Control Plan Value shall be the total bid value for all cast-in-place items covered by the QCP, using the P value listed in Special Provision 502. If no P value is listed, a value of \$350, or bid value per cubic yard, whichever is less, shall be used.**

**502.1701 Quality Control, Method A and B The QCP shall address all elements that affect the quality of the structural concrete including, but not limited to, the following: “**

Section 502.1701, Quality Control, Revise Table 4 of this Subsection by removing it in its entirety and replacing it with:

TABLE 4  
METHOD A & B MINIMUM QUALITY CONTROL TESTING REQUIREMENTS \*

TEST	TEST METHOD	SAMPLING LOCATION	FREQUENCY
Gradation	AASHTO T-27 & T-11	Stockpile	One set per proposed grading before production. One set every 100 yd <sup>3</sup> (Min. 1 set per month)
Organic Impurities	AASHTO T-21	Stockpile	<b>Once per fine aggregate per year **</b>
% Absorption	AASHTO T-84 & T-85	Stockpile	Once per aggregate per year
Specific Gravity	AASHTO T-84 & T-85	Stockpile	Once per aggregate per year
Total Moisture in Aggregate	AASHTO T-255	Stockpile	One set per day's production
Free Water and Aggregate Wt.	N/A		One per day's production
% Entrained Air	AASHTO T-152	On Project	On first two loads and every third load thereafter provided consistent results are achieved
Compressive Strength	AASHTO T-22	On Project	One set per subplot
Compressive Strength	AASHTO T-22 @ 7days	On Project	One set per subplot

\* Additional QC testing will be required any time a process change occurs during a placement, including changes in type or dosage of admixture. Additional testing shall include, but is not limited to, entrained air testing.

**\*\* If the color produced is a laboratory designation Plate III, then the fine aggregate shall be tested once per month.**

502.18, Method of Measurement, Revise Subsection 'F' by removing the word 'transverse' so that it reads: **"Saw cut grooving of concrete wearing surfaces, complete and accepted, will be measured for payment as one lump sum."**

502.19, Basis of Payment, Revise the third paragraph by removing the word 'transverse' so that it reads: **"Saw cut grooving of concrete wearing surfaces will be paid for at the Contract Lump Sum Price, which shall be payment for furnishing all materials, labor, and equipment, including depth gauges and all incidentals, to satisfactorily complete the work."**  
(Also see 535.24 and 535.25 for related changes)

## SECTION 503 REINFORCING STEEL

Section 503.07 Splicing Revise this section by removing the table and following footnote and replacing them with:

Minimum Lap Splice Length (inches)									
Bar Type	Bar Size								
	#3	#4	#5	#6	#7	#8	#9	#10	#11
Plain or Galvanized	16	20	24	29	38	47	59	72	85
Epoxy or Dual Coated	17	24	36	43	56	71	88	107	128
Stainless	19	24	30	36	47	59	73	89	107
Low-carbon Chromium	24	32	39	47	63	78	97	119	142

**“The minimum lap splice lengths in the table above are based on the parameters below. When any of these parameters are altered, appropriate minimum lap splice lengths will be as shown on the Plans.**

- Normal weight concrete
- Minimum 28-day concrete compressive strength from 4,000 psi to 10,000 psi
- Class B tension lap splice
- Minimum center-to-center spacing between bars of 6 inches
- Minimum clear cover of 2 inches
- Nominal reinforcing steel yield strengths
  - Low-carbon Chromium = 100 ksi
  - Stainless = 75 ksi
  - All others = 60 ksi
- Reinforcement with yield strengths greater than 75 ksi shall have beam transverse reinforcement and column ties provided over the required lap splice length in accordance with the current edition of the AASHTO LRFD Bridge Design Specifications

**When lap splices are placed horizontally in an element where the concrete depth below the splice will be 12 inches, or more, the indicated lap splice lengths shall be multiplied by a factor of 1.3.”**

## SECTION 506 SHOP APPLIED PROTECTIVE COATING – STEEL

506.13 Surface Preparation Amend this section by adding this paragraph to the end:

**“Steel shall meet the requirements of SSPC SP8 Pickling prior to being immersed in the zinc tanks. Verification of the surface preparation shall be included in the QC documentation.”**

## SECTION 523 BEARINGS

523.051 Protective Coating Revise this subsection by removing the paragraph beginning with “Anchor rods shall be galvanized...” and replacing with:

**“Anchor rods shall be galvanized. When anchor rods are designated to secure bare unpainted steel or painted steel, a dielectric coating (epoxy or bituminous type coatings are acceptable) shall be applied to the anchor rod and/or adjacent steel to prevent contact between galvanized surfaces and painted or unpainted steel.”**

523.22 Fabrication Amend this subsection by adding the following: **“Elastomeric Bearings shall be fabricated in accordance with AASHTO M251.”**

## SECTION 526 CONCRETE BARRIER

Amend this section by deleting it in its entirety and replacing it with:

**“526.01 Description This work shall consist of the furnishing, constructing, erecting, setting, resetting, and removal of concrete barrier and associated elements in accordance with these specifications, the Standard Details, and the lines and grades shown on the Plans or established by the Resident.**

**The types of concrete barrier are designated as follows:**

**Portable Concrete Barrier Type I Double faced removable barrier in accordance with the Standard Details.**

**Permanent Concrete Barrier Type II Double faced barrier as shown on the Plans.**

**Permanent Concrete Barrier Type IIIa Single faced barrier 32 inches high in accordance with the Standard Details or as shown on the Plans.**

**Permanent Concrete Barrier Type IIIb Single faced barrier 42 inches high in accordance with the Standard Details or as shown on the Plans.**

**Permanent Concrete Transition Barrier Barrier of various heights joining steel bridge rail to steel guardrail in accordance with the Standard Details or as shown on the Plans.**

**Permanent Texas Classic Rail Barrier Traffic rail or sidewalk rail, in accordance with the Standard Details or as shown on the Plans.**

### **526.02 Materials**

**a. Concrete Concrete for barriers, both permanent and portable, shall have a design strength of 5,000 psi.**

**For cast-in-place barrier: The concrete shall be Class LP, in accordance with Standard Specification Section 502, Structural Concrete.**

**For precast barrier: The concrete shall meet the requirements of Standard Specification 712.061, Structural Precast Concrete Units, except that the stripping strength for precast barriers is 4,000 psi.**

**b. Reinforcing Steel** Reinforcing steel shall meet the requirements of Section 503, Reinforcing Steel.

**c. Structural Steel** Plates and barrier connections shall meet the requirements specified in Standard Specification 504 - Structural Steel and shall be hot dip galvanized after fabrication in accordance with Standard Specification 506, Shop Applied Protective Coating – Steel

**d. Bolts** Bolts shall meet the requirements specified in Section 713.02, High Strength Bolts.

**e. Connecting Pins for Portable Concrete Barrier** Portable concrete barriers must be connected using a 1- inch diameter pin. The connecting pin must be smooth, not deformed, i.e., reinforcing bar may not be used, and shall meet the strength requirements of ASTM A449 steel. Materials with greater strength may be used with the approval of the Department.

**f. Anchor Pins for Portable Concrete Barrier** Anchoring to concrete or asphalt will be required when specified on the Plans. When required, portable concrete barriers must be anchored using a 1 ½ - inch diameter anchor pin. The anchor pin must be smooth, not deformed, i.e., reinforcing bar may not be used, and shall meet the strength requirements of ASTM A36 steel. Materials with greater strength may be used with the approval of the Department.

**g. Device Crashworthiness** MaineDOT is transitioning to MASH2016 criteria for Portable Concrete Barrier on the following schedule:

**New Portable Concrete Barrier shall be crash tested and/or evaluated to MASH2016 criteria.**

**Current Portable Concrete Barrier in useful serviceable condition that is successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.**

**Other current Portable Concrete Barrier that is deemed acceptable by the Department may be utilized on projects off the National Highway System through December 31, 2024.**

### **526.03 Construction Requirements**



**Cast-in-place barriers shall be fabricated in accordance with Standard Specification Section 502, Structural Concrete. Precast barriers shall be fabricated in accordance with Standard Specification 534, Precast Structural Concrete.**

**Concrete finish for permanent barrier shall be rubbed as defined in Standard Specification Section 502, Structural Concrete, 502.13 D2 or an approved equal.**

**Portable concrete barrier shall be generally free from fins and porous areas and shall present a neat and uniform appearance.**

**Permanent barrier shall have a protective coating applied in accordance with Standard Specification Section 515, Protective Coating for Concrete Surfaces.**

**Reflective delineators for concrete median barrier shall meet the requirements of Special Provision 645, Highway Signing.**

**Preformed Joint Filler shall meet the requirements specified in Subsection 705.01, Preformed Expansion Joint Filler.**

**Permissible dimensional tolerances for all concrete barriers shall be as follows:**

- a. Cross-sectional dimensions shall not vary from design dimensions by more than  $\frac{1}{4}$  inch. The vertical centerline shall not be out of plumb by more than  $\frac{1}{4}$  inch.**
- b. Longitudinal dimensions shall not vary from the design dimensions by more than  $\frac{1}{4}$  inch per 10 feet of barrier section and shall not exceed  $\frac{3}{4}$  inches per section.**
- c. Location of anchoring holes shall not vary by more than  $\frac{1}{2}$  inch from the dimensions shown in the concrete barrier details on the Plans.**
- d. Surface straightness shall not vary more than  $\frac{1}{4}$  inch under a 10-foot straightedge.**
- e. The barrier shall have no significant cracking. Significant cracking is defined as fractures or cracks passing through the section, or any continuous crack extending for a length of 12 inches or more, regardless of position in the section.**

**526.04 Method of Measurement Permanent Concrete Barrier Type II, IIIa, IIIb, Texas Classic Rail, and Precast Median Barrier will be measured for payment by lump sum, complete in place.**

**Portable concrete barrier, both anchored and unanchored will be measured for payment by lump sum. Lump sum measurement will include verification of the installation and removal of all portable concrete at the completion of the Contractor's operations.**

**The Contractor shall replace sections of portable concrete barrier, including anchored barrier damaged by the traveling public when directed by the Resident. Replacement**

sections will be measured for payment in accordance with Standard Specification 109.7, Equitable Adjustments to Compensation and Time.

Transition barrier will be measured by each, complete in place.

**526.05 Basis of Payment** The accepted quantities of Concrete Barrier Type II, IIIa, IIIb, Texas Classic Rail, and Precast Median Barrier will be paid for at the Contract lump sum price for the type specified, complete in place.

The accepted quantities of Portable Concrete Barrier Type I, both anchored and unanchored will be paid for at the Contract lump sum price. Such payment shall be full compensation for furnishing all materials, assembling, moving, resetting, transporting, temporarily storing, removing barrier, furnishing new parts as necessary, and all incidentals necessary to complete the work.

Portable barrier shall become the property of the Contractor upon completion of the use of the barrier on the project and shall be removed from the project site by the Contractor.

Transition barrier will be paid for at the Contract price each, complete in place.

The accepted quantity of all types of concrete barrier, whether portable or permanent, will be paid for at the lump sum or per each price, as applicable, which payment shall be full compensation for all materials, including reinforcing steel, protective coating, reflective delineators, steel plates and hardware, equipment, labor and incidentals required, as necessary, to complete the work.

Payment will be made under:

	<b><u>Pay Item</u></b>	<b><u>Pay Unit</u></b>
526.301	Portable Concrete Barrier, Type I	Lump Sum
526.304	Portable Concrete Barrier, Anchored Type I	Lump Sum
526.312	Permanent Concrete Barrier Type II	Lump Sum
526.321	Permanent Concrete Barrier Type IIIa	Lump Sum
526.323	Texas Classic Rail	Lump Sum
526.331	Permanent Concrete Barrier Type IIIb	Lump Sum
526.34	Permanent Concrete Transition Barrier	Each
526.502	Precast Concrete Median Barrier	Lump Sum”

## SECTION 527 ENERGY ABSORBING UNIT

527.02 Materials Amend this section by deleting it in its entirety and replacing it with:

**“MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:**

**Portable Crash Cushions will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 3 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.**

**Work Zone Crash Cushions shall be selected from the Department’s Qualified Products List of Crash Cushions/Impact Attenuators or approved equal.”**

## SECTION 535 PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

535.22 Tolerances Amend this section by deleting it in its entirety and replacing it with:

**“Product dimensional tolerances shall be in conformance with the latest edition of PCI MNL-135, Tolerance Manual for Precast and Prestressed Concrete Construction, as applicable to the particular product (e.g., slab, I-girder, box beam), the Plans, and this Specification. Use Box Beam fabrication tolerances for voided or solid slab beams and use Double Tee tolerances for NEXT beams. In case of dispute, the Fabrication Engineer shall determine the allowable tolerance.”**

535.24 Installation of Slabs, Beams, and Girders Revise the 5<sup>th</sup> paragraph by replacing “6.0 and 9.0” to “5.0 and 8.0” so it reads: **“Ready mixed grout shall achieve a design compressive strength of 6,000 psi at 28 days, have an entrained air content of between 5.0 and 8.0 percent, be non-shrink, flowable, and contain a non-shrink additive listed on the Department QPL for expansive cements.”**

535.25, Installation of Precast/Prestressed Deck Panels Revise the 2<sup>nd</sup> paragraph by replacing “6.0 and 9.0” to “5.0 and 8.0” so it reads: **“Ready mixed grout shall achieve a design compressive strength of 6,000 psi at 28 days, have an entrained air content of between 5.0 and 8.0 percent, be non-shrink, flowable, and contain a non-shrink additive listed on the Department QPL for expansive cements.”**

## SECTION 606 GUARDRAIL

Amend this section by replacing it with the following:

606.01 Description This work shall consist of furnishing and installing guardrail components in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans or as established. Guardrail is designated as:

31" W-Beam Guardrail - Mid-Way Splice

Galvanized steel w-beam, 8" wood or composite offset blocks, galvanized steel posts

Thrie Beam

Galvanized steel thrie beam, 8" wood or composite offset blocks, galvanized steel posts

Median guardrail shall consist of two beams of the above types, mounted on single posts.

Bridge mounted guardrail shall consist of furnishing all labor, materials, and equipment necessary to install guardrail as shown on the plans. This work shall also include drilling for and installation of offset blocks if specified, and incidental hardware necessary for satisfactory completion of the work.

Remove and Reset and Remove, Modify, and Reset guardrail shall consist of removing the existing designated guardrail and resetting in a new location as shown on the plans or directed by the Resident. Remove, Modify, and Reset guardrail and Modify guardrail include the following guardrail modifications: Removing plate washers at all posts, except at anchorage assemblies as noted on the Standard Details, adding offset blocks, and other modifications as listed in the Construction Notes or General Notes. Modifications shall conform to the guardrail Standard Details.

Bridge Connection shall consist of the installation and attachment of beam guardrail to the existing bridge. This work shall consist of constructing a concrete end post or modifying an existing end post as required, furnishing, and installing a terminal connector, necessary hardware, and incidentals required to complete the work as shown on the plans. Bridge Transition shall consist of a bridge connection and furnishing and installing guardrail components as shown in the Standard Details.

606.02 Materials Materials shall meet the requirements specified in the following Sections of Division 700 - Materials:

Timber Preservative	708.05
Metal Beam Rail	710.04
Guardrail Posts	710.07
Guardrail Hardware	710.08

Guardrail components shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report.

Posts for underdrain delineators shall be “U” channel steel, 8 ft long, 2 ½ lb/ft minimum and have 3/8-inch round holes, 1-inch center to center for a minimum distance of 2 ft from the top of the post.

Reflectorized Flexible Guardrail Markers shall be mounted on all guardrails. A marker shall be mounted onto guardrail posts at the flared guardrail terminal end point and tangent point, both at the leading and trailing ends of each run of guardrail. The marker’s flexible posts shall be gray with either silver-white or yellow reflectors (to match the edge line striping) at the tangents, red at leading ends, and green at trailing ends. Whenever the guardrail terminal is not flared, markers will only be required at the terminal end point. These shall be red or green as appropriate. Markers shall be installed on the protected side of guardrail posts unless otherwise approved by the Resident. Reflectorized flexible guardrail markers shall be from the Department’s Qualified Products List of Delineators. The marker shall be gray, flexible, durable, and of a non-discoloring material to which 3-inch by 9-inch reflectors shall be applied, and capable of recovering from repeated impacts and meeting MASH 16 requirements. Reflective material shall meet the requirements of Section 719.01 for ASTM D 4956 Type III reflective sheeting. The marker shall be secured to the guardrail post with two fasteners, as shown in the Standard Details.

Reflectorized beam guardrail reflectors shall be mounted on all “w” beam guardrail and shall be either the “butterfly” type or linear delineation system panels. “Butterfly” or linear delineation panels shall be installed at approximately 62.5 foot intervals on tangents (after every tenth post) and 31.25 feet on curves (after every fifth post), and shall be centered on the guardrail beam. On Divided highways, the left-hand delineators shall be yellow and the right-hand delineators shall be silver/ white. On two-way directional highways, the right-hand side will have silver / white reflectors and no reflectorized delineator used on the left. Delineators shall have reflective sheeting that meets or exceeds the requirements of Section 719.01.

“Butterfly” reflectors shall be fabricated from high-impact, ultraviolet & weather resistant thermoplastic. Aluminum, galvanized metal or other materials shall not be used. Reflective sheeting will be applied to only one side of the delineator facing the direction of traffic and shall be centered vertically on the guardrail beam as shown in the Standard Detail 606(7).

Linear delineation system panels shall be 1.5 inches wide by approximately 11 inches nominal length, with a minimum of 5 raised lateral ridges spaced at approximately 2.25 inches. The height of each ridge shall be 0.34 inches with a 45 degree profile and a 0.28 inches radius at the top. Sheeting shall be laminated to thin gauge aluminum with a pre-applied adhesive tape on the back. Panels shall not be installed over seams or bolt heads and shall be centered horizontally on the guardrail beam; linear delineation panels shall be attached to only one guardrail beam. The guardrail beam surface shall be cleaned and prepared according to the manufacturer’s instructions. Air temperature and guardrail surface temperature must be a minimum of 50 degrees F (10 C) with rising temperature at the time of installation.

Exact locations of the either the “butterfly” type or the linear delineation panels shall be approved by the Resident prior to installation.

Single wood post shall be of cedar, white oak, or tamarack, well-seasoned, straight, and sound and have been cut from live trees. The outer and inner bark shall be removed, and all knots trimmed flush with the surface of the post. Posts shall be uniform taper and free of kinks and bends.

Single steel post shall conform to the requirements of Section 710.07 b.

Single steel pipe post shall be galvanized, seamless steel pipe conforming to the requirements of ASTM A120, Schedule No. 40, Standard Weight.

Acceptable multiple mailbox assemblies shall be listed on the Department's Qualified Products List and shall be MASH 16 tested and approved.

Flared and Tangent w-beam guardrail terminals and guardrail offset blocks shall be from the Department's Qualified Products List. Flared terminals shall be installed with a 4 ft offset as shown in the Manufacturer's installation instructions.

Anchorage assemblies used to anchor trailing ends, radius guardrail, or other ends not exposed to traffic shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report, Drawing SEW02a.

Existing materials damaged or lost during adjusting, removing and resetting, or removing, modifying, and resetting, shall be replaced by the Contractor without additional compensation. Existing guardrail posts and guardrail beams found to be unfit for reuse shall be replaced when directed by the Resident.

606.03 Posts Posts for guardrail shall be set plumb in holes or they may be driven if suitable driving equipment is used to prevent battering and distorting the post. When posts are driven through pavement, the damaged area around the post shall be repaired with approved bituminous patching. Damage to lighting and signal conduit and conductors shall be repaired by the Contractor.

When set in holes, posts shall be on a stable foundation and the space around the posts, backfilled in layers with suitable material, thoroughly tamped.

The reflectorized flexible guardrail markers shall be set plumb with the reflective surface facing the oncoming traffic. Markers shall be installed on the protected side of guardrail posts. Markers, which become bent or otherwise damaged, shall be removed and replaced with new markers.

Single wood posts shall be set plumb in holes and backfilled in layers with suitable material, thoroughly tamped. The Resident will designate the elevation and shape of the top. The posts, that are not pressure treated, shall be painted two coats of good quality oil base exterior house paint.

Single steel posts shall be set plumb in holes as specified for single wood posts or they may be driven if suitable driving equipment is used to prevent battering and distorting the post.

Additional bolt holes required in existing posts shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.04 Rails Brackets and fittings shall be placed and fastened as shown on the plans. Rail beams shall be erected and aligned to provide a smooth, continuous barrier. Beams shall be lapped with the exposed end away from approaching traffic.

End assemblies shall be installed as shown on the plans and shall be securely attached to the rail section and end post.

All bolts shall be of sufficient length to extend beyond the nuts but not more than ½ inch. Nuts shall be drawn tight.

Additional bolt holes required in existing beams shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.045 Offset Blocks The same offset block material is to be provided for the entire project unless otherwise specified.

606.05 Shoulder Widening At designated locations the existing shoulder of the roadway shall be widened as shown on the plans. All grading, paving, seeding, and other necessary work shall be in accordance with the Specifications for the type work being done.

606.06 Mail Box Post Single wood post shall be installed at the designated location for the support of the mailbox. The multiple mailbox assemblies shall be installed at the designated location in accordance with the Standard Details and as recommended by the Manufacturer. Attachment of the mailbox to the post will be the responsibility of the home or business owner.

606.07 Abraded Surfaces All galvanized surfaces of new guardrail and posts, which have been abraded so that the base metal is exposed, and the threaded portions of all fittings and fasteners and cut ends of bolts shall be cleaned and painted with two coats of approved rust resistant paint.

606.08 Method of Measurement Guardrail will be measured by the linear foot from center to center of end posts along the gradient of the rail except where end connections are made to masonry or steel structures, in which case measurement will be as shown on the plans. When connected to radius rail, measurement will be to the end of the last tangent beam.

Guardrail terminal, reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be measured by each unit of the kind specified and installed.



Widened shoulder will be measured as a unit of grading within the limits shown on the plans.

Excavation in solid rock for placement of posts will be paid under force account unless otherwise indicated in the Bid Documents.

Reflectorized beam guardrail reflectors (“butterfly” type or linear delineation system panels) when identified by pay item, will be measured for payment by each.

606.09 Basis of Payment The accepted quantities of guardrail will be paid for at the contract unit price per linear foot for the type specified, complete in place. Reflectorized beam guardrail (“butterfly”-type) delineators will not be paid for directly but will be considered incidental to guardrail items. Reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be paid for at the contract unit price each for the kind specified complete in place.

Guardrail terminals will be paid for at the contract price each, complete in place which price shall be full payment for furnishing and installing all components including the terminal section, posts, offset blocks, "w" beam, cable foundation posts, plates and for all incidentals necessary to complete the installation within the limits as shown on the Standard Details or the Manufacturer's installation instructions. Pay limits for a flared terminal will be 37.5 feet. Pay limits for a tangent terminal will be 50 feet. Each guardrail terminal will be clearly marked with the Manufacturer's name and model number to facilitate any future needed repair. Such payment shall also be full compensation for furnishing all material, excavating, backfilling holes, assembling, and all incidentals necessary to complete the work, except that for excavation for posts or anchorages in solid ledge rock, payment will be made under 109.7.5 – Force Account. Type III Retroreflective Adhesive Sheeting shall be applied to the approach buffer end sections and sized to substantially cover the end section. On all roadways, the ends shall be marked with alternating black and retroreflective yellow stripes. The stripes shall be 3 in wide and sloped down at an angle of 45 degrees toward the side on which traffic is to pass the end section. Guardrail terminals shall also include a set of installation drawings supplied to the Resident.

Anchorage to bridge end posts will be part of the bridge work. Connections thereto will be considered included in the unit bid price for guardrail.

Guardrail to be placed on a radius of curvature of 150 ft or less will be paid for under the designated radius pay item for the type guardrail being placed.

Widened shoulder will be paid for at the contract unit price each complete in place and will be full compensation for furnishing and placing, grading and compaction of aggregate subbase and any required fill material.

Adjust guardrail will be paid for at the contract unit price per linear foot and will be full compensation for adjusting to grade. Payment shall also include adjusting guardrail terminals where required.

Modify guardrail will be paid for at the contract unit price per linear foot and will be full compensation for furnishing and installing offset blocks, additional posts, and other specified modifications; removing, modifying, installing, and adjusting to grade existing posts and beams; removing plate washers and backup plates, and all incidentals necessary to complete the work. Payment shall also include removing and resetting guardrail terminals where required.

Remove and Reset guardrail will be paid for at the contract unit price per linear foot and will be full compensation for removing, transporting, storing, reassembling all parts, necessary cutting, furnishing new parts when necessary, reinstalling at the new location, and all other incidentals necessary to complete the work. Payment shall also include removing and resetting guardrail terminals when required.

Remove, Modify, and Reset guardrail will be paid for at the contract unit price per foot and will be full compensation for the requirements listed in Modify guardrail and Remove and Reset guardrail.

Bridge Connections will be paid for at the contract unit price each. Payment shall include, attaching the connection to the endpost including furnishing and placing concrete and reinforcing steel necessary to construct new endposts if required, furnishing and installing the terminal connector, and all miscellaneous hardware, labor, equipment, and incidentals necessary to complete the work.

Bridge Transitions will be paid for at the contract unit price each. Payment shall include furnishing and installing the thrie beam or “w”-beam terminal connector, doubled beam section, and transition section, where called for, posts, hardware, precast concrete transition curb, and any other necessary materials and labor, including the bridge connection as stated in the previous paragraph.

No payment will be made for guardrail removed, but not reset and all costs for such removal shall be considered incidental to the various contract pay items.

Reflectorized beam guardrail reflectors ( “butterfly” type and the linear delineation panels ) will not be paid for directly but will be considered incidental to all new guardrail items. The Contractor shall furnish and install either the “butterfly” type or linear delineation panels, at its discretion, for new guardrail items.

Reflectorized beam guardrail reflectors ( either “butterfly” type or linear delineation system panels ) will be paid for under the applicable pay items for installation in conjunction with Adjust, Modify, Remove and Reset, Remove Modify and Reset guardrail items. The accepted quantity of “butterfly” type or linear delineation system panels will be paid for at the contract unit price each for all work and materials furnished to install, complete in place, including all incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
606.1301 31" W-Beam Guardrail - Mid-Way Splice – Single Faced	Linear Foot
606.1302 31" W-Beam Guardrail - Mid-Way Splice – Double Faced	Linear Foot
606.1303 31" W-Beam Guardrail - Mid-Way Splice, 15' Radius and Less	Linear Foot
606.1304 31" W-Beam Guardrail - Mid-Way Splice, Over 15' Radius	Linear Foot
606.1305 31" W-Beam Guardrail - Mid-Way Splice Flared Terminal	Each
606.1306 31" W-Beam Guardrail - Mid-Way Splice Tangent Terminal	Each
606.1307 Bridge Transition (Asymmetrical) – Type IA	Each
606.1721 Bridge Transition - Type I	Each
606.1722 Bridge Transition - Type II	Each
606.1731 Bridge Connection - Type I	Each
606.1732 Bridge Connection - Type II	Each
606.178 Guardrail Beam	Linear Foot
606.25 Terminal Connector	Each
606.257 Terminal Connector - Thrie Beam	Each
606.259 Anchorage Assembly	Each
606.265 Terminal End-Single Rail - Galvanized Steel	Each
606.266 Terminal End-Single Rail - Corrosion Resistant Steel	Each
606.275 Terminal End-Double Rail - Galvanized Steel	Each
606.276 Terminal End-Double Rail - Corrosion Resistant Steel	Each
606.352 Reflectorized Beam Guardrail Delineators ("Butterfly" type)	Each
606.3521 Linear Delineation System Panel	Each
606.353 Reflectorized Flexible Guardrail Marker	Each
606.354 Remove and Reset Reflectorized Flexible Guardrail Marker	Each
606.356 Underdrain Delineator Post	Each
606.358 Guardrail, Modify	Linear Foot
606.362 Guardrail, Adjust	Linear Foot
606.365 Guardrail, Remove, Modify, and Reset	Linear Foot
606.366 Guardrail, Remove and Reset	Linear Foot
606.367 Replace Unusable Existing Guardrail Posts	Each
606.3671 Replace Unusable Offset Blocks	Each
606.47 Single Wood Post	Each
606.48 Single Galvanized Steel Post	Each
606.50 Single Steel Pipe Post	Each
606.51 Multiple Mailbox Support	Each
606.568 Guardrail, Modify - Double Rail	Linear Foot
606.63 Thrie Beam Rail Beam	Linear Foot
606.64 Guardrail Thrie Beam - Double Rail	Linear Foot
606.65 Guardrail Thrie Beam - Single Rail	Linear Foot
606.66 Terminal End Thrie Beam	Each
606.70 Transition Section - Thrie Beam	Each
606.71 Guardrail Thrie Beam - 15 ft radius and less	Linear Foot
606.72 Guardrail Thrie Beam - over 15 ft radius	Linear Foot

606.73	Guardrail Thrie Beam - Single Rail Bridge Mounted	Linear Foot
606.74	Guardrail - Single Rail Bridge Mounted	Linear Foot
606.753	Widen Shoulder for Low Volume Guardrail End	Each
606.754	Widen Shoulder for Flared Guardrail Terminal	Each
606.78	Low Volume Guardrail End	Each
606.80	Buried-in-Slope Guardrail End	Each

## SECTION 608 SIDEWALKS

Section 608.022 Detectable Warning Materials Standard Revise this section by removing the last sentence of this section beginning with “Concrete...” and replacing it with “**Concrete shall meet the requirements of Section 608.021, Sidewalk Materials, of this specification or may be a prepackaged concrete mix from the Department’s Qualified Products List (QPL).**”

## SECTION 609 CURB

Remove this section in its entirety and replace with the following:

609.01 Description Construct or reset curb, gutter, or combination curb and gutter, paved ditch, and paved flume. The types of curb are designated as follows:

- Type 1 - Stone curbing of quarried granite stone
- Type 2 – Concrete Curbing
- Type 3 - Bituminous curbing
- Type 5 - Stone edging of quarried granite stone

609.02 Materials Except as provided below, the materials used shall meet the requirements of the following Sections of Division 700 - Materials:

Portland Cement and Portland Pozzolan Cement	701.01
Water	701.02
Air Entraining Chemical Admixture	701.03
Fine Aggregate for Concrete	703.01
Coarse Aggregate for Concrete	703.02
Joint Mortar	705.02
Reinforcing Steel	709.01
Stone Curbing and Edging	712.04
Epoxy Resin	712.35
Hot Mix Asphalt Curbing	712.36
Structural Precast Concrete Units (Concrete Curb)	712.061

The Contractor shall submit a concrete mix design for the Portland Cement Concrete to the Resident, for the uses specified below or in accordance with the Contract Documents.

Circular curb, terminal sections and transition sections shall be in reasonably close conformity with the shape and dimensions shown on the Plans and to the applicable material requirements herein for the type of curb specified.

Dowels shall be reinforcing steel deformed bars.

Concrete for Slipform Concrete Curb shall meet the requirements below:

- a. Class A, with the exception that permeability requirements shall be waived.
- b. Entrained air content of Slipform Concrete Curb shall be 4.0% to 7.0%
- c. Concrete temperature, prior to discharge, shall not exceed 90 F.
- d. Proposed mix designs may contain polypropylene fibers.
- e. Partially discharged loads may be retempered with water provided the maximum water to cement ratio is not exceeded.

609.03 Vertical Stone Curb, Terminal Section and Transition Sections and Portland Cement Concrete Curb, Terminal Sections and Transition Sections

a. Installation The curb stone shall be set on a compacted foundation so that the front top arris line conforms to the lines and grades required. The foundation shall be prepared in advance of setting the stone by grading the proper elevation and shaping to conform as closely as possible to the shape of the bottom of the stone. The required spacing between stones shall be assured by the use of an approved spacing device to provide an open joint between stones of at least ¼ inch and no greater than ⅝ inch.

b. Backfilling All remaining spaces under the curb shall be filled with approved material and thoroughly hand tamped so the stones will have a firm uniform bearing on the foundation for the entire length and width. Any remaining excavated areas surrounding the curb shall be filled to the required grade with approved materials. This material shall be placed in layers not exceeding 8 inches in depth, loose measure and thoroughly tamped.

When backfill material infiltrates through the joints between the stones, small amounts of joint mortar or other approved material shall be placed in the back portion of the joint to prevent such infiltrating.

c. Protection The curb shall be protected and kept in good condition. All exposed surfaces smeared or discolored shall be cleaned and restored to a satisfactory condition or the curb stone removed and replaced.

d. Curb Inlets Curb placed adjacent to curb inlets shall be installed with steel dowels cemented into each stone with epoxy grout as shown in the Standard Details.

The epoxy grout shall be used in accordance with the manufacturer's instructions. The grout shall be forced into the hole, after which the dowel shall be coated with grout for one-half its length and inserted into the grout filled hole. The hole shall be completely filled with grout around the dowel. All tools and containers must be clean before using.

The Contractor may elect to substitute concrete to backfill Stone Curbing or Stone Edging at their option. If the concrete backfill option is elected, the Concrete Fill shall meet the requirements of 609.02. The Contractor shall submit a concrete design for the Portland Cement Concrete, with a minimum designated compressive strength of 3000 PSI meeting the requirements of Class S or Class Fill Concrete. The Contractor may elect to choose a Prepackaged Concrete Mix from the Departments Qualified Products list (QPL). Concrete backfill shall be completed in conformance with a Department supplied concrete backfill detail.

#### 609.04 Bituminous Curb

a. Preparation of Base Before placing the curb, the foundation course shall be thoroughly cleaned of all foreign and objectionable material. String or chalk lines shall be positioned on the prepared base to provide guidelines. The foundation shall be uniformly painted with tack coat at a rate of 0.04 to 0.14 gal/yd<sup>2</sup>.

b. Placing The curb shall be placed by an approved power operated extruding type machine using the shape mold called for. A tight bond shall be obtained between the base and the curb. The Resident may permit the placing of curbing by other than mechanical curb placing machines when short sections or sections with short radii are required. The resulting curbing shall conform in all respects to the curbing produced by the machine.

c. When required, the curb shall be painted and coated with glass beads in accordance with Section 627 - Pavement Marking. Curb designated to be painted shall not be sealed with bituminous sealing compound.

d. Acceptance Curb may be accepted or rejected based on appearance concerning texture, alignment, or both. All damaged curb shall be removed and replaced at the Contractor's expense.

e. Polyester fibers shall be uniformly incorporated into the dry mix at a rate of 0.25 percent of the total batch weight. Certification shall be provided from the supplier with each shipment meeting the following requirements:

Average Length	0.25 inches $\pm$ 0.005
Average Diameter	0.0008 inches $\pm$ 0.0001
Specific Gravity	1.32-1.40
Melting Temperature	480 °F Minimum

#### 609.05 Slipform Concrete Curb

a. Preparation of Base Before placing the curb, the foundation course shall be thoroughly cleaned of all foreign and objectionable material. The Contractor shall not place Slipform Concrete Curb on a wet or frozen foundation. The foundation (HMA or concrete) may be in a Saturated Surface Dry condition, but no standing water shall be allowed. String or chalk lines shall be positioned on the prepared foundation to provide guidelines. Prior to placing the curb, the foundation shall be uniformly coated with an epoxy resin adhesive that



meets the requirements of AASHTO M 235, Type I, II, III, IV or V and has been tested by AASHTO Product Evaluation & Audit Solutions. The Contractor shall submit the epoxy resin adhesive that they propose to utilize with the concrete mix design. The epoxy resin adhesive must be approved prior to placement and used in accordance with manufacturer's recommendations.

b. Placing Concrete shall be placed with an approved Slipform machine that will produce a finished product according to the design specified in the Plans. For cold weather slip forming, the outside temperature must be at least 36°F and rising. The curb shall be placed on a firm, uniform foundation, shall conform to the section profile specified in the Plans, and shall match the appropriate grade. Expansion joints shall be placed in the curb where it meets rigid structures such as but not limited to building foundations, catch basin headers or fire hydrants. Contraction joints will be placed at 10-foot intervals using sawing methods, which shall cut 1 to 3 inches into the concrete. Contraction joints shall be cut between 1 and 7 days after placement of the concrete. Joints shall be constructed perpendicular to the subgrade and match other joints in roadways, sidewalks, or other structures when applicable.

c. Curing and Sealing Proper curing shall be provided using either a combination curing/sealing compound spray that meets ASTM 1315 Type 1-Class A, or a curing compound spray that meets ASTM 309 Type 1-D – Class A. Curing may also be accomplished by the methods specified in Standard Specification Section 502.14, Curing Concrete.

If a combination curing/sealing compound spray is not used, a separate sealing compound from the MaineDOT Qualified Products List for a Type 1c sealer shall be applied after the concrete has cured.

d. Protection Slipform curb must be adequately protected after placement. The concrete shall be allowed to cure for at least 72 hours. During cold weather conditions, when temperatures drop below the required temperature of 36°F after placement, curbing shall be protected by concrete blankets or a combination of plastic sheeting and straw. After any placement of Slipform curb, regardless of weather conditions, the placed curb shall be adequately protected by traffic control devices as necessary.

e. Marking When required, the curb shall be painted and coated with glass beads in accordance with Section 627 - Pavement Marking. Curb designated to be painted shall not be sealed unless a combination curing/sealing compound is used.

f. Acceptance Curb shall be accepted or rejected based on finish, alignment, entrained air content, and compressive strength. Concrete Quality Control and Acceptance shall be done in accordance with Standard Specification Section 502, Method C. All damaged curb shall be removed and replaced at the Contractor's expense.

609.06 Stone Edging The curb shall be installed, backfilled and protected in accordance with Section 609.03, except as follows:

a. Slope The edging shall be set on a slope as shown on the Plans or as directed.



b. Joints Joints shall be open and not greater than 1½ inch in width.

#### 609.07 Stone Bridge Curb

a. Installation Each stone and the bed upon which it is to be placed shall be cleaned and thoroughly wetted with water before placing the mortar for bedding and setting the stone. The stone shall be set on a fresh bed of joint mortar and well bedded before the mortar has set so that the front top arris line conforms to the line and grade required. Whenever temporary supporting wedges or other devices are used in setting the stones, they shall be removed before the mortar in the bed has become set, and the holes left by them shall be filled with mortar. Concrete behind the stones shall not be placed until the stones have been in place at least two days. Bedding and pointing mortar for joints shall be cured as required under Section 502 - Structural Concrete.

b. Joints Vertical joints shall be ½ inch in width plus or minus ⅛ inch. Whenever possible, the face and top of the joint shall be pointed with joint mortar to a depth of 1½ inch, before the bedding mortar has set. Joints which cannot be so pointed, shall be prepared for pointing by raking them to a depth of 1½ inch before the mortar has set. Joints not pointed at the time the stone is laid shall be thoroughly wetted with clean water and filled with mortar. The mortar shall be well driven into the joint and finished with an approved pointing tool, flush with the pitch line of the stones.

#### 609.08 Resetting Stone or Portland Cement Concrete Curb, Including Terminal Sections and Transitions

The curb shall be installed, backfilled and protected in accordance with Section 609.03, except as follows:

a. Removal of Curbing The Contractor shall carefully remove and store curb specified on the Plans or designated for resetting. Curb damaged or destroyed, because of the Contractor's operations or because of their failure to store and protect it in a manner that would prevent its loss or damage, shall be replaced with curbing of equal quality at the Contractor's expense.

b. Cutting and Fitting Cutting or fitting necessary in order to install the curbing at the locations directed shall be done by the Contractor.

609.09 Method of Measurement Curb, both new and reset, will be measured by the linear foot along the front face of the curb at the elevation of the finished pavement, complete in place and accepted. Curb inlets at catch basins, including doweling, will not be measured for payment but shall be considered included in the cost of the catch basin. New transition sections and terminal curb will be measured by the unit. Reset transition sections and terminal curb will be included in the measurement for resetting curb.

Concrete Slipform Curb and terminal ends will be measured by the linear foot along the front face of the curb at the elevation of the finished pavement, complete in place and accepted.

609.10 Basis of Payment The accepted quantities of curbing will be paid for at the contract unit price per linear foot for each kind and type of curbing as specified.

Payment for terminal curb shall include only that portion of the curbing modified for installation at ends of curb runs shown in the Standard Details. Curb adjacent to terminal ends shall be paid for at the contract unit price per linear foot for the type of curb installed.

Vertical Curb Type 1 is required to have a radius of 60 feet or less, will be paid for as Vertical Curb Type 1 - Circular.

Curb, Type 5 required to have a radius of 30 feet or less will be paid for as Curb Type 5 - Circular.

There will be no separate payment for concrete fill, mortar, reinforcing steel, anchors, tack coat, drilling for and grouting anchors, pointing and bedding of curbing, and for cutting and fitting, but these will be considered included in the work of the related curb.

Removal of existing curb and necessary excavation for installing new or reset curbing will not be paid for directly but shall be considered to be included in the appropriate new or reset curb pay item. Base and Subbase material will be paid for under Section 304 - Aggregate Base and Subbase Course. Backing up bituminous curb is incidental to the curb items. Loam, as directed, will be paid under 615 – Loam.

Payment will be made under:

	<u>Pay Item</u>	<u>Pay Unit</u>
609.11	Vertical Curb Type 1	Linear Foot
609.12	Vertical Curb Type 1 - Circular	Linear Foot
609.13	Vertical Bridge Curb Type 1	Linear Foot
609.131	Vertical Bridge Curb Type 1A	Linear Foot
609.132	Vertical Bridge Curb Type 1B	Linear Foot
609.142	Vertical Bridge Curb Type 1B - Circular	Linear Foot
609.15	Sloped Curb Type 1	Linear Foot
609.151	Sloped Curb Type 1 - Circular	Linear Foot
609.161	Concrete Slipform Curb – Vertical Type 2	Linear Foot
609.21	Concrete Slipform Curb Type 2	Linear Foot
609.219	Concrete Slipform Terminal End Type 2	Linear Foot
609.23	Terminal Curb Type 1	Each
609.234	Terminal Curb Type 1 - 4 foot	Each
609.237	Terminal Curb Type 1 - 7 foot	Each
609.2371	Terminal Curb Type 1 - 7 foot – Circular	Each
609.238	Terminal Curb Type 1 - 8 foot	Each
609.26	Curb Transition Section B Type 1	Each

609.31	Curb Type 3	Linear Foot
609.34	Curb Type 5	Linear Foot
609.35	Curb-Type 5 - Circular	Linear Foot
609.38	Reset Curb Type 1	Linear Foot
609.39	Reset Curb Type 2	Linear Foot
609.40	Reset Curb Type 5	Linear Foot

### SECTION 610

#### STONE FILL, RIPRAP, STONE BLANKET, AND STONE DITCH PROTECTION

610.02 Materials Amend this subsection by adding the following to the end of the material list:  
**“Stone Ditch Protection 703.29”**

### SECTION 618

#### SEEDING

618.08 Mulching Revise this Section so that the third sentence reads: “Mulch for Seeding Method Number 1 shall only be cellulosic fiber mulch Section 619.04 (b) or straw mulch Section 619.04 (a).”

### SECTION 619

#### MULCH

619.03 General Amend this Section by adding the following sentence to the end: **“Straw mulch shall be used in all wetland areas.”**

### SECTION 626

#### FOUNDATIONS, CONDUIT, AND JUNCTION BOXES FOR HIGHWAY SIGNING, LIGHTING, AND SIGNALS

Section 626.021 Miscellaneous Materials Revise this section by removing the fourth paragraph beginning with “ All Concrete for concrete encasement...” and replace it with **“All concrete for concrete encasement of conduit shall be Class S or Class Fill concrete in accordance with the applicable requirements of Section 502 – Structural Concrete, or a Prepackaged Concrete Mix from the Department’s Qualified Products List (QPL).”**

Section 626.031 Conduit Revise the fifth paragraph beginning with “After the trench has been...” by removing the last sentence beginning with “Where concrete encasement...” and replacing it with **“Where concrete encasement is required around the conduit, the concrete shall meet Class S, Class Fill in accordance with the applicable requirements of Section 502 – Structural Concrete, or a Prepackaged Concrete Mix from the Department’s Qualified Products List (QPL).”**

626.034 Concrete Foundations Revise this Section by changing ‘626.037’ to ‘**626.036**’ in the Second Paragraph which begins with “Foundations shall consist of cast-in-place...”.

Revise the 10<sup>th</sup> paragraph beginning with “Before placing concrete, the required elbows...” by removing “...**in accordance with Standard Specification 633.**”

626.036 Precast Foundations Revise the last sentence of paragraph one so that it reads: **“Construction of precast foundations shall conform to the Standard Details and all requirements of 712.061.”**

## SECTION 627 PAVEMENT MARKINGS

627.02 Materials Amend this section by adding the following to the existing Specification:

**“When pavement marking paint must be applied on pavement with an air temperature between 35 °F and 50 °F, a low temperature waterborne paint may be used upon the Department’s approval as noted below.**

**The Contractor shall submit the following information for Department review and approval at least 10 calendar days prior to application:**

**The manufacturer and product name of the low temperature waterborne paint**

**The manufacturer’s technical product data sheets**

**The product’s SDS sheets**

**All required and recommended application specifications for the product**

**The manufacturer’s requirements for temperature, surface preparation, paint thickness and the bead application shall be followed. No additional payment will be made for the use of low temperature waterborne paint. “**

627.06 Application Revise this subsection by replacing the paragraph beginning with “ On other final pavement markings...” with the following:

**“On other final pavement markings and on curb, where the paint is applied by hand painting or spraying, application shall be one uniform covering coat at least 16 mils thick. Before the paint has dried, the glass beads shall be applied by a pressure system that will force the glass beads onto the undried paint as uniformly as possible.**

**Painted lines and markings shall be applied in accordance with the manufacturer’s published recommendations. These recommendations will be supplied to the Resident prior to installation.”**

Revise this subsection by replacing the paragraph beginning with “ If the final reflectivity values are less...” with the following:

The final reflectivity will be acceptable if 90 percent or more of the painted pavement lines and markings meet the specified minimum value. If less than 90 percent of the painted pavement lines and markings meet the specified minimum final reflectivity values, the Contractor shall repaint those areas not meeting required reflectivity at no cost to the Department.

If, after repainting, analysis of the final reflectivity values results in the need for a second repainting, the Contractor will submit in writing a plan of action to meet the reflectivity minimums prior to continuing any work. Once the plan has been reviewed and approved by the Department, the Contractor shall reapply at no cost to the Department.

### SECTION 637 DUST CONTROL

Revise this section by removing it in its entirety.

### SECTION 643 TRAFFIC SIGNALS

643.021 Materials Amend this subsection by adding the following at the end:

“MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:

Temporary Traffic Control Signals will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 4 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.”

643.023 Traffic Signal Structures Remove the third paragraph and replace it with the following:

“Traffic signal support structures shall be classified as Fatigue Category III if they are located on roads with a speed limit of 35 mph or less, Fatigue Category II if they are located on roads with a speed limit of greater than 35 mph, and Fatigue Category I if noted on the Contract Plans. Fatigue Importance Factors shall be as specified in Table 11.6-1 (Fatigue Importance Factors). Fatigue analyses are not required for span-wire (strain) pole traffic signal support structures with heights of 55 feet or less unless required by the current edition of AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals”.

643.09 Service Connection Revise this subsection by removing the paragraph that begins with “Traffic signal services shall have...”.

And by removing the paragraphs beginning with “ A service ground rod shall be installed...” and “A total of 4, 10’ service...” and replace them with “**A total of 4, 10’ service ground rods shall be installed and properly connected together on the outside of the cabinet foundation. One ground rod shall be located at each corner and shall be either flush or slightly below finished grade. The connection between the ground rod and the ground wire shall be an exothermic connection such as a Cadweld. The ground wire from the interconnected ground rods shall be routed through a conduit in the foundation and into the base of the cabinet**”.

## SECTION 645 HIGHWAY SIGNING

Section 645.023 Sign Support Structures. Under letter “c.”, revise the fifth paragraph beginning with “In addition to the required details...” by removing the words “**and foundation**” from the 5<sup>th</sup> sentence.

Section 645.08 Method of Measurement. Revise the second paragraph beginning with “Bridge-type, cantilever and...” by removing the words “**including the foundation**” .

Section 645.09 Basis of Payment. Revise the third paragraph beginning with “The accepted bridge-type, cantilever and...” by removing the word “**foundation**” from the second sentence. Add the following sentence to the end of the paragraph “**Conduits, Junction Boxes, and Foundations will be paid for under Section 626.**”

## SECTION 652 MAINTENANCE OF TRAFFIC

652.2.5 Portable Changeable Message Sign Revise the fifth paragraph so it reads:

“The control system shall include a display screen upon which messages can be reviewed before being displayed on the message sign. The control system shall be capable of maintaining memory when power is unavailable. Messages must be changeable with either a portable electronic device like a notebook computer or an on-board keypad. The controller shall have the capability to store a minimum of 200 user-defined and 200 pre-programmed messages. Controller and battery compartments shall be enclosed in lockable, weather-tight boxes. The cabinet shall be locked at all times that the Contractor is not actively changing the message. The Contractor shall change the password for the controller prior to stationing the PCMS and shall provide the password to the Resident. The password shall be unique per PCMS and secure and shall not be written anywhere in, on, around, or stored in the PCMS.”

Amend this Section by adding the following new subsection:

**“652.2.6 Device Crashworthiness** MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:

**Category 1 (Cones, Drums, Tubular Markers, Flexible Delineators, and similar devices that have little chance of causing windshield penetration, tire damage, or other significant effect on the control or trajectory of a vehicle) – All Category 1 devices will be manufacturer self-certified as MASH2016 by January 1, 2025. Current Category 1 devices in useful serviceable condition that are not self-certified as MASH2016 compliant may be utilized through December 31, 2024.**

**Category 2 (Barricades, Portable Sign Supports, Category 1 devices with attachments, and similar devices that are not expected to produce significant vehicular velocity change but may be otherwise hazardous) – All Category 2 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2025. Current Category 2 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2024.**

**Category 3 (Portable Concrete Barrier, Portable Crash Cushions, Truck Mounted Attenuators, Category 2 devices weighing more than 100 pounds, and similar devices that are expected to produce significant vehicular velocity change or other harmful reactions) – All Category 3 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 3 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029. (See Standard Specification 526 for additional Portable Concrete Barrier information).**

**Category 4 (Trailer Mounted Devices: Arrow Boards, Temporary Traffic Control Signals, Area Lighting, Portable Changeable Message Sign, and other similar devices.) – All Category 4 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 4 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.”**

**652.3.3 Submittal of Traffic Control Plan** Amend this section by adding:

**“n. A security plan for any PCMS shall be included. The Contractor shall provide a plan for secure access to the PCMS and protection from unauthorized users. The plan shall have details on securing the cabinets via a lock and password from unauthorized users, password changing protocols, and where the access information will be kept so it can be used in the event of emergency. The Contractor shall not identify or store passwords in the TCP.”**

**652.4 Flaggers** Revise the first paragraph of this section so that it reads:

**“The Contractor shall furnish flaggers as required by the TCP or as otherwise specified by the Resident. All flaggers must have successfully completed a flagger test approved by the Department and administered by a Department-approved Flagger-Certifier who is employing that flagger. All flaggers must carry an official certification card with them while flagging that has been issued by their employer.”**



SECTION 681  
PRECAST AGGREGATE-FILLED, CONCRETE BLOCK GRAVITY WALL

681.08 Basis of Payment Amend this section by adding the Item Number “**681.10**” in front of the item “Precast Aggregate-Filled Concrete Block Gravity Wall” at the end of the section.

SECTION 701  
STRUCTURAL CONCRETE RELATED MATERIAL

701.01 Portland Cement and Portland Pozzolan Cement Amend the first sentence of Paragraph 3 by adding “**or Type 1L Portland Limestone cement**” so that it reads:

**“A Type IP (MS) Portland-pozzolan cement (blended hydraulic cement with moderate sulfate resistance) or Type 1L Portland Limestone cement meeting the requirements of AASHTO M 240, may be used instead of Type II or where Type I Portland cement, meeting the requirements of AASHTO M 85, is allowed.”**

SECTION 703  
AGGREGATES

Add the following to Section 703 - Aggregates

703.01 Fine Aggregate for Concrete Fine aggregate for concrete shall consist of natural sand or, when approved by the Resident, other inert materials with similar characteristics or combinations thereof, having strong, durable particles. Fine aggregate from different sources of supply shall not be mixed or stored in the same pile nor used alternately in the same class of construction or mix without permission of the Resident.

All fine aggregate shall be free from injurious amounts of organic impurities. Should the fine aggregate, when subjected to the colorimetric test for organic impurities, AASHTO T 21, produce a color darker than the reference standard color solution (laboratory designation Plate III), the fine aggregate shall be rejected.

Fine aggregate shall have a sand equivalent value of not less than 75 when tested in accordance with AASHTO T 176.

Fine aggregate sources shall meet the Alkali Silica Reactivity (ASR) requirements of Section 703.0201.

The fineness modulus shall not be less than 2.26 or more than 3.14. If this value is exceeded, the fine aggregate will be rejected unless suitable adjustments are made in proportions of coarse and fine aggregate. The fineness modulus of fine aggregate shall be determined by adding the cumulative percentages of material by weight retained on the following sieves: Nos. 4, 8, 16, 30, 50, 100 and dividing by 100.

Fine aggregate, from an individual source when tested for absorption as specified in AASHTO T 84, shall show an absorption of not more than 2.3 percent.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
$\frac{3}{8}$ inch	100
No. 4	95-100
No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	10-30
No. 100	2-10
No. 200	0-5.0

703.02 Coarse Aggregate for Concrete Coarse aggregate for concrete shall consist of crushed stone or gravel having hard, strong, durable pieces, free from adherent coatings and of which the composite blend retained on the  $\frac{3}{8}$  inch sieve shall contain no more than 15 percent, by weight of flat and elongated particles when performed in accordance with test method ASTM D 4791, Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate, using a dimensional ratio of 1:5.

The coarse aggregate from an individual source shall have an absorption no greater than 2.0 percent by weight determined in accordance with AASHTO T 85 modified for weight of sample.

The composite blend shall have a Micro-Deval value of 18.0 percent or less as determined by AASHTO T 327 or not exceed 40 percent loss as determined by AASHTO T 96.

Coarse aggregate sources shall meet the Alkali Silica Reactivity (ASR) requirements of Section 703.0201.

Coarse aggregate shall conform to the requirements of the following table for the size or sizes designated and shall be well graded between the limits specified.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves			
Grading	A	AA	S	LATEX
Aggregate Size	1 inch	$\frac{3}{4}$ inch	$1\frac{1}{2}$ inch	$\frac{1}{2}$ inch
2 inch			100	
$1\frac{1}{2}$ inch	100		95-100	
1 inch	95-100	100	-	
$\frac{3}{4}$ inch	-	90-100	35-70	100
$\frac{1}{2}$ inch	25-60	-	-	90-100
$\frac{3}{8}$ inch	-	20-55	10-30	40-70
No. 4	0-10	0-10	0-5	0-15
No. 8	0-5	0-5	-	0-5
No. 16	-	-	-	-
No. 50	-	-	-	-
No. 200	0 - 1.5	0 - 1.5	0 - 1.5	0 - 1.5

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.

703.05 Aggregate for Sand Leveling Aggregate for sand leveling shall be sand of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The aggregate shall meet the grading requirements of the following table.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
$\frac{3}{8}$ inch	85-100
No. 200	0-5.0

703.06 Aggregate for Base and Subbase 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  $\frac{1}{2}$  inch 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.

Recycled Asphalt Pavement (RAP) shall not be used for or blended with aggregate base or subbase.

- a. Aggregate for base, Type A and B shall be crushed ledge or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a 3 inch sieve shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Type A	Type B
$\frac{1}{2}$ inch	45-70	35-75
$\frac{1}{4}$ inch	30-55	25-60
No. 40	0-20	0-25
No. 200	0-6.0	0-6.0

At least 50 percent by weight of the material retained on the No. 4 sieve shall have at least one fractured face as tested by AASHTO T 335.

Type A aggregate for base shall only contain particles of rock that will pass the 2 inch square mesh sieve.

Type B aggregate for base shall only contain particles of rock that will pass the 4 inch square mesh sieve.

- b. Aggregate for base, Type C shall be crushed ledge or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The material shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
	Type C
4 inches	100
3 inches	90-100
2 inches	75-100
1 inch	50-80
½ inch	30-60
No. 4	15-40
No. 200	0-6.0

At least 50 percent by weight of the material coarser than the No. 4 sieve shall have at least one fractured face as tested by AASHTO T 335.

- c. Aggregate for subbase shall be sand or gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a 3 inch sieve shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Type D	Type E
½ in	35-80	
¼ inch	25-65	25-100
No. 40	0-30	0-50
No. 200	0-7.0	0-7.0

Type D aggregate for subbase gravel may contain up to 50 percent by weight Recycled Concrete Aggregate (RCA). When RCA is used, the portion of the resulting blend of gravel and RCA retained on a ½" square mesh sieve shall contain a total of no more than 5 percent by weight of other recycled materials such as brick, concrete masonry block, or asphalt pavement as determined by visual inspection.

RCA shall be substantially free of wood, metal, plaster, and gypsum board as defined in Note 9 in Section 7.4 of AASHTO M 319. RCA shall also be free of all substances that fall under the category of solid waste or hazardous materials.

Aggregate for subbase shall not contain particles of rock which will not pass the 6 inch square mesh sieve.

703.08 Recycled Asphalt Pavement Recycled asphalt pavement shall consist of salvaged asphalt materials from milled pavements or production waste that has been processed before use to meet the requirements of the job mix formula. It shall be free of winter sand, granular fill, construction debris, or other materials not generally considered asphalt pavement.

703.081 RAP for Asphalt Pavement Recycled Asphalt Pavement (RAP) may be introduced into hot-mix asphalt pavement at percentages approved by the Department according to the MaineDOT Policies and Procedures for HMA Sampling and Testing.

If approved by the Department, the Contractor shall provide documentation stating the source, test results for average residual asphalt content, and stockpile gradations showing RAP materials have been sized to meet the maximum aggregate size requirements of each mix designation. The Department will obtain samples for verification and approval prior to its use.

The maximum allowable percent of RAP shall be determined by the asphalt content, the percent passing the 0.075 mm sieve, the ratio between the percent passing the 0.075 mm sieve and the asphalt content, and Coarse Micro-Deval loss values as tested by the Department.

The maximum percentage of RAP allowable shall be the lowest percentage as determined according to Table 4 below:

<b>Classification</b>	<b>Maximum RAP Percentage Allowed</b>	<b>Asphalt content standard deviation</b>	<b>Percent passing 0.075 mm sieve standard deviation</b>	<b>Percent passing 0.075 mm sieve / asphalt content ratio</b>	<b>Residual aggregate M-D loss value</b>
<b>Class III</b>	<b>10%</b>	<b><math>\leq 1.0</math></b>	<b>N/A</b>	<b><math>\leq 4.0</math></b>	<b><math>\leq 18</math></b>
<b>Class II</b>	<b>20%</b>	<b><math>\leq 0.5</math></b>	<b><math>\leq 1.0</math></b>	<b><math>\leq 2.8</math></b>	
<b>Class I</b>	<b>30%</b>	<b><math>\leq 0.3</math></b>	<b><math>\leq 0.5</math></b>	<b><math>\leq 1.8</math></b>	

Table 4: Maximum Percent RAP According to Test Results

The Department will monitor RAP asphalt content and gradation during production by testing samples from the stockpile at approximately 15,000 T intervals (in terms of mix production). The allowable variance limits (from the numerical average values used for mix designs) for this testing are determined based upon the maximum allowable RAP percentage and are shown below in Table 5.

Table 5: RAP Verification Limits

Classification	Asphalt content (compared to aim)	Percent passing 0.075 mm sieve (compared to aim)
Class III	± 1.5	± 2.0
Class II	± 1.0	± 1.5
Class I	± 0.5	± 0.7

For specification purposes, RAP will be categorized as follows:

Class III – A maximum of 10.0 percent of Class III RAP may be used in any base, intermediate base, surface, or shim mixture. A maximum of 20.0 percent of Class III RAP may be used in hand-placed mixes for item 403.209.

Class II – A maximum of 20.0 percent Class II RAP in any base, binder, surface, or shim course.

Class I – A maximum of 20.0 percent Class I RAP may be used in any base, intermediate base, surface, or shim mixture without requiring a change to the specified asphalt binder. A maximum of 30.0 percent Class I RAP may be used in in any base or intermediate base mixture provided that a PG 58-28 or PG 58-34 asphalt binder is used. A maximum of 30.0 percent Class I RAP may be used in any surface or shim mixture provided that PG 58-34 asphalt binder is used. Mixtures exceeding 20.0 percent Class I RAP must be evaluated and approved by the Department.

The Contractor may use up to two different RAP sources in any one mix design. The total RAP percentage of the mix shall not exceed the maximum allowed for the highest classification RAP source used (i.e. if a Class I & Class III used, total RAP must not exceed 30.0%). The blended RAP material must meet all the requirements of the classification for which the RAP is entered (i.e. 10% Class III with 20% Class I, blend must meet Class I criteria). The Department may take belt cuts of the blended RAP to verify the material meets these requirements. If the Contractor elects to use more than one RAP source in a design, the Contractor shall provide an acceptable point of sampling blended RAP material from the feed belt.



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

## SECTION 709 REINFORCING STEEL AND WELDED STEEL WIRE FABRIC

709.01 Reinforcing Steel Remove the second paragraph of Section 709.01 of the standard specification beginning with “Low-Carbon, Chromium,...” and replace with the following:

**“ Low-carbon, chromium, reinforcing steel shall be deformed bars conforming to the requirements of ASTM A1035. Bars shall be Grade 100 and alloy Type CS unless otherwise specified on the Plans. “**

## SECTION 710 FENCE AND GUARDRAIL

710.06 Fence Posts and Braces Revise the first Paragraph so that it reads:

“Wood posts shall be of cedar, white oak, or tamarack or other AWPAs approved species, of the diameter or section and length shown on the plans.”

Remove the fourth paragraph which starts “ That portion of wood posts...”.

Revise the paragraph beginning with “Braces shall be of spruce, eastern hemlock ... so that it now reads:

“Braces shall be of spruce, eastern hemlock, Norway pine, pitch pine, or tamarack timbers or other AWPAs approved species, or spruce, cedar, tamarack or other AWPAs approved species round posts of sufficient length to make a diagonal brace between adjacent posts. All wood posts and braces shall be pressure-treated in accordance with AASHTO M 133 and AWPAs U1, UC4A Commodity Specification B: Posts. “

710.07 Guardrail Posts Revise this section so that the first sentence of section a. reads:

“a. Wood posts shall be of Norway pine, southern yellow pine, pitch pine, Douglas fir, red pine, white pine, or eastern hemlock or other AWPAs approved species.”

Revise the next paragraph so that it reads:

Wood posts and offset brackets shall be preservative treated in accordance with the requirements of AASHTO M 133 and AWPAs U1, UC4A Commodity Specification B: Posts.

710.08 Guardrail Hardware Revise this subsection by replacing “AASHTO M 298” with “ASTM B695”

## SECTION 711 MISCELLANEOUS BRIDGE MATERIAL

711.06 Stud Shear Connector Anchors and Fasteners Amend this section by deleting it in its entirety and replacing it with:

**“Shear connectors shall meet the dimensional tolerances of Figure 9.1 of the ANSI/AASHTO/AWS D1.5 Bridge Welding Code (D1.5 Code). Shear connectors, anchors and fasteners shall meet the material requirements of Section 9 of the D1.5 Code. Shear connectors shall meet the mechanical property requirements of Table 9.1, Type B of the D1.5 Code. Anchors and fasteners shall meet the mechanical property requirements of Table 9.1 of the D1.5 Code, Type A.”**

## SECTION 712 MISCELLANEOUS HIGHWAY MATERIAL

712.061 Structural Precast Units Amend this section by adding the following sentence to the end of the first paragraph of the Construction subsection:

**“Facilities certified by NPCA or PCI shall provide to the Fabrication Engineer a copy of their annual audit to include deficiency reports and corrective actions.”**

Revise this section by changing the letter “b” of ASTM C1611 of the Concrete Testing subsection so that it reads:

**“b. Air content shall be 5.0% to 8.0%.”**

## SECTION 713 STRUCTURAL STEEL AND RELATED MATERIAL

### Section 713.02 High Strength Bolts

Revise the second sentence of this subsection so that it reads “**Nuts shall meet the requirement of ASTM A563**”. Revise the third sentence of this subsection so that it reads “**Circular and beveled washers shall conform to the requirement of ASTM F436**”.

## SECTION 718 TRAFFIC SIGNALS MATERIAL

718.03 Signal Mounting Amend the paragraph beginning with “All trunions, brackets and...” by adding “**For polycarbonate signal heads with more than 3 sections or requiring mounting extensions greater than 12 inches in length, reinforcing plates shall be used to reinforce the housings at the point of attachment.**” to the end of the paragraph.

718.08 Controller Cabinet Revise this subsection by replacing the paragraph beginning with “The cabinet shall be supplied with LED light panels...” on or about page 7-66 with **“The cabinet shall be supplied with white LED light panels which shall automatically illuminate via a door open switch whenever one of the four main cabinet doors are opened for the ground mount cabinet or two main doors for the side of pole cabinet. The ground mounted cabinet shall contain four LED light panels per side totaling eight panels for the cabinet; one panel each at the top and bottom portion of the front side and back side on the Control side and Power/Auxiliary side of the cabinet. Each light panel shall produce a minimum of 250 lumens for a total minimum lumen output of 2000 lumens with all eight panels illuminated. The minimum output per side would be 1000 lumens. The LED panels shall be protected by a clear shatterproof shield. The side of pole mounted cabinet shall contain four light panels; one at the top of the rack assembly and one at the bottom rack assembly on each side of the cabinet.**

**A second door open status switch per door shall activate a controller input to log a report event that one of the doors was opened. All door open status switches shall be connected to the same controller input. For the ground mount cabinet, there shall be two switches on each of the four main doors. For the side-of-pole mount cabinet, there shall be two switches on each of the two main doors.”**

Revise this subsection by replacing the paragraph beginning with “The cabinet shall be supplied with a generator panel ...” on or about page 7-68 with:

**“The cabinet shall be supplied with a generator panel. The generator panel shall consist of a manual transfer switch and a twist-lock connector for generator hookup. The transfer switch knob and twist-lock connector shall be located inside a stainless steel enclosure with a separate lockable door accessed with a Corbin #2 key. The unit shall be mounted on the left, exterior of the control side wall of the ground mount cabinet a minimum of 36” above the surrounding grade and on the lower left side of the pole mounted cabinet. The generator transfer switch shall be a Reliance C30A1N Signa Series or approved equal. “**

Revise this subsection by removing the following from the paragraph beginning with “The ground mounted cabinet shall be supplied and installed with an electric service meter socket trim and electrical service disconnect switch ...” on or about page 7-69: **“(removed: thus preventing that space from being used either by equipment supplied as part of the project, or future equipment that would be installed in the rack system. Joe indicated that he would add this language to the detail so it is covered.)”**.

Revise this subsection by replacing the following in the paragraph beginning with “The Contractor shall reconfigure the default user name...” on or around page 7-70; “MaineDOT IT” with **“MaineDOT Traffic Division”**.

In the paragraph beginning with “Tests shall be conducted by the contractor...” on or around page 7-73, amend this subsection by removing **“in the state of Maine and”** after “The facility shall be”.

Amend this Section by adding the following subsection:

**718.13 Field Monitoring Unit (FMU)** This item of work shall conform to this specification. This item shall consist of furnishing and installing a Field Monitoring Unit (FMU) and software, as well as all needed accessories required for a full and complete installation, including but not limited to power adapters, Ethernet cables, and interface cables, as described herein.

Where applicable, communications from MaineDOT's cloud-based Central Management System (CMS) to the on-street traffic signal controllers shall be made through fiber optic interconnect cable connected back to existing internet connections and/or the Field Monitoring Unit (FMU). The Contractor shall furnish and install all materials necessary for a complete and operational fiber optic interconnection to all project intersections as shown on the plans. All connections to the CMS cloud-based system shall be via a secure VPN network.

The FMU shall be the only remote connection device used by isolated intersections to connect to the cloud-based system. All connections shall be encrypted VPN tunnels. The Contractor shall coordinate all configuration settings with MaineDOT IT and the Engineer.

The FMU central web based interface shall be a separate element from the CMS.

**MATERIALS:** The materials for this work shall conform to the following requirements:

1. The work under this item specifies the requirements for the FMU. The FMU shall operate independent of the brand/type of intersection controller deployed in the ATC traffic cabinet.
2. The FMU shall conform to the following requirements:
  - 2.1 The FMU shall function correctly between -34 degrees C and +74 degrees C.
  - 2.2 The FMU shall be provided with appropriately rated connectors that allows the FMU to be exchanged by unplugging connectors, without tools.
  - 2.3 The FMU shall monitor and log all ATC Controller and ATC cabinet faults and or alarms.
  - 2.4 The FMU shall be wired directly to the ATC cabinet.
  - 2.5 The FMU shall have an internal cellular modem running at 4G LTE.
    - 2.5.1 The Cellular modem shall be designed to be replaced / upgraded to 5G service when available.
  - 2.6 The FMU shall incorporate an integrated GPS and cell modem.
  - 2.7 The configuration of the FMU shall be accomplished by accessing the internal web server with a browser. It shall be possible to configure the FMU without any special software.

- 2.8 The FMU shall be powered via a standard 120V input power.
- 2.9 The FMU shall allow for the routing of the controller configuration packets to and from the controller (either by Ethernet or serial communications) for any type of controller utilized by the MaineDOT. In this way it shall be possible to configure the controller and utilize the controller specific software to interrogate the controller, and the FMU shall provide the communications pipe which allows this to be accomplished.
- 2.10 The FMU shall, within the size limitations above, include a battery and battery charging/monitoring circuit, to allow the FMU to function correctly even when all power to the intersection has failed. The battery shall continue to power the FMU for a minimum of 5 hours after all power has failed to the intersection.
- 2.11 The FMU shall incorporate an integrated GPS which will allow the FMU to geo-locate itself on the FMU management software map, without configuration.
- 2.12 The FMU shall operate without requiring a static IP address. The only configuration required at the FMU is to enter the URL of where the FMU management software is hosted.
- 2.13 In the event that the cell service is interrupted or is not available, the FMU shall store any events that occur in internal memory and forward these events automatically to the FMU management software when the cell service is restored. In this way, a complete record of events at the device can be maintained even if cell service is interrupted for a period. The system will store 5000 events.
- 2.14 The FMU shall utilize HTTP and HTTPS protocols, and XML data structures, for communication with the FMU management software. In this way the data will be open for future expansion and competition. The use of secret proprietary protocols is not permitted.
- 2.15 The FMU shall include Ethernet communications via an Ethernet Port with RJ45 connector.
- 2.16 The FMU shall include weather proof antennas.

### **3. Map Display FMU Management Software**

- 3.1 The FMU shall include a scrollable, zoomable map display, with the intersections and other monitored devices shown as representative icons on the map. The map shall include the ability to see the intersections using Google Streetview.
- 3.2 The alarm status of the intersection shall be clearly indicated on the icon on the map, so that the user can see at a glance which intersections are in alarm.

- 3.3 The map display shall also include a list of intersections, with the number and priority of alarms indicated on the list. Intersections in high priority alarm shall be moved to the top of the list, followed by medium priority, low priority and then finally by intersections not in alarm.
- 3.4 The icons shall change to be able to clearly indicate if an intersection is offline.
- 3.5 Clicking on the icon on the map shall expose a box with the current parameters of the intersection shown.
- 3.6 The default map display position and zoom shall be configurable by user, so that the user's view will default to show the intersections that the user is responsible for managing.
- 3.7 The map view shall have the ability to show Google traffic overlays on the map.

#### **4. Intersection Detail Display FMU Management Software**

- 4.1 It shall be possible to drill down, either from the map icon or from the list, to a device level detail for the intersection, which as a minimum shall display the following parameters:
  - 4.1.1 The alarm status, with priority indicated, and a text description of the alarm (if an alarm is present for this device).
  - 4.1.2 The time since the last communication with the device
  - 4.1.3 The following parameters (real time now values, minimum for the day values, maximum for the day values, and average for the day values)
    - 4.1.3.1 The AC mains voltage (value)
    - 4.1.3.2 The battery back-up voltage (value)
    - 4.1.3.3 The cabinet temperature (value)
    - 4.1.3.4 The cabinet humidity (value)
    - 4.1.3.5 The presence of AC power (OK or Fail)
    - 4.1.3.6 The flashing status of the intersection (OK or Flashing)
    - 4.1.3.7 Stop Time status (OK or Stop Time Active)
    - 4.1.3.8 The cabinet door status (Open or Closed)
    - 4.1.3.9 The intersection fan status (Fan On or Fan off)

4.1.4 It shall be possible to view graphs of each of the value parameters in graphical form, over the recent two-week period. This includes real time graphs of:

4.1.4.1 The AC mains voltage

4.1.4.2 The battery back-up voltage

4.1.4.3 The cabinet temperature

4.1.4.4 The cabinet humidity

## **5. Diagnostics and Log Display FMU Management Software**

5.1 From the device level detail within the FMU management software, it shall be possible to drill down to get the raw data; the error logs; and the communications logs to allow a technician to fault-find problems.

5.2 It shall be possible to filter the logs by Device; by Device Type and/or by Group as well as between dates.

5.3 It shall be possible to print these selected logs to a local printer or a PDF file.

5.4 It shall be possible to export these logs to Excel on the local computer for further analysis.

## **6. Alarms FMU Management Software**

6.1 The FMU management software shall have a comprehensive alarm generation capability

6.2 It shall be possible to configure alarms to be generated on any parameter becoming out of tolerance, including analog values, digital values and enumerated values.

6.3 Alarms shall be configurable to be of Low, High or Critical Priority.

6.4 The alarm priority shall be displayed throughout the FMU management software, on all displays, using color codes such as red-critical; yellow – high; and amber-low to indicate the priority of the alarm.

6.5 The current active alarms shall be accessible for view via an expandable window, to see which alarms are active and when the alarm occurred. The highest priority alarms shall rise to the top of the list.

## **7. Alerts FMU Management Software**

7.1 The FMU management software shall have comprehensive alerting capability, to enable the response personnel to be notified when an abnormal situation has occurred.



- 7.2 It shall be possible to configure alerts to one or more personnel for each alarm. This will cause, as selected, an SMS and/or an email to be sent to the person when an alarm occurs.
- 7.3 The alert shall be configurable to optionally send via email and/or via SMS a message when an alarm clears.
- 7.4 The intention is that the FMU management software provides the alerts to the user in near real time. The SMS and email shall be issued within 30 seconds of the occurrence of event which results in an alert being issued.

## **8. Hosting and Connectivity and Service FMU / FMU Management Software**

- 8.1 The contractor shall supply the FMU with the FMU manufacturers 10 year options for Connectivity and Service, as part of the purchase price. The Connectivity and Service agreement shall include at a minimum:
- 8.1.1 Cellular Connectivity
  - 8.1.2 No cellular overage charges
  - 8.1.3 Extended warranty on the hardware for the period of the Connectivity and Service Agreement
  - 8.1.4 Over-the-air software updates
  - 8.1.5 Over-the-air security updates
  - 8.1.6 Future Connected Vehicles Service

## SECTION 720 STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS

720.12 Wood Sign Posts Revise the first sentence so that it reads:

Wood sign posts shall be rectangular, straight and sound timber, cut from live growing native spruce, red pine, hemlock, cedar trees or other AWWPA approved species, free from loose knots or other structurally weakening defects of importance, such as shake or holes or heart rot.

Revise the third paragraph that starts with “When pressure treated...” so that it reads:

All sign posts shall be pressure-treated in accordance with AASHTO M 133 and AWWPA Standard U1, UC4A, Commodity Specification A: Sawn Products.

## REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated 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. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

### 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, United States Code, as required in 23 CFR 633.102(b) (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). 23 CFR 633.102(e).

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. 23 CFR 633.102(e).

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) in accordance with 23 CFR 633.102. 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 solicitation-for-bids or request-for-proposals 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). 23 CFR 633.102(b).

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. 23 CFR 633.102(d).

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. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

### II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A 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 Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), 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 Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), 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 Part 230, Subpart A, 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 (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 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 Part 35 and 29 CFR Part 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. 23 CFR 230.409 (g)(4) & (5).

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, sexual orientation, gender identity, 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 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 or other knowledgeable company official.

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, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure 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. 23 CFR 230.409. 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, sexual orientation, gender identity, 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, sexual orientation, gender identity, 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 thereunder. 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, sexual orientation, gender identity, 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, 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. Assurances Required:**

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient 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 recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

**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 more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, 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, sexual orientation, gender identity, 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), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

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 (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), 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 basic hourly 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. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. 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 must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. 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 classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must 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. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;



(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must 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 be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate 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 used 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) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) 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 will be sent by the contracting officer by email to [DBAconformance@dol.gov](mailto:DBAconformance@dol.gov). 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.

(4) 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 will, by email to [DBAconformance@dol.gov](mailto:DBAconformance@dol.gov), refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The 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.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must 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.

d. *Fringe benefits not expressed as an hourly rate.* 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 may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* 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, in accordance with the criteria set forth in § 5.28, 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.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

## 2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and 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.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

### 3. Records and certified payrolls (29 CFR 5.5)

*a. Basic record requirements (1) Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

*(2) Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

*(3) Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must 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.

*(4) Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

*b. Certified payroll requirements (1) Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

*(2) Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHDLegacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

*(3) Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working 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 [29 CFR part 3](#); and

(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(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

*(4) Use of Optional Form WH-347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.



(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, 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, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

#### **4. Apprentices and equal employment opportunity (29 CFR 5.5)**

a. *Apprentices (1) Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform 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 (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must 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, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must 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 this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. 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. 23 CFR 230.111(e)(2). 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 journeyworkers 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 as provided in 29 CFR 5.5.

**6. Subcontracts.** The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 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 as provided in 29 CFR 5.5.

**9. Disputes concerning labor standards.** As provided in 29 CFR 5.5, 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 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 [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

**11. Anti-retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

## **V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

Pursuant to 29 CFR 5.5(b), 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 watchpersons 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. 29 CFR 5.5.

**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 and interest from the date of the underpayment. 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 watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)\* 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.

\* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

### 3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, 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 that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. **Subcontracts.** The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. **Anti-retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

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" in paragraph 1 of Section VI 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: (based on longstanding interpretation)

- (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. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), 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. Pursuant to 23 CFR 635.116(c), 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. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

## **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 Part 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. 23 CFR 635.108.

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 Part 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). 29 CFR 1926.10.

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 Part 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 11, 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 (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)**

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

## **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. 2 CFR 180.220 and 1200.220.

### **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. 2 CFR 180.320.

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. 2 CFR 180.325.

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. 2 CFR 180.345 and 180.350.

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, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient 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 recipient or subrecipient 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. 2 CFR 180.330.

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. 2 CFR 180.220 and 180.300.

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. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. 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 System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

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 CFR 180.325.

\* \* \* \* \*

## **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 CFR 180.335;.

(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, 2 CFR 180.800;

(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, 2 CFR 180.700 and 180.800; 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. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

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## **3. 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). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant 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. 2 CFR 180.365.

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, Subpart I, 180.900 – 180.1020, 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 recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "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 recipient or subrecipient 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. 2 CFR 1200.220 and 1200.332.

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. 2 CFR 180.220 and 1200.220.

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 System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

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. 2 CFR 180.325.

\* \* \* \* \*

#### **4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should 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 Part 20, App. A.

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.

#### **XII. USE OF UNITED STATES-FLAG VESSELS:**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.



**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT  
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS  
ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)**

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.

**The United States Department of Transportation (USDOT)**

**Standard Title VI/Non-Discrimination 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 Federal Highway Administration (herein referred to as "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 *Non-discrimination 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);

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 the FHWA.*

The Civil Rights Restoration Act of 1987 clarified the original intent of Congress, with respect to Title VI and other Non-discrimination 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 non- discrimination statutes and requirements to include all programs and activities of the Recipient, so long as any portion of the program is Federally assisted.

### **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 **FHWA Program**.

1. The Recipient agrees that each "activity," "facility," or "program," as defined in §§ 21.23(b) and 21.2(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 **FHWA Programs** and, in adapted form, in all proposals for negotiated agreements regardless of funding source:

*"The **Maine Department of Transportation**, 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 ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair 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.

By signing this ASSURANCE, **Maine Department of Transportation** also agrees to comply (and require any sub-recipients, sub-grantees, contractors, successors, transferees, and/or assignees to comply) with all applicable provisions governing the **FHWA's** 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 the **FHWA**. You must keep records, reports, and submit the material for review upon request to **FHWA** or its designee 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 under the **FHWA Programs**. This ASSURANCE is binding on the State of Maine, other recipients, sub-recipients, sub-grantees, contractors, subcontractors and their subcontractors, transferees, successors in interest, and any other participants in the **FHWA Programs**. The person(s) signing below is authorized to sign this ASSURANCE on behalf of the Recipient.

**Maine Department of Transportation**  
**Bruce Van Note, Commissioner**  
(Name of Recipient)

By:   
(Signature of Authorized Official)

Dated: 8/30/24



## 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 Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration (FHWA)**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** 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, 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 **FHWA** 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 **FHWA** 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 **FHWA** 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.
6. **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 FHWA 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 B

### CLAUSES FOR DEEDS TRANSFERRING UNITED STATES PROPERTY

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4:

**NOW, THEREFORE**, the U.S. Department of Transportation as authorized by law and upon the condition that the **Maine Department of Transportation** will accept title to the lands and maintain the project constructed thereon in accordance with all requirements imposed by Title 49, Code of Federal Regulations, Department of Transportation, subtitle A, Office of the Secretary, part 21, Non-discrimination in Federally-assisted Programs of the Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), the Regulations for the Administration of **Federal Highway Administration (FHWA) Program**, and the policies and procedures prescribed by the **FHWA** of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the **Maine Department of Transportation** all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

#### (HABENDUM CLAUSE)

**TO HAVE AND TO HOLD** said lands and interests therein unto **Maine Department of Transportation** and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the **Maine Department of Transportation**, its successors and assigns.

The **Maine Department of Transportation**, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will 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 with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]\* (2) that the **Maine Department of Transportation** will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended[, and (3) that in the event of breach of any of the above-mentioned non-discrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation

and its assigns as such interest existed prior to this instruction].\*

(\*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

## APPENDIX C

### CLAUSES FOR TRANSFER OF REAL PROPERTY ACQUIRED OR IMPROVED UNDER THE ACTIVITY, FACILITY, OR PROGRAM

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the **Maine Department of Transportation** pursuant to the provisions of Assurance 7(a):

- A. The (grantee, lessee, 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. In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds 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.
- B. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Non-discrimination covenants, **Maine Department of Transportation** will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued.\*
- C. With respect to a deed, in the event of breach of any of the above Non-discrimination covenants, the **Maine Department of Transportation** will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities 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 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 **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 discrimination, (3) that the (grantee, licensee, 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, **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, **Maine Department of Transportation** will there upon 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 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 USC § 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 because of sex in education programs or activities (20 U.S.C. 1681 et seq).



**STATE OF MAINE**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**Permit-by-Rule & Notice of Intent Review Form**

**Natural Resources Protection Act**  
**Stormwater Management Law**  
**Maine Construction General Permit**

**PBR # 77029**  
**PBR #**  
**NOI #**

**Applicant:** Maine DOT  
**Project Address:** See project description

**Town:** Milbridge, Cherryfield  
**Tax Map/Lot #:** N/A

**NRPA PBR Sections – Ch. 305**

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Sec. 2 Act. Adj. to Prot. Natural Res. | <input type="checkbox"/> Sec. 9 Utility Crossing             | <input type="checkbox"/> Sec. 16 Coastal Sand Dune Project        |
| <input type="checkbox"/> Sec. 3 Intake Pipes                    | <input type="checkbox"/> Sec. 10 Stream Crossing             | <input type="checkbox"/> Sec. 17 Transfer/Permit Extension        |
| <input type="checkbox"/> Sec. 4 Replacement of Structures       | <input type="checkbox"/> Sec. 11 State Transport. Facilities | <input type="checkbox"/> Sec. 18 Maintenance Dredging             |
| <input type="checkbox"/> Sec. 6 Movement of Rocks or Veg.       | <input type="checkbox"/> Sec. 12 Restoration Natural Areas   | <input type="checkbox"/> Sec. 19 Act. Near SVP Habitat            |
| <input type="checkbox"/> Sec. 7 Outfall Pipes                   | <input type="checkbox"/> Sec. 13 F&W Creat./Water Quality    | <input type="checkbox"/> Sec. 20 Act. Near Waterfowl/Bird Habitat |
| <input type="checkbox"/> Sec. 8 Shoreline Stabilization         | <input type="checkbox"/> Sec. 15 Public Boat Ramps           |   |

**Notes:**

Rehabilitation and reconstruction of 5.05 miles of Rt 1 and 182. Culvert replacement and rehabilitation in 13 locations.

Note: Please contact Cherryfield's and Milbridge's Code Enforcement Officers to obtain any additional municipal Shoreland Zoning permits that might be required.

**Reviewer:**

**Reviewer:**

*Jordan Kelley*

**Deficient Date:**

**Accepted Date:** 06/02/2023

☐ NRPA ☐ SW ☐ NOI

☒ NRPA ☐ SW ☐ NOI



**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**PERMIT BY RULE NOTIFICATION FORM**

(For use with DEP Regulation, Natural Resources Protection Act - Permit by Rule Standards, Chapter 305)

APPLICANT INFORMATION (Owner)				AGENT INFORMATION (If Applying on Behalf of Owner)			
Name:	Maine DOT c/o Danielle Tetreau			Name:			
Mailing Address:	WIN# 20405.00			Mailing Address:			
Mailing Address:	16 State House Station			Mailing Address:			
Town/State/Zip:	Augusta, ME 04333			Town/State/Zip:			
Daytime Phone #:	(207) 592-2358	Ext:		Daytime Phone #:		Ext:	
Email Address:	danielle.tetreau@maine.gov			Email Address:			
PROJECT INFORMATION							
Part of a larger project? (check 1):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	After the Fact? (check 1):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Project involves work below mean low water? (check 1):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Name of waterbody:	Various unnamed freshwater wetlands and streams
Project Town:	Milbridge & Cherryfield	Town Email Address:	milbridgetown@gmail.com, townofcherryfield2@gmail.com		Map and Lot Number:		
Brief Project Description:	Highway improvements of 5.05 miles of Route 1. Scope of work involves highway rehabilitation, vertical alignment adjustments, culvert replacement and rehabilitation. See attached.						
Project Location & Brief Directions to Site:	Beginning near the intersection of Route 1 and Route 1A in Milbridge and continuing 5.05 miles north to the intersection of Route 1 and Route 182 in Cherryfield. See attached location map and project description.						

**PERMIT BY RULE (PBR) SECTIONS (Check at least one):** I am filing notice of my intent to carry out work that meets the requirements for Permit-by-Rule (PBR) under DEP Rules, [Chapter 305](#). I and my agent(s), if any, have read and will comply with all of the standards in the Sections checked below.

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Sec. (2) Act. Adj. to Prot. Natural Res. | <input type="checkbox"/> Sec. (9) Utility Crossing                            | <input type="checkbox"/> Sec. (16) Coastal Sand Dune Projects       |
| <input type="checkbox"/> Sec. (3) Intake Pipes                    | <input type="checkbox"/> Sec. (10) Stream Crossing                            | <input type="checkbox"/> Sec. (17) Transfer/Permit Extension        |
| <input type="checkbox"/> Sec. (4) Replacement of Structures       | <input checked="" type="checkbox"/> Sec. (11) State Transportation Facilities | <input type="checkbox"/> Sec. (18) Maintenance Dredging             |
| <input type="checkbox"/> Sec. (6) Movement of Rocks or Veg.       | <input type="checkbox"/> Sec. (12) Restoration of Natural Areas               | <input type="checkbox"/> Sec. (19) Act. Near SVP Habitat            |
| <input type="checkbox"/> Sec. (7) Outfall Pipes                   | <input type="checkbox"/> Sec. (13) F&W Creat./Water Qual. Improv.             | <input type="checkbox"/> Sec. (20) Act. Near Waterfowl/Bird Habitat |
| <input type="checkbox"/> Sec. (8) Shoreline Stabilization         | <input type="checkbox"/> Sec. (15) Public Boat Ramps                          |   |

**NOTE: Municipal permits also may be required. Contact your local code enforcement office for information. Federal permits may be required for stream crossings and for projects involving wetland fill. Contact the Army Corps of Engineers at the Maine Project Office for information.**

**NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS AND FEE**

- ☒ **Attach** all required submissions for the PBR Section(s) checked above. The required submissions for each PBR Section are outlined in Chapter 305 and may differ depending on the Section you are submitting under.
- ☒ **Attach** a location map that clearly identifies the site (U.S.G.S. topo map, Maine Atlas & Gazetteer, or similar).
- ☐ **Attach** Proof of Legal Name if applicant is a corporation, LLC, or other legal entity. Provide a copy of Secretary of State's registration information (available at <http://icrs.inform.org/nei-sos-icrs/ICRS?MainPage=x>). Individuals and municipalities are not required to provide any proof of identity.

**FEE:** Pay by credit card at the [Payment Portal](#). The Permit-by-Rule fee may be found here <https://www.maine.gov/dep/feeschedule.pdf> and is currently \$256.

- ☐ **Attach** payment confirmation from the Payment Portal when filing this notification form.

Direct Billing

<b>Signature &amp; Certification:</b> <ul style="list-style-type: none"> <li>I authorize staff of the Departments of Environmental Protection, Inland Fisheries &amp; Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules.</li> <li>I understand that this PBR becomes effective 14 calendar days after receipt by the Department of this completed form, the required submissions, and fee, <i>unless the Department approves or denies the PBR prior to that date.</i></li> </ul>	
<b>By signing this Notification Form, I represent that the project meets all applicability requirements and standards in Chapter 305 rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.</b>	
<b>Signature of Agent or Applicant (may be typed):</b>	<b>Date:</b> 05/10/2023

**Keep a copy as a record of permit.** Email this completed form with attachments to DEP at: [DEP.PBRNotification@maine.gov](mailto:DEP.PBRNotification@maine.gov). DEP will send a copy to the Town Office as evidence of DEP's receipt of notification. No further authorization will be issued by DEP after receipt of notice. A PBR is valid for two years, except Section 4, "Replacement of Structures," are valid for three years. **Work carried out in violation of the Natural Resources Protection Act or any provision in Chapter 305 is subject to enforcement.**

## 11. State transportation facilities

### A. Applicability

- (1) This section applies to the maintenance, repair, reconstruction, rehabilitation, replacement or minor construction of a State Transportation Facility carried out by, or under the authority of, the Maine Department of Transportation (MaineDOT) or the Maine Turnpike Authority, including any testing or preconstruction engineering, and associated technical support services.
- (2) This section does not apply to an activity within a coastal sand dune system.

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NOTE: The construction of a transportation facility other than roads and associated facilities may be subject to the Storm Water Management Law, 38 M.R.S.A. Section 420-D.

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### B. Standards

- (1) Photographs of the area to be altered by the activity must be taken before work on the site begins. The photographs must be kept on file and be made available at the request of the DEP.
- (2) The activity must be reviewed by the Department of Inland Fisheries and Wildlife and the Department of Marine Resources, as applicable. The applicant must coordinate with the reviewing agencies and incorporate any recommendations from those agencies into the performance of the activity.
- (3) All construction activities undertaken must be detailed in a site-specific Soil Erosion and Water Pollution Control Plan and conducted in accordance with MaineDOT's Best Management Practices for Erosion and Sediment Control, dated January 2000, and Standard Specifications, dated December 2002.
- (4) Alignment changes may not exceed a distance of 200 feet between the old and new center lines in any natural resource.
- (5) The activity may not alter more than 300 feet of shoreline (both shores added together) within a mile stretch of any river, stream or brook, including any bridge width or length of culvert.
- (6) The activity may not alter more than 150 feet of shoreline (both shores added together) within a mile stretch of any outstanding river segment identified in 38 M.R.S.A. 480-P, including any bridge width or length of culvert.
- (7) The activity must minimize wetland intrusion. The activity is exempt from the provisions of Chapter 310, the Wetland and Waterbodies Protection Rules, if the activity alters less than 15,000 square feet of natural resources per mile of roadway (centerline measurement) provided that the following impacts are not exceeded within the 15,000 square foot area:
  - (a) 1,000 square feet of coastal wetland consisting of salt tolerant vegetation or shellfish habitat; or

(b) 5,000 square feet of coastal wetland not containing salt tolerant vegetation or shellfish habitat; or

(c) 1,000 square feet of a great pond.

All other activities must be performed in compliance with all sections of Chapter 310, the Wetland Protection Rules, except 310.2(C), 5(A), 9(A), 9(B) and 9(C).

- (8) The activity may not permanently block any fish passage in any watercourse containing fish. The applicant must coordinate with the reviewing agencies listed in paragraph 2 above to improve fish passage and incorporate any recommendations from those agencies into the performance of the activity.

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NOTE: For guidance on meeting the design objectives for fish passage, including peak flow, maximum velocity, mining depth and gradient, see the MaineDOT Waterbody and Wildlife Crossing Policy and Design Guide (July 2008), developed in conjunction with state and federal resource and regulatory agencies.

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- (9) Rocks may not be removed from below the normal high water line of any coastal wetland, freshwater wetland, great pond, river, stream or brook except to the minimum extent necessary for completion of work within the limits of construction.
- (10) If work is performed in a river, stream or brook that is less than three feet deep at the time and location of the activity, the applicant must isolate the work area from the resource and divert stream flows around the work area, maintaining downstream flows while work is in progress.
- (11) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom. If avoiding the operation of wheeled or tracked equipment in the water is not possible, the applicant must explain the need to operate in the water. Approval from the DEP to operate in the water must be in writing, and any recommendations from the DEP must be incorporated into the performance of the activity.
- (12) All wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms.
- (13) Any debris or excavated material must be stockpiled either outside the wetland or on mats or platforms. Erosion and sediment control best management practices must be used, where necessary, to prevent sedimentation. Any debris generated during the activity must be prevented from washing downstream and must be removed from the wetland or water body. Disposal of debris must be in conformance with the Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Section 1301 *et seq.*
- (14) Work below the normal high water line of a great pond, river, stream or brook must be done at low water except for emergency work or work agreed to by the resource agencies listed in paragraph 2 above.
- (15) Perimeter controls must be installed before the work starts. Disturbance of natural resources beyond the construction limits shown on the plans is not allowed under this rule.

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NOTE: Guidance on the location of construction limits can be obtained from the on site Construction Manager.

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- (16) The use of untreated lumber is preferred. Lumber pressure treated with chromated copper arsenate (CCA) may be used only if necessary and only if use is allowed under federal law and not prohibited from sale under 38 M.R.S.A. 1682, and provided it is cured on dry land in a manner that exposes all surfaces to the air for a period of at least 21 days prior to construction. Wood treated with creosote or pentachlorophenol may not be used where it will contact water.
- (17) A temporary road for equipment access must be constructed of crushed stone, blasted ledge, or similar materials that will not cause sedimentation or restrict fish passage. Such roads must be completely removed at the completion of the activity. In addition, any such temporary roads which are in rivers, streams or brooks, must allow for a passage of stormwater flows associated with a 10-year storm.
- (18) Non-native species may not be planted in restored areas.
- (19) Disposal of debris must be in conformance with Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Sections 1301 *et seq.*
- (20) Disturbance of vegetation must be avoided, if possible. Where vegetation is disturbed outside of the area covered by any road or structure construction, it must be reestablished immediately upon completion of the activity and must be maintained.
- (21) A vegetated area at least 25 feet wide must be established and maintained between any new stormwater outfall structure and the high water line of any open water body. A velocity reducing structure must be constructed at the outlet of the stormwater outfall that will create sheet flow of stormwater, and prevent erosion of soil within the vegetated buffer. If the 25 foot vegetated buffer is not practicable, the applicant must explain the reason for a lesser setback in writing. Approval from the DEP must be in writing and any recommendations must be incorporated into the activity.

**C. Definitions.** The following terms, as used in this chapter, have the following meanings, unless the context indicates otherwise:

- (1) Diversion. The rerouting of a river, stream or brook around a construction site and then back to the downstream channel.
- (2) Fill. a. (verb) To put into or upon, supply to, or allow to enter a water body or wetland any earth, rock, gravel, sand, silt, clay, peat, or debris; b. (noun) Material, other than structures, placed in or immediately adjacent to a wetland or water body.
- (3) Floodplain wetlands. Freshwater wetlands that are inundated with flood water during a 100-year flood event based on flood insurance maps produced by the Federal Emergency Agency or other site specific information.
- (4) Riprap. Heavy, irregularly shaped rocks that are fit into place, without mortar, on a slope as defined in the MaineDOT Standard Specifications, dated **November 2014**.



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS  
NEW ENGLAND DISTRICT OFFICE  
696 VIRGINIA ROAD  
CONCORD, MASSACHUSETTS 01742-2751

September 10, 2024

Regulatory Division  
Transportation & Utility Section  
File Number: NAE-2023-01043  
ME DOT WIN: 20405.00

Danielle Tetreau  
Maine Department of Transportation  
16 State House Station  
Augusta, Maine 04333  
Via Email: danielle.tetreau@maine.gov

Dear Ms. Tetreau:

This letter is in response to the application you submitted to the U.S. Army Corps of Engineers (USACE) New England District for a Department of the Army general permit verification to rehabilitate a 5.05-mile segment of Route 1 in the Towns of Milbridge and Cherryfield, Washington County, Maine (beginning at Lat/Long 44.5400°, -67.8868, and extending north to Lat/Long 44.5977°, -67.9265°). The work includes pavement rehabilitation, slope and ditch maintenance, and six stream culvert replacements. The project will result in the discharge of approximately 23,900 square feet of permanent fill and 14,200 square feet of temporary fill in freshwater wetlands, and approximately 4,505 square feet of permanent fill and 1,834 square feet of temporary fill below the ordinary high water line of six streams. The stream and wetland impacts are summarized in Tables 1 and 2 below. The streams are unnamed tributaries to the Narraguagus River. The work is shown on the enclosed plan set titled "Milbridge-Cherryfield, Washington County, Route 1," in 277 sheets dated March 1, 2023. The stream and wetland impacts are shown on the enclosed plan set titled "Wetland Impact Plans," in 31 sheets dated May 17, 2023.

Table 1: Summary of stream impacts.

Culvert ID (XC)	STA	Culvert Diameter (in)		Culvert Length (ft)		Culvert Type <sup>1</sup>		Impacts (SF)	
		Existing	Proposed	Existing	Proposed	Existing	Proposed	Perm	Temp
118360	118.17	48	72	64	88	CMP	RCP	770	97
118357	144.00	24	48	73	128	CMP	RCP	399	96
118355	152.00	24	36	84	64	CMP	SLP	395	83
118351	200.60	48	96	76	120	CMP	RCP	1,431	329
No ID	208.25	15	30	84	96	CMP	SLP	89	86
118024	352.00	60	Box <sup>2</sup>	98	136	CMP	Box	1001	359
All other stream impacts not associated with culvert replacements:								420	784
Total Stream Impacts:								4,505	1,834

<sup>1</sup>CMP = corrugated metal pipe; RCP = reinforced concrete pipe; SLP = smooth-lined pipe

<sup>2</sup>Precast concrete box with 13-foot span and eight-foot rise



Table 2: Summary of wetland impacts.

<b>Aquatic Resource</b>	<b>Permanent Fill (SF)</b>	<b>Temporary Fill (SF)</b>
Emergent wetland	6,513	2,145
Forested wetland	2,794	3,112
Scrub-shrub wetland	14,593	8,943
Wetland total:	23,900	14,200

Based on the information you have provided, we verify that the activity is authorized under General Permit 10, Linear Transportation Projects, of the October 14, 2020, federal permits known as the Maine General Permits (GPs). If the extent of the project area and/or nature of the authorized impacts to waters are modified, a revised application must be submitted to this office for written approval before work is initiated. A copy of these permits can be found at: <https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/>.

Please review the enclosed GPs carefully, in particular the general conditions beginning on page 5, and ensure that you and all personnel performing work authorized by the GPs are fully aware of and comply with its terms and conditions. A copy of the GPs and this verification letter must be available at the work site as required by General Condition 33. Any deviation from the terms and conditions of the permit, or your submitted plans, may subject the permittee to the enforcement provisions of our regulations. Therefore, in the event changes to this project are contemplated, it is recommended you coordinate with this office prior to proceeding with the work. This office must approve any changes before you undertake them. You must perform this work in compliance with the terms and conditions of the GPs listed above and the following special conditions:

**Project Specific Special Conditions:**

1. The permittee shall complete and return the enclosed Work-Start Notification Form to this office at least two weeks prior to the anticipated construction start date.
2. The permittee shall complete and return the enclosed Completion Certification Form to this office within one month following the completion of the authorized work.
3. The project shall be performed in accordance with erosion control measures conforming with the latest versions of the *State of Maine Department of Transportation Standard Specifications for Highways and Bridges* and the *Department of Transportation's Best Management Practices for Erosion and Sediment Control*.
4. In-water work at each stream culvert replacement location shall occur between July 15 and September 30, of any year(s).

5. The project shall be performed in accordance with the avoidance and minimization measures (AMMs) listed in the enclosed Maine Atlantic Salmon Consultation for Transportation Projects worksheet, signed by the U.S. Fish and Wildlife Service and dated January 15, 2020.
6. The project shall be performed in accordance with the conservation recommendations accepted by the NOAA Greater Atlantic Regional Fisheries Office (GARFO) on the enclosed EFH Programmatic Consultation Verification Form, signed by GARFO and dated April 4, 2019.
7. Compensatory mitigation for aquatic resource impacts shall consist of purchasing 0.5785 In Lieu Fee (ILF) credits from the Maine Natural Resource Conservation Fund. The current cost to purchase these credits can be found at the following Maine Department of Environmental Protection (ME DEP) webpage: [https://www.maine.gov/dep/land/nrpa/ILF\\_and\\_NRCP/ILF/fs-in-lieu-fee.pdf](https://www.maine.gov/dep/land/nrpa/ILF_and_NRCP/ILF/fs-in-lieu-fee.pdf). The ILF cost is subject to change yearly and the exact cost is dependent on the date of purchase. As of the date of this letter, the cost is \$118,941.45, as calculated on the enclosed "In Lieu Fee (ILF) Project Impact Worksheet." The permittee must send a cashier's check or bank draft for the due amount to: ME DEP, Attn: ILF Program Administrator, State House Station 17, Augusta, ME 04333. The check must include the USACE file number NAE-2023-01043 and the statement: "For ILF account only." **No impacts authorized by this permit shall begin until ILF credits are purchased** and USACE receives a copy of the letter from the ME DEP to the permittee stating that the ME DEP has received the check and accepts responsibility for mitigation.

This verification is valid until October 14, 2025. You must commence or be under contract to commence the work authorized herein by October 14, 2025, and complete the work by October 14, 2026. If not, you must contact this office to determine the need for further authorization before beginning or continuing the activity. It is recommended that you contact this office before this authorization expires to discuss if permit reissuance is a possibility. This general permit verification and any associated authorizations does not preclude the necessity to obtain any other Federal, State, or local permits, licenses, and/or certifications, which may be required.

If you have any questions related to this verification or have issues accessing documents referenced in this letter, please contact Jami MacNeil, Project Manager, at 978-778-6497 or by email at [cenae-r-me@usace.army.mil](mailto:cenae-r-me@usace.army.mil). This agency continually strives to improve our customer service. In order to better serve you, please complete



the Customer Service Survey located at: <https://regulatory.ops.usace.army.mil/customer-service-survey/>.

Sincerely,

A handwritten signature in black ink, appearing to read 'Stephen Rochette', with a stylized flourish at the end.

Stephen Rochette  
Chief, Technical Support Branch  
Regulatory Division

#### Enclosures

cc (w/ enclosures):

Gary Scholze, U.S. FWS; [gary.scholze@dot.gov](mailto:gary.scholze@dot.gov)

Mike Marsh, U.S. EPA, Region 1, Boston, MA; [marsh.mike@epa.gov](mailto:marsh.mike@epa.gov)

Kaitlyn Shaw, NOAA-NMFS; [Kaitlyn.Shaw@noaa.gov](mailto:Kaitlyn.Shaw@noaa.gov)

Patrick Dockens, U.S. FWS; [patrick\\_dockens@fws.gov](mailto:patrick_dockens@fws.gov)

Colby Bruchs, Maine DMR; [Colby.w.b.bruchs@maine.gov](mailto:Colby.w.b.bruchs@maine.gov)

John Perry, Maine IF&W; [john.perry@maine.gov](mailto:john.perry@maine.gov)

Mary York, Maine DEP; [marylisa.york@maine.gov](mailto:marylisa.york@maine.gov) (ref Permit by Rule #77029)

## **Work-Start Notification Form**

**File Number: NAE-2023-01043**

**State: Maine County: Washington**

**Permittee: Maine Department of Transportation**

**Date Verification Issued: 9/10/2024**

**Project Manager: Jami MacNeil**

At least two weeks prior to commencing the activity authorized by this permit, sign this certification and return it to the following address:

**US ARMY CORPS OF ENGINEERS  
New England District  
Attn: Jami MacNeil  
442 Civic Center Drive Suite 350  
Augusta, Maine 04330  
or  
cena-e-r-me@usace.army.mil  
978-778-6497**

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers (USACE) representative. Failure to comply with any terms or conditions of this authorization may result in the USACE suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

**The people (e.g. contractor) listed below will do the work, and they understand the permit's conditions and limitations.**

**Contractor Name/Contractor Firm:** \_\_\_\_\_

**Business Address:** \_\_\_\_\_

**Contractor Phone and Email:** \_\_\_\_\_

**Proposed Construction Dates: Start:** \_\_\_\_\_ **Finish:** \_\_\_\_\_

\_\_\_\_\_  
**Signature of Permittee**

\_\_\_\_\_  
**Date**

## **Compliance Certification Form**

**File Number: NAE-2023-01043**

**State: Maine County: Washington**

**Permittee: Maine Department of Transportation**

**Date Verification Issued: 9/10/2024**

**Project Manager: Jami MacNeil**

Within one month of completion of the activity authorized by this permit and any mitigation required by the permit (you must submit this form after mitigation is complete, but not the mitigation monitoring, which requires separate submittals), sign this certification and return it to the following address:

**US ARMY CORPS OF ENGINEERS  
New England District  
Attn: Jami MacNeil  
442 Civic Center Drive Suite 350  
Augusta, Maine 04330  
or  
cenae-r-me@usace.army.mil**

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers (USACE) representative. Failure to comply with any terms or conditions of this authorization may result in the USACE suspending, modifying, or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

I hereby certify that the work, and mitigation (if applicable), authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit including any general or specific conditions.

**Date Authorized Work Started:** \_\_\_\_\_ **Completed:** \_\_\_\_\_

Describe any deviations from permit (attach drawing(s) depicting the deviations):

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**\*Note: The description of any deviations on this form does not constitute approval by the USACE.**

\_\_\_\_\_  
**Signature of Permittee**

\_\_\_\_\_  
**Date**

# MAINE IN-LIEU-FEE (ILF) PROJECT IMPACT WORKSHEET

DEP Invoice #: \_\_\_\_\_ *Filled in by ILF Administrator in Augusta*

Project Name: Route 1 Milbridge-Cherryfield WIN 20405.00

Permittee(s): Maine Department of Transportation

DEP Permit #: PBR 77029 Issued Date: \_\_\_\_\_ *Attach a copy of DEP Permit*

Corp Permit #: NAE-2023-01043 Issued Date: September 10, 2024 *Attach a copy of Corps Permit*

DEP/Corps Project Managers: Jami MacNeil (USACE)

Project Address: Start Lat/Long: 44.54002°, -67.886772°; End Lat/Long: 44.597676°, -67.926539°

Biophysical Region – Section: Downeast Maine

Biophysical Region – Subsection: Maine Eastern Coastal Subsection

ILF Credits (credits to be purchased): 0.5785

Credit Calculations (see examples below):

USACE: 1:1 for perm. stream\* and wetland fill: 25,203 sf / (43,560 sf/ac) x 1 = 0.5785 credits

\*Excluding stream impacts due to culverts upgraded with a habitat connectivity design

Washington County ILF cost per credit = \$205,603.20

0.5785 credits x \$205,603.20 = **\$118,941.45**

Check Date: \_\_\_\_\_ Check Amount: \_\_\_\_\_

Resource Types (list all that apply, separate line for each resource)	Types of Impacts (list all that apply, by resource type)	SF Impacted (by resource type)	Multiplier or Reduction (if none, use 1 or N/A)	Credit Required (including multipliers & reductions)	Linear FT of Streams Impacted (for Corps use)
PEM	Permanent fill/grading	6,513	1	0.1495	
PFO	Permanent fill/grading	2,794	1	0.0641	
PSS	Permanent fill/grading	14,593	1	0.3350	
RSB	Permanent fill	1,303	1	0.0299	470
<b>Total SF Impacts:</b>		<b>25,203</b>	<b>Total Credits:</b>	0.5785	470

**Resource Types:** Wetlands by NWI Type (PEM, PFO, PSS, PUB, M1, M2, E1, E2, M1AB3\*, etc.), significant vernal pool depression (SVP), significant vernal pool critical terrestrial habitat (VPCTH), shorebird feeding & staging habitat (shorebird), inland waterfowl & wading bird habitat (IWWH), Tidal waterfowl & wading bird habitat (TWWH), lake or pond (L1, L2), river/stream/brook (RSB)

**Types of Impacts:** May include filling, dredging, vegetation conversion (e.g. forested to shrub/scrub), excavation with associated discharge, etc.

**Credit Calculation examples:** 1 credit = 1 acre (43,560 sq ft)

- For US Army Corps permit use [Current ILF Fact Sheet](#) effective at the time of payment. (See example below)
- If no US Army Corps permit is required and DEP specified a ILF amount in the permit, pay that amount.
- If both US Army Corps permit and DEP permit are required, pay the higher of the two fees (the one specified in DEP permit or the one calculated according to the steps below based on the number of credits to be purchased).

**Example 1:** mitigation requirement for a project in Kennebec County = 0.5 credits

Step 1: 1 acre ILF in Kennebec County = \$228,690.00

Step 2: Multiply credit requirement per acre cost

$$228690 \times 0.5 = \$114,345.00$$

**Example 2:** Mitigation requirement for a project in Cumberland County = 0.154 credits

Step 1: 1 acre ILF in Cumberland County = \$261,795.60

Step 2: Multiply credit requirement per acre cost

$$261795.60 \times 0.154 = \$40,316.52$$

**SECTION 1: GENERAL PROJECT INFORMATION**

<b>MaineDOT WIN:</b>	<b>20405.00</b>	<b>USFWS Consultation Code:</b>	<b>05E1ME00-2018-SLI-0301</b>
<b>Lead Federal Agency:</b>	<input checked="" type="checkbox"/> FHWA <input type="checkbox"/> Corps	<b>Transportation Agency</b>	<input checked="" type="checkbox"/> MaineDOT <input type="checkbox"/> MTA
Lead Federal Agency Contact Name:	Eva Birk	Email:	Eva.birk@dot.gov
		Phone:	207-512-4921
Lead Biologist Name:	Richard Bostwick	Email:	Richard.bostwick@maine.gov
		Phone:	207-592-3904
Project Name:	Milbridge-Harrington-Route 1 Reconstruction   Culvert replacements: Sta. 118+18, Sta. 201+63, 352+04		
<b>Project Location</b>			
Town:	Milbridge and Cherryfield	Rt #, Name, &/or Bridge #:	US Route 1
Latitude, Longitude (DD.ddd):	44.5589; -67.90783		
HUC-10 Watershed Name:	Narraguagus River	HUC-10 Watershed #:	0105000209
Waterbody:	Unnamed tributaries	Tier (see Section 2.5 in BA):	1

<b>General Activity Category (check all that apply):</b>	
<input checked="" type="checkbox"/>	<b>Stream Crossing Structure Replacement (define each):</b> <input checked="" type="checkbox"/> Culvert Replacement (structure ≤20 feet) <input type="checkbox"/> Bridge Replacement (structure >20 feet)
<input type="checkbox"/>	<b>Bridge Removal (without replacement)</b>
<input type="checkbox"/>	<b>Culvert End:</b> <input type="checkbox"/> Extension <input checked="" type="checkbox"/> Reset
<input type="checkbox"/>	<b>Bridge Scour Countermeasure</b>
<input type="checkbox"/>	<b>Bridge Maintenance:</b> <input type="checkbox"/> Grout Bag Installation <input type="checkbox"/> Concrete Repair
<input type="checkbox"/>	<b>Temporary Access</b>
<input type="checkbox"/>	<b>Slipline/Invert Line</b>
<input type="checkbox"/>	<b>Geotechnical Drilling</b>
<input type="checkbox"/>	<b>Urgency Project</b>

<b>Project Description:</b>
<p>MaineDOT is proposing to replace three cross culverts for a highway improvement project on Route 1 beginning in Milbridge, approximately 0.06 miles northerly of the intersection of Spruce Street and extending northerly 4.81 miles to the intersection of Route 182 in Cherryfield. The culverts to be replaced are located at Sta. 118+18, Sta. 201+63, and Sta. 352+04. Sta.'s 118+18 and 200.60 are located approximately 0.374 mi. and 1.93 miles north of the intersection of Routes 1 and 1A in Milbridge, respectively. The culvert at Sta. 118+18 is a 2 ft. diameter by 64 ft. long corrugated metal pipe (CMP), and the culvert at Sta. 200+63 is a 2 ft. diameter by 76 ft. long CMP. The culvert at Sta. 352+04, a 5 ft. diameter by 98 ft. long CMP, is located 0.27 mi. south of the intersection of Rt. 1 and Rt. 182. All three culverts convey streams that are tributaries of the Narraguagus River, which is located approximately from 700-1000 ft. from the culvert locations.</p> <p>The Sta. 118+18 culvert conveys a perennial stream (which likely dries up seasonally) with a watershed area of 0.1 sq. mi. upstream of the road-stream crossing. The channel substrate upstream of the culvert crossing is predominantly mud and sand with lesser amounts of pea gravel and cobbles. Stream habitat consists of shallow runs (&lt;1 ft. deep). Downstream substrate is composed mostly of pea gravel with mud, sand, and cobbles occurring in smaller amounts. Shallow pools and riffles (both &lt;1 ft. deep) occur downstream of the crossing.</p>

Maine Atlantic Salmon Programmatic Consultation for Transportation Projects  
Gulf of Maine Distinct Population Segment of Atlantic salmon, U.S. Fish and Wildlife Service Jurisdiction

The stream at Sta. 200+63 is a perennial with a watershed area above the road-stream crossing of 0.1 sq. mi. The upstream reach is characterized by riffle/run habitat with channel substrate composed predominantly of mud with sand, pea gravel, and cobble occurring in lesser amounts. The stream habitat type and substrate in the downstream reach is similar to the upstream reach, with the exception of a small quantity of boulders present in the streambed below the crossing.

The stream at Sta. 352+04 has a watershed of 0.2 sq. mi. and likely flows most of the year. Substrate above the crossing is predominantly mud, with sand in lesser amounts. Downstream of the crossing, the substrate is much coarser-grained with gravel, cobbles and small boulders common. Stream habitat is characterized by riffles and shallow pools.

The existing culvert at Sta. 118+18 will be replaced with 6 ft. diameter by 82 ft. long reinforced concrete pipe (RCP) set at a slope of 3.0 %. The existing culvert at Sta. 200+63 will be replaced with a 6 ft. diameter by 116 ft. long RCP set at a slope of 1.3 %. The existing culvert at Sta. 352+04 will be replaced with an 8 ft. diameter RCP set at a slope of 2.0 %. Two feet of culvert streambed material (CSM) designed to create a stable streambed will be placed inside each of the three replacement culverts. CSM will extend over 10 ft. long riprap aprons at the inlet and outlet ends of each replacement culvert, and will be graded upstream and downstream to match the existing natural channel grade.

The culvert replacements will have a combined 1149 sq. ft. of permanent streambed impacts due to the longer replacement culverts and streambed grading at the culvert ends (Sta. 118+18 – 385sq. ft.; Sta. 200+63 – 227 sq. ft.; Sta. 352+04 – 537 sq. ft.). Temporary streambed impacts due to construction activities between the cofferdams and the new culvert ends at Sta.'s 118+18, 200+63, and 352+04 will be 250 sq. ft., 250 sq. ft., and 550 sq. ft., respectively. Project-generated turbidity from cofferdam removal and/or resumption of stream flow may temporarily impact streambed habitat an estimated 1,000 feet downstream at each project site. The estimated area of potential turbidity in square feet is calculated by multiplying the measured bankfull width (or calculated bankfull width for Sta. 352+04) by 1,000 feet. Therefore, approximately 4,400 sq. ft. of downstream habitat at the Sta. 118+18 crossing may be affected by project-generated turbidity. Turbidity generated at the Sta. 260+63 crossing will impact an estimated 4,700 sq. ft. Potential turbidity impacts at Sta. 352+04 are estimated to be 5,800 sq. ft. Cofferdams will be used to isolate the work area from streamflow during construction, allowing in-stream work to occur "in the dry." Streamflow will be maintained during construction using a temporary pump bypass system. Habitat Connectivity Design Report (8/6/2018) containing photos and a location map as well as email correspondence from Maine Department of Marine Resources (dated 11/6/17 and 1/26/2018) are appended to this Project Notification Form.

**Proposed In-water work window:** July 15 to Sept 30

**Project Site Characteristics: Please note these characteristics may result in exclusions from Programmatic Consultation**

<b>ATS Presence</b> (attach additional info, such as correspondence if confirmed by an agency):		<input type="checkbox"/> Likely <input type="checkbox"/> Unknown but potentially <input checked="" type="checkbox"/> Highly Unlikely	
<input type="checkbox"/>	Confirmed by USFWS/DMR/IFW/MaineDOT Data	Comments: Maine Department of Marine Resources (DMR) indicated that it is unlikely that Atlantic salmon would be present at the three road-stream crossings. DMR stated potential concern for smolts that may seek freshwater to acclimate during their migration through the estuary. DMR's prime concern is the potential for impacts to anadromous rainbow smelt and brook trout. (Email correspondence, dated 1/26/2018).	
<input checked="" type="checkbox"/>	Project area is accessible to ATS, no data available		
<input type="checkbox"/>	Downstream barrier		
<input type="checkbox"/> Eggs <input type="checkbox"/> Alevin <input type="checkbox"/> Parr <input type="checkbox"/> Smolt <input type="checkbox"/> Adult (check only if expected, address in comment box)			
<b>Spawning Habitat Presence:</b>		<input type="checkbox"/> Yes (If yes, refer to BO for additional requirements/exclusions) & <b>AMMs 12, 13</b> <input checked="" type="checkbox"/> No	
<input type="checkbox"/>	Mapped	Date:	Comments: none observed in project area (See Chart 1)
<input checked="" type="checkbox"/>	On-site survey	Date:	
<b>Holding Pools Presence:</b>		<input type="checkbox"/> Yes (If yes, refer to BO for additional requirements/exclusions) & <b>AMMs 12, 13</b> <input checked="" type="checkbox"/> No	
<input checked="" type="checkbox"/>	On-site survey	Date: 10/3/14 and 12/18/14,	Comments: Based on stream assessments conducted by Tetra Tech on 10/3/14 and 12/18/14, and site visit by USFWS and MaineDOT on 12/15/2017, gravel/cobble substrate suitable for Atlantic salmon spawning does not occur at or in vicinity of the culvert replacement projects at Sta.'s 118+18 and 200+63. Coarse-grained substrates occur in the downstream reach at Sta. 352+04 but habitat is not suitable for spawning.
<input type="checkbox"/>	DMR Coordination	Date:	

# Project Notification Form **Version 4 (9-24-18)**

## Maine Atlantic Salmon Programmatic Consultation for Transportation Projects Gulf of Maine Distinct Population Segment of Atlantic salmon, U.S. Fish and Wildlife Service Jurisdiction

<b>Clay Substrate Present:</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
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<b>Early Coordination with USFWS:</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
<input checked="" type="checkbox"/> Site Visit	Date: 10/3/14 and 12/18/14.	Comments: No deep holding pools (>2 ft. deep) were observed based on Tetra Tech's stream assessments on 10/3/14 and 12/18/14 and MaineDOT/USFWS field visit in 2017.	
<input type="checkbox"/> Monthly Meeting	Date:		
<input checked="" type="checkbox"/> Email Correspondence	Date: 10/22/2018		

<b>Will the project result in beneficial impacts?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Number of modeled upstream Habitat Units restored (or upstream miles to next barrier if no modeled habitat) with stream crossing replacement or removal: Sta. 118+10 = 0; Sta. 200+60 = ~1.65; Sta. 351+95 = ~6.40		Comments: Comments: The proposed culvert replacement will provide fish and aquatic organism passage where none currently exists.	
Other benefits: Other benefits: Restoration of fish passage with culvert replacement will allow passage of other fish species that could provide a prey buffer.			

<b>Action Area Extent</b>
Comment: The action area includes: (1) the stream area temporarily isolated between the cofferdams; (2) the downstream reach experiencing temporary turbidity from construction activities (approximately 1,000 ft.); (3) the extent of riparian stream bank disturbed by construction activities, including equipment access and staging areas, and (4) the upstream reach of Critical Habitat, including all tributaries, which will be temporarily impassable by fish during construction activities (Atlantic salmon presence is possible, but unlikely).

<b>Other federal endangered species in project area:</b>
If there is an effect to any of the below species or their designated critical habitat, a separate consultation request will be prepared. This notification form will be attached to that consultation request. If the consultation request will utilize separate programmatic consultations, both reporting forms will be packaged together. Projects that occur outside the known range or are without suitable habitat for a species should be considered "no effect" determinations. This reasoning should be stated in the comment box.

<b>Canada lynx or its designated critical habitat</b>	
Lead Federal Agency Determination: <input checked="" type="checkbox"/> No Effect <input type="checkbox"/> Individual Consultation	Comment: Species is not present

<b>Northern Long-Eared Bat</b>	
Lead Federal Agency Determination: <input type="checkbox"/> No Effect <input checked="" type="checkbox"/> Streamlined 4(d) Consultation <input type="checkbox"/> FHWA Programmatic Consultation	Comment:

<b>Rusty-Patched Bumblebee</b>	
Lead Federal Agency Determination: <input checked="" type="checkbox"/> No Effect <input type="checkbox"/> Individual Consultation	Comment:

<b>Rufa Red Knot</b>	
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**Project Notification Form Version 4 (9-24-18)**

Maine Atlantic Salmon Programmatic Consultation for Transportation Projects  
Gulf of Maine Distinct Population Segment of Atlantic salmon, U.S. Fish and Wildlife Service Jurisdiction

Lead Federal Agency Determination: <input checked="" type="checkbox"/> No Effect <input type="checkbox"/> Individual Consultation	Comment:
<b>Are there any other federally listed species potentially affected by the Project?</b>	
<input checked="" type="checkbox"/> No	Comment (List species and attach additional relevant information):
<input type="checkbox"/> Yes	

**SECTION 2: GENERAL ACTIVITY CATEGORY DESIGN REQUIREMENTS**

**Check larger section heading if activity is proposed; confirm that design requirements for each activity will be met by checking sub boxes. AMMs are summarized to include general topic and applicability.**

<input checked="" type="checkbox"/>	<b>Stream Crossing Structure Replacements</b>
<b>Tier 1</b>	
<input checked="" type="checkbox"/>	Minimum span 1.2 x BFW with Habitat Connectivity Design*
<input checked="" type="checkbox"/>	*If Habitat Connectivity Design cannot be used, Hydraulic Design may be eligible for programmatic consultation, but it requires early coordination with and approval by USFWS prior to submittal of Project Notification Form.
<b>Tier 2</b>	
<input type="checkbox"/>	Minimum span 1.2 x BFW with Habitat Connectivity Design
<input type="checkbox"/>	Minimum span 1.0 x BFW with Hydraulic or Habitat Connectivity Design <b>with Mitigation</b> [AMM 59]
<b>Additional Design Requirements for Rearing and Spawning Areas</b>	
<u>Rearing Habitat Present</u>	
<input type="checkbox"/>	Bridge Replacements (piers and abutments) will not result in a net increase in in-water structure footprint [AMM 46]
<u>Spawning Habitat Present</u>	
<input type="checkbox"/>	Bridge Piers and abutments will not be placed in ATS spawning habitat [AMM 46]
<input type="checkbox"/>	<b>B. Bridge Removal (without replacement)</b>
<input type="checkbox"/>	In-water portions of the bridge will be completely removed or cut flush below the substrate
<input type="checkbox"/>	Are constructability assumptions in section 2.3.2 and Table 4 of BO applicable
<input type="checkbox"/>	<b>C. Culvert End Extension ( in Tier 1 or 2)</b>
<input type="checkbox"/>	Extensions will not exceed 8 feet total length (includes both upstream and downstream) and <b>Mitigation is required</b> [AMM 56]
<input type="checkbox"/>	Minimal or no stream re-alignment proposed
<input type="checkbox"/>	<b>AMM 52:</b> -The width of the relocated channel will match that of the pre-existing width; -Channel depths will match that of the pre-existing stream section; -CSM will be placed along the bottom of the reconstructed stream channel to re-establish stream substrate; and -Riprap placement in the stream will be minimized to that necessary for erosion/scour prevention and embedded and covered with natural substrate material.
<input type="checkbox"/>	<b>D. Culvert End Resets</b>
<input type="checkbox"/>	No stream re-alignment necessary
<input type="checkbox"/>	<b>E. Bridge Scour Countermeasures</b>
<input type="checkbox"/>	<b>AMM 44:</b> Cable mats used for scour protection will be backfilled with a gravel-like material between the voids. Any larger stones or streambed material excavated for the placement of the mats will then be distributed on top of the countermeasures.
<input type="checkbox"/>	<b>AMM 61:</b> -Cable mats will be installed to match the existing channel contours; -A low flow channel will be added to allow adequate water depths (~6 inches) during low flow periods; and -Stream bed material and large rocks (greater than 1 foot in diameter) will be placed randomly back on top of the scour countermeasures
<input type="checkbox"/>	<b>AMM 58:</b> Mitigation proposed
<input type="checkbox"/>	<b>F. Temporary Access</b>
<input type="checkbox"/>	Temporary causeways will not be located in potential spawning habitat

## Project Notification Form **Version 4 (9-24-18)**

### Maine Atlantic Salmon Programmatic Consultation for Transportation Projects Gulf of Maine Distinct Population Segment of Atlantic salmon, U.S. Fish and Wildlife Service Jurisdiction

<input checked="" type="checkbox"/>	<b>AMM 31:</b> Causeway fill will not extend across >25% of BFW of stream/river
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<input type="checkbox"/>	<b>G. Slipline/Invert Line</b>
<input type="checkbox"/>	Project is located in <u>Tier 2</u> (slip/invert lines in Tier 1 areas not eligible for MAPS [See <b>AMM 48</b> ])
<input type="checkbox"/>	<b>AMM 47:</b> Project will be designed to improve fish passage. Fish passage measures (potentially) include weirs inside and outside of the crossing structures to ensure that water depths and velocities allow for fish passage at a range of flows.
<input type="checkbox"/>	<b>AMM 60:</b> Mitigation required

<b>H. Will any new roads longer than 0.5 miles in length be created as part of the action?</b>		
<input type="checkbox"/>	Yes [project is not eligible for MAPS—See <b>AMM 11</b> for explanation]	Comment:
<input checked="" type="checkbox"/>	No	

**SECTION 3: CONSTRUCTABILITY REQUIREMENTS**

*(Check larger section heading if activity is proposed; confirm that design requirements for each activity will be met by checking sub boxes). AMMs are summarized to include general topic and applicability. Refer to Appendix A of PBO or PBA for complete language for AMMs.*

<input checked="" type="checkbox"/>	<b>A. In-water work window</b>	
<input checked="" type="checkbox"/>	<b>AMM 1:</b> July 15–September 30	
<input type="checkbox"/>	<b>AMM 2:</b> July 15–April 15 Bridge Replacement >20 feet and spawning areas not present	
<input type="checkbox"/>	<b>AMM 12:</b> May 1–September 30 Bridge Replacement >20 feet and spawning areas present No turbidity, noise, direct effects, during spawning and egg incubation between October 1–April 30	
<input type="checkbox"/>	<b>Other</b>	
<input type="checkbox"/>	Geotechnical Drilling (no temporary access)	
<input type="checkbox"/>	Pile removal with turbidity curtain	
<input type="checkbox"/>	Special circumstances with no ATS Presence USFWS Early Coordination and approval received prior to submittal of Project Notification Form	Comment:

<input checked="" type="checkbox"/>	<b>B. Cofferdams and Bypass Systems</b> (See User's Guide for Additional Guidance)	
<input checked="" type="checkbox"/>	<b>AMM 4:</b> All in-water excavation will be conducted within a cofferdam	
<input checked="" type="checkbox"/>	<b>AMM 15:</b> In streams with clay substrate, activities that disturb the substrate will be conducted inside of a sealed cofferdam.	
<input checked="" type="checkbox"/>	<b>AMM 17:</b> All in-stream work will take place inside of a cofferdam except: pile driving, clean riprap placement for temporary causeways, bridge pier demolition, and geotechnical drilling	
<b>Additional cofferdam requirements where ATS are present</b>		
<input type="checkbox"/>	<b>AMM 49:</b> Abutment demolitions with a hoe ram will occur inside of a dewatered cofferdam [or outside of the water].	

***If Cofferdams and Bypass Systems are required, the following AMMs also apply:***

<input checked="" type="checkbox"/>	<b>AMM 18:</b> Suspended sediment treatment will follow the procedures described in Section 3.4.2 of the PBA "Dirty Water" Treatment System.
<input checked="" type="checkbox"/>	<b>AMM 19:</b> For activities requiring bypass pumping in streams, stabilization techniques (such as sheets of poly) will be used to protect the stream from scour caused by the high-water velocity coming from the hose(s) at the downstream end.
<input checked="" type="checkbox"/>	<b>AMM 20:</b> Temporary bypass systems will utilize non-erosive techniques, such as pipe or a plastic-lined channel that will accommodate the predicted peak flow rate during construction. These are reviewed as part of the contractor's SEWPCP. Predicted peak flows are provided to the contractor in the bid documents; these values are derived from the USGS regression (USGS 2015).
<input checked="" type="checkbox"/>	<b>AMM 22:</b> All cofferdams will be fully removed from the stream immediately following completion of in-water work, minimizing delays due to high stream flows following heavy precipitation, so that fish and aquatic organism passage are not restricted any longer than necessary. If a project is not completed and there will be substantial delays in construction, cofferdams will be at least partially removed to allow passage of Atlantic salmon until construction resumes. All areas of temporary bottom disturbance will be restored to their original contour and character upon completion of the project.
<input checked="" type="checkbox"/>	<b>AMM 23:</b> All cofferdams will be removed using techniques to minimize turbidity releases. This includes allowing for the slow reintroduction of water into the work area and utilizing dirty water treatment systems for turbid water.
<input checked="" type="checkbox"/>	<b>AMM 24:</b> Bypass pumps will be sized according to the expected flows during construction. See Section III(F)3 in the MaineDOT BMP Manual (MaineDOT 2008) for guidance on pump capacity.

Maine Atlantic Salmon Programmatic Consultation for Transportation Projects  
Gulf of Maine Distinct Population Segment of Atlantic salmon, U.S. Fish and Wildlife Service Jurisdiction

<input checked="" type="checkbox"/>	<b>AMM 30:</b> All intake pumps within fish bearing streams will have a fish screen installed, operated, and maintained. To prevent Atlantic salmon juvenile entrainment related to water diversions, the contractor will use a screen on each pump intake large enough so that the approach velocity does not exceed 0.06 meters per second (0.20 feet per second). Square or round screen face openings are not to exceed 2.38 millimeters (3/32 inch) on a diagonal. Criteria for slotted face openings will not exceed 1.75 millimeters (approximately 1/16 inch) in the narrow direction. These screen criteria follow those indicated by the NMFS (2008). Intake hoses will be regularly monitored while pumping to minimize adverse effects to Atlantic salmon.
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**Additional cofferdam requirements where ATS are present**

<input checked="" type="checkbox"/>	<b>AMM 29:</b> -MaineDOT or MTA environmental staff or similarly qualified consultants will capture and remove as many Atlantic salmon and other fish species as possible ("See Appendix G of User's guide). <b>-Cofferdams must be dewatered to less than 2 feet deep to facilitate Fish Evacuation. Differing conditions must be discussed with USFWS prior to submittal of the PNF.</b>
<input type="checkbox"/>	<b>AMM 55:</b> Cofferdams that span the entire channel will not be used for bridge scour countermeasure projects.

<input type="checkbox"/>	<b>C. Temporary Causeway</b>
<input type="checkbox"/>	<b>AMM 6:</b> Temporary causeways placed in the riparian area will be constructed in a manner that they do not allow erosion into resources during construction. This will be reviewed and approved as a part of the SEWPCP, including review of location as well as placing a nonerodable material on the surface of the causeway.
<input type="checkbox"/>	<b>AMM 31:</b> Temporary causeways in stream channels will be constructed of non-erodible material, i.e., plain riprap or large riprap (per MaineDOT standard specifications) over geotextile fabric. Temporary causeways will extend to no more than 25% of BFW of the stream or river.

<input checked="" type="checkbox"/>	<b>D. Pile Driving</b>
<input checked="" type="checkbox"/>	<b>AMM 21:</b> Sheet pile driving (if utilized) will be completed using a vibratory hammer.
	<b>Additional requirements for Pile Driving where ATS are present</b>
<input type="checkbox"/>	<b>AMM 36:</b> Round pile sizes will be less than 30 inches in diameter. H-pile size will be less than 14 inches.
<input type="checkbox"/>	<b>AMM 37:</b> A vibratory hammer will be used as much as possible for all pile driving activities.
<input type="checkbox"/>	<b>AMM 38:</b> Pile driving will occur during the day.
<input type="checkbox"/>	<b>AMM 39:</b> Hydroacoustic monitoring will be completed for all impact pile driving using the monitoring template developed by the Fisheries Hydroacoustic Working Group and following the methods described in the Technical Guidance (Caltrans 2015).
<input type="checkbox"/>	<b>AMM 40:</b> A bubble curtain meeting the design criteria, as defined in the User's Guide, will be employed during all impact pile driving events.

<input checked="" type="checkbox"/>	<b>E. Riprap</b>
<input checked="" type="checkbox"/>	<b>AMM 4:</b> All in-water excavation will be conducted within a cofferdam.
<input checked="" type="checkbox"/>	<b>AMM 42:</b> Permanent riprap placed in a stream below the bankfull elevation (Q1) will be covered by CSM.
<input checked="" type="checkbox"/>	<b>AMM 43:</b> Riprap placed outside of a cofferdam must be cleaned prior to installation.

<input type="checkbox"/>	<b>F. Grout Bag Installation/Concrete Repair</b>
<input type="checkbox"/>	<b>AMM 32:</b> 1. Grout slurry will be applied at a rate of ~ two cubic yards per hour or less 2. Turbidity curtains will be used when practicable (in flows less than one foot per second) 3. An anti-washout admixture (AWA) will be mixed with the grout prior to application 4. Grout will be piped into or behind grout bags
<input type="checkbox"/>	<b>AMM 33:</b> As per Standard Specification 656.3.6 (e), the contractor will not place uncured concrete directly into a water body. The contractor shall not wash tools, forms, or other items in or adjacent to a water body or wetland.

Maine Atlantic Salmon Programmatic Consultation for Transportation Projects  
Gulf of Maine Distinct Population Segment of Atlantic salmon, U.S. Fish and Wildlife Service Jurisdiction

<input type="checkbox"/>	<b>AMM 34:</b> Prior to release to a natural resource, any impounded water that has been in contact with concrete placed during construction must have a pH between 6.0 and 8.5, must be within one pH unit of the background pH level of the resource and must have a turbidity level no greater than the receiving resource. This requirement is applicable to concrete that is placed or spilled (including leakage from forms) as well as indirect contact via tools or equipment. Disposal or treatment of water not meeting release criteria shall be addressed in the SEWPCP. Discharging impounded water to the stream must take place in a manner that does not disturb the stream bottom or cause erosion. The Contractor shall be responsible for monitoring pH with a calibrated meter accurate to 0.1 units. A record of pH measurements shall be kept in the Environmental Field Representative's log. Concrete being placed as a seal in a cofferdam for bridge pier construction is considered "impounded water".
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<input type="checkbox"/>	<b>G. Bridge Removal &amp; Demolition</b>
<input type="checkbox"/>	<b>AMM 28:</b> Any removed piling or other demolition material will be properly disposed of at a location in compliance with applicable regulatory approvals.
<input type="checkbox"/>	<b>AMM 35:</b> Demolition and debris removal and disposal will comply with Section 202.03 of the MaineDOT's Standard Specifications. The Contractor will contain all demolition debris, including debris from wearing surface removal, saw cut slurry, dust, etc., and will not allow it to discharge to any resource. The Contractor will dispose of debris in accordance with the Maine Solid Waste Law (Title 38 M.R.S.A., Section 1301 et. seq.). The demolition plan, containment, and disposal of demolition debris will be addressed in the Contractor's SEWPCP.
<input type="checkbox"/>	<b>AMM 50:</b> If piles are removed by cutting, they must be cut to one foot below the substrate level.
<input type="checkbox"/>	<b>AMM 51:</b> If a pile is pulled from the substrate, the work will be completed using a BMP specifically for minimizing turbidity, such as a turbidity curtain.
<b>Additional demolition requirements where ATS are present</b>	
<input type="checkbox"/>	<b>AMM 49:</b> Abutment demolitions with a hoe ram will occur inside of a dewatered cofferdam or outside of the water.

<input type="checkbox"/>	<b>H. Underwater Blasting</b>
<input type="checkbox"/>	<b>AMM 41:</b> In-water blasting is not allowed when Atlantic salmon could be present. Underwater Blasting is proposed only when <u>ATS are not present</u> .

<input type="checkbox"/>	<b>I. Scour Countermeasure Cable Mats</b>
<input type="checkbox"/>	<b>AMM 44:</b> Cable mats used for scour protection will be backfilled with a gravel-like material between the voids. Any larger stones or streambed material excavated for the placement of the mats will then be distributed on top of the countermeasures.
<b>Additional cofferdam requirements where ATS are present</b>	
<input type="checkbox"/>	<b>AMM 55:</b> Cofferdams that span the entire channel will not be used for bridge scour countermeasure projects

<input type="checkbox"/>	<b>J. Spawning areas</b>
<input type="checkbox"/>	<b>AMM 13:</b> Spawning habitat may be affected temporarily during construction (outside of October 1-April 30; see AMM 12) and will be restored.

<input checked="" type="checkbox"/>	<b>K. Clay Substrates</b>
<input checked="" type="checkbox"/>	<b>AMM 15:</b> In streams with clay substrate, activities that disturb the substrate will be conducted inside of a sealed cofferdam.

**SECTION 4: GENERIC REQUIREMENTS**

*These AMMs applied to and are required for every project to be consistent with MAPS. Refer to Appendix A of BO for complete language for AMMs.*

☒ **A. Apply all other AMMs appropriate for the action (see Appendix H of the User's Guide)**

AMMs: 3-5, 7-18, 25-27, and 45

Comments:

**SECTION 5: EFFECTS DETERMINATIONS**

Potential Effects to Atlantic salmon:	LAA	NLAA	N/A	Comments
<b>Elevated Turbidity and Transport</b>	If ATS are present: <input type="checkbox"/> Cofferdam Installation <input type="checkbox"/> Bypass Channel Installation <input type="checkbox"/> Pile installation and Removal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Atlantic salmon presence is unlikely at the project site.
<b>Temporary Migration/Movement Barrier</b>	If ATS are present: <input type="checkbox"/> Cofferdam Installation <input type="checkbox"/> Bypass channel installation <input type="checkbox"/> Pier and abutment demolition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Atlantic salmon presence is unlikely at the project site.
<b>Permanent Migration/Movement Barrier</b>	If ATS are present: <input type="checkbox"/> Invert line/slipline <input type="checkbox"/> Culvert Extensions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A, no permanent migration barrier will be created by the project.
<b>Fish Handling and Relocation</b>	<input type="checkbox"/> If ATS are present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Atlantic salmon presence is unlikely at the project site.
<b>Impingement/Entrainment</b>		<b>X always</b>		
<b>Water Quality Impact (pollutants)</b>	If ATS are present: <input type="checkbox"/> Grout Bag Installation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Atlantic salmon presence is unlikely at the project site.
<b>Habitat Alteration</b>	If ATS are present: <input type="checkbox"/> Slipline/Invert line <input type="checkbox"/> Scour Countermeasures <input type="checkbox"/> BFW Culverts in Tier 2 <input type="checkbox"/> Riprap not covered with CSM (inlet/outlet stabilization on Stream Crossing Replacements)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The two culvert replacement projects will have 1149 sq. ft. of permanent streambed impacts due to the longer replacement culvert and riprap aprons, and 1050 sq. ft. of temporary streambed impacts from construction activities between the cofferdams and the new culvert. The projects will have an additional 9,100 sq. ft. of temporary streambed impacts because of project-generated turbidity. Permanent and temporary streambed impacts will be offset by restored fish and aquatic organism passage at the road-stream crossings.
<b>Underwater Noise</b>	If ATS are present: <input type="checkbox"/> Pile Installation with an impact hammer <input type="checkbox"/> Abutment/pier demolition a hoe ram	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Atlantic salmon presence is unlikely at the project site.



# Project Notification Form **Version 4 (9-24-18)**

Maine Atlantic Salmon Programmatic Consultation for Transportation Projects  
Gulf of Maine Distinct Population Segment of Atlantic salmon, U.S. Fish and Wildlife Service Jurisdiction

PBF Element [Defined in Section 5.2 of BO]:	LAA	NLAA*	Comments
<b>Spawning and Rearing</b>			
SR 1		<input checked="" type="checkbox"/>	
SR 2, 3		<input checked="" type="checkbox"/>	
SR 4, 5, 6, 7	<input type="checkbox"/> Slipline/Invert line <input type="checkbox"/> Scour Countermeasures <input type="checkbox"/> BFW Culverts in Tier 2 <input type="checkbox"/> Culvert end extensions/Resets	<input checked="" type="checkbox"/>	
<b>Migratory</b>			
M1		<input checked="" type="checkbox"/>	
M2		<input checked="" type="checkbox"/>	
M3		<input checked="" type="checkbox"/>	
M4		<input checked="" type="checkbox"/>	
M5		<input checked="" type="checkbox"/>	
M6		<input checked="" type="checkbox"/>	

\*If design criteria, exclusions, and AMMs as laid out in the MAPS are followed, all activities covered by MAPS will result in NLAA to Critical Habitat.

Final Effect Determination Atlantic Salmon	<input type="checkbox"/> LAA	<input checked="" type="checkbox"/> NLAA
Final Effect Determination Atlantic Salmon Critical Habitat	<input type="checkbox"/> LAA	<input checked="" type="checkbox"/> NLAA

## SECTION 6: ADDITIONAL INFORMATION FOR PROJECTS LIKELY TO ADVERSELY AFFECT ATS/CH

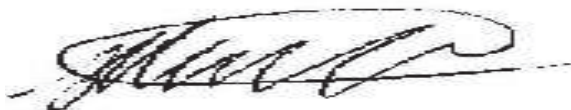
Geographic areas of Adverse effects to ATS—See User's Guide for Guidance on developing these areas.		
Data Required to Develop Incidental Take Statement (ITS)		
Stressor	Square Feet	BO Reference/Guidance on Calculation of Area
Turbidity/sedimentation impacts		Section 5.1.1
Fish handling (size of cofferdammed area)		Section 5.1.4
Underwater noise (injury zone)		Section 5.1.2
Habitat alteration (direct permanent impacts)		Section 5.1.7
Permanent movement/migration barriers (upstream Habitat Units)		Section 5.1.8
Water quality (elevated pH zone)		Section 5.1.6
Temporary migration/movement barrier	N/A always	Section 5.1.3
<input type="checkbox"/> DMR was contacted with request for relevant data; such as survey data, stocking data, parr densities, spawning and rearing habitat suitability, etc.; to assist in developing the ITS		

Additional Submittals	
<input checked="" type="checkbox"/>	Stream Crossing Replacement Design Report (required for all Stream Crossing replacements)
<input type="checkbox"/>	In-lieu Fee Calculation Worksheet
<input checked="" type="checkbox"/>	Photos
<input checked="" type="checkbox"/>	Email or other correspondence with DMR
<input type="checkbox"/>	Other: Mapped habitat data

**SECTION 7: SIGNATURES & AUTHORIZATIONS**

The MaineDOT biologist signature represents acknowledgement that this form was filled out using the best available scientific and commercial information. It also shows acknowledgement that the best preliminary project scope information.

MaineDOT Lead Biologist Signature



Date 1/14/20

The USFWS biologist signature below acknowledges submission of the PNF is consistent with the MAPS.

USFWS Biologist Signature



Date 1/15/20

Website for current version of form

Form last revised by User: KIS 9/24/18

**SECTION 8: TAKE CALCULATIONS**

Stressor	Take Result
Turbidity/sedimentation impacts	
Fish handling (size of cofferdammed area)	
Underwater noise (injury zone)	
Habitat alteration (direct permanent impacts)	
Permanent movement/migration barriers (upstream Habitat Units)	
Water quality (elevated pH zone)	
Temporary migration/movement barrier	
Comments:	

**SECTION 9: SUMMARY OF AMM'S**

<input checked="" type="checkbox"/>	<b>AMM 1:</b> July 15–September 30
<input type="checkbox"/>	<b>AMM 2:</b> July 15–April 15, Bridge Replacement >20 feet and spawning areas not present
<input checked="" type="checkbox"/>	<b>AMM 3:</b> All areas of temporary waterway or wetland fill will be restored to their original contour and character upon completion of the project. Temporary fill includes fill that received authorization and fill that mistakenly enters a resource (i.e., from slope failures, accidental broken sandbag cofferdams).
<input checked="" type="checkbox"/>	<b>AMM 4:</b> All in-water excavation will be conducted within a cofferdam

# Project Notification Form Version 4 (9-24-18)

## Maine Atlantic Salmon Programmatic Consultation for Transportation Projects Gulf of Maine Distinct Population Segment of Atlantic salmon, U.S. Fish and Wildlife Service Jurisdiction

<input checked="" type="checkbox"/>	<b>AMM 5:</b> All areas of disturbed soil will be mulched and seeded with an approved native or noninvasive herbaceous seed mix following construction and/or planted with native woody vegetation and trees appropriate during the first available planting season. In areas where there is little to no slope and erosion and invasive species establishment is unlikely, the native woody vegetation on the site will be allowed to regenerate naturally.
<input checked="" type="checkbox"/>	<b>AMM 6:</b> Temporary causeways placed in the riparian area will be constructed in a manner that they do not allow erosion into resources during construction. This will be reviewed and approved as a part of the SEWPCP, including review of location as well as placing a nonerodable material on the surface of the causeway.
<input checked="" type="checkbox"/>	<b>AMM 7:</b> Vegetation rootstock will only be removed in those areas that are subject to permanent impacts. Replanting will be completed as necessary and feasible, but may not be possible in certain situations, such as permanent impact areas, roadway clear zone, or adjacent to or under bridges.
<input checked="" type="checkbox"/>	<b>AMM 8:</b> To minimize the spread of noxious weeds into the riparian zone, all off-road equipment and vehicles operating from existing open and maintained roads must be cleaned prior to entering the construction site to remove all soil, seeds, vegetation, or other debris that could contain seeds or reproductive portions of plants. All equipment will be inspected prior to offloading to ensure that they are clean.
<input checked="" type="checkbox"/>	<b>AMM 9:</b> During construction, any disturbed soils will be temporary stabilized with BMPs, such as straw mulch, plastic sheeting, erosions control mix, or other appropriate BMPs. Disturbed areas with erodible soil can include, but are not limited to, temporary storage piles, access ways, partially constructed slopes, etc.
<input checked="" type="checkbox"/>	<b>AMM 10:</b> The Proponents will hold a pre-construction meeting for each project with appropriate Environmental Field Representatives, other MaineDOT or MTA staff, and construction crew or contractor(s) to review all procedures and requirements for avoiding and minimizing effects to Atlantic salmon and to emphasize the importance of these measures for protecting Atlantic salmon and its critical habitat. The Corps, the FHWA, and the Service staff will be notified and attend these meetings as practicable.
<input checked="" type="checkbox"/>	<b>AMM 11:</b> The Proponents are not proposing to include any new road facilities in this PBA. A new road facility will be defined as the creation of a new road longer than 0.5 mile in length. The new creation can include new connections and realigned portions of intersections with new inputs. Highway relocations and realignments are not considered a new road facility if drainage patterns are not altered and drainage remains within the same watershed as the previous highway portion.
<input checked="" type="checkbox"/>	<b>AMM 12:</b> The Proponents will not affect (turbidity above background, acoustic, direct effects) spawning areas during spawning and egg incubation periods (October 1 to April 30).
<input type="checkbox"/>	<b>AMM 13:</b> The Proponents will not temporarily affect spawning habitat without restoration.
<input checked="" type="checkbox"/>	<b>AMM 14:</b> No heavy construction equipment will travel into or through any flowing streams with erodible substrate (e.g., sand, silt, and clay). Travel of heavy construction equipment into or through flowing streams and on stream substrate will only occur when the stream substrate is non-erodible (e.g., ledge, cobble) and the contractor has received approval from the MaineDOT or the MTA environmental field office staff.
<input checked="" type="checkbox"/>	<b>AMM 15:</b> No activities that disturb the substrate will be conducted in streams with clay substrates that include in-water work outside of a sealed cofferdam. This is due to the unpredictable nature of undesirable effects.
<input checked="" type="checkbox"/>	<b>AMM 16:</b> The Proponents will require any work being completed under this programmatic consultation to submit a SEWPCP for review and approval of the MaineDOT or the MTA staff prior to the start of work. The plan includes the review of the implementation of any AMMs proposed.
<input checked="" type="checkbox"/>	<b>AMM 17:</b> The installation of cofferdam systems encloses a work area and reduces sediment pollution generated from construction work. All in stream work will take place inside of a cofferdam except for the following sub activities: pile driving, clean riprap placement for temporary causeways, bridge pier demolition, and geotechnical drilling. In-water work in streams with a clay substrate will not occur outside of a sealed cofferdam.
<input checked="" type="checkbox"/>	<b>AMM 18:</b> Suspended sediment treatment will follow the procedures described in Section 3.4.2 of the PBA "Dirty Water" Treatment System.
<input checked="" type="checkbox"/>	<b>AMM 19:</b> For activities requiring bypass pumping in streams, stabilization techniques (such as sheets of poly) will be used to protect the stream from scour caused by the high water velocity coming from the hose(s) at the downstream end.
<input checked="" type="checkbox"/>	<b>AMM 20:</b> Temporary bypass systems will utilize non-erosive techniques, such as pipe or a plastic-lined channel that will accommodate the predicted peak flow rate during construction. These are reviewed as part of the contractor's SEWPCP. Predicted peak flows are provided to the contractor in the bid documents; these values are derived from the USGS regression (USGS 2015).
<input checked="" type="checkbox"/>	<b>AMM 21:</b> Sheet pile driving (if utilized) will be completed using a vibratory hammer.

Maine Atlantic Salmon Programmatic Consultation for Transportation Projects  
Gulf of Maine Distinct Population Segment of Atlantic salmon, U.S. Fish and Wildlife Service Jurisdiction

<input checked="" type="checkbox"/>	<b>AMM 22:</b> All cofferdams will be fully removed from the stream immediately following completion of in-water work, minimizing delays due to high stream flows following heavy precipitation, so that fish and aquatic organism passage are not restricted any longer than necessary. If a project is not completed and there will be substantial delays in construction, cofferdams will be at least partially removed to allow passage of Atlantic salmon until construction resumes. All areas of temporary bottom disturbance will be restored to their original contour and character upon completion of the project.
<input checked="" type="checkbox"/>	<b>AMM 23:</b> All cofferdams will be removed using techniques to minimize turbidity releases. This includes allowing for the slow reintroduction of water into the work area and utilizing dirty water treatment systems for turbid water.
<input checked="" type="checkbox"/>	<b>AMM 24:</b> Bypass pumps will be sized according to the expected flows during construction. See Section III(F)3 in the MaineDOT BMP Manual (MaineDOT 2008) for guidance on pump capacity.
<input checked="" type="checkbox"/>	<b>AMM 25:</b> No equipment, materials, or machinery will be stored, cleaned, fueled, or repaired within any wetland or watercourse. All vehicle and equipment refueling activities will occur more than 100 feet from any water course and if not, all refueling areas will require fuel spill containment structures as per the SPCC Plan. Other construction equipment maintenance will be done at a location consistent with SPCC Plan and in a manner that avoids hazardous materials getting into the stream.
<input checked="" type="checkbox"/>	<b>AMM 26:</b> All pumps and generators will have appropriate spill containment structures and/or spill remediation materials available, such as absorbent pads.
<input checked="" type="checkbox"/>	<b>AMM 27:</b> All equipment used for in-stream work will be cleaned of external oil, grease, dirt, and mud such that turbid water does not drain to any wetland or watercourse. Any leaks or accumulations of these materials will be corrected before entering streams or areas that drain directly to streams or wetlands. All releases into surface waters or wetlands will be reported immediately to the appropriate regulatory body.
<input type="checkbox"/>	<b>AMM 28:</b> Any removed piling or other demolition material will be properly disposed of at a location in compliance with applicable regulatory approvals.
<input checked="" type="checkbox"/>	<b>AMM 29:</b> To minimize fish stranding inside the cofferdam when dewatering, the MaineDOT or MTA environmental staff or similarly qualified consultants will capture and remove as many Atlantic salmon and other fish species as possible. The MaineDOT or MTA environmental staff or similarly qualified consultants will inspect the cofferdams after placement for presence of adult Atlantic salmon. If adult Atlantic salmon are observed during active construction, all activities will cease and the MaineDOT or MTA environmental staff or similarly qualified consultants will immediately contact the Service's Maine Fish and Wildlife Complex 207/469- 7300. The MaineDOT or the MTA environmental staff or similarly qualified consultants will complete a fish evacuation where water depths allow following the plan found in Appendix A of the BA. As stated in Appendix A, nets will be used to "herd" fish out of the work area to the extent practicable prior to electrofishing and cofferdam installation. This kind of fish exclusion measure can occur prior to cofferdam construction when water depths are less than <2 feet. Appropriate fish evacuation techniques in cofferdams are required for bridge pier construction. Water depths and access make these evacuations a unique situation. In these cases, the Proponents will provide project-specific fish evacuation plans to the Service prior to programmatic approval.
<input checked="" type="checkbox"/>	<b>AMM 30:</b> All intake pumps within fish bearing streams will have a fish screen installed, operated, and maintained. To prevent Atlantic salmon juvenile entrainment related to water diversions, the contractor will use a screen on each pump intake large enough so that the approach velocity does not exceed 6.10 meters per second (0.20 feet per second). Square or round screen face openings are not to exceed 2.38 millimeters (3/32 inch) on a diagonal. Criteria for slotted face openings will not exceed 1.75 millimeters (approximately 1/16 inch) in the narrow direction. These screen criteria follow those indicated by the NMFS (2008). Intake hoses will be regularly monitored while pumping to minimize adverse effects to Atlantic salmon.
<input type="checkbox"/>	<b>AMM 31:</b> Temporary causeways in stream channels will be constructed of non-erodible material, i.e., plain riprap or large riprap (per MaineDOT standard specifications) over geotextile fabric and will extend only to within 25 percent of the BFW of the stream or river.
<input type="checkbox"/>	<b>AMM 32:</b> The Proponents will employ the following procedure when completing grout bag repairs. <ol style="list-style-type: none"> <li>1. Apply the grout slurry at a rate of two cubic yards per hour to reduce the likelihood of elevated pH values downstream.</li> <li>2. Turbidity curtains will be used when practicable (in flows less than one foot per second) to separate high pH water from the rest of the river.</li> <li>3. An anti-washout admixture (AWA) will be mixed with the grout prior to application.</li> <li>4. Grout will be piped into or behind grout bags.</li> </ol>

# Project Notification Form Version 4 (9-24-18)

## Maine Atlantic Salmon Programmatic Consultation for Transportation Projects Gulf of Maine Distinct Population Segment of Atlantic salmon, U.S. Fish and Wildlife Service Jurisdiction

<input type="checkbox"/>	<b>AMM 33:</b> As per Standard Specification 656.3.6 (e), the contractor will not place uncured concrete directly into a water body. The contractor shall not wash tools, forms, or other items in or adjacent to a water body or wetland.
<input type="checkbox"/>	<b>AMM 34:</b> Prior to release to a natural resource, any impounded water that has been in contact with concrete placed during construction must have a pH between 6.0 and 8.5, must be within one pH unit of the background pH level of the resource and must have a turbidity level no greater than the receiving resource. This requirement is applicable to concrete that is placed or spilled (including leakage from forms) as well as indirect contact via tools or equipment. Disposal or treatment of water not meeting release criteria shall be addressed in the SEWPCP. Discharging impounded water to the stream must take place in a manner that does not disturb the stream bottom or cause erosion. The Contractor shall be responsible for monitoring pH with a calibrated meter accurate to 0.1 units. A record of pH measurements shall be kept in the Environmental Field Representative's log. Concrete being placed as a seal in a cofferdam for bridge pier construction is considered "impounded water".
<input type="checkbox"/>	<b>AMM 35:</b> Demolition and debris removal and disposal will comply with Section 202.03 of the MaineDOT's Standard Specifications. The Contractor will contain all demolition debris, including debris from wearing surface removal, saw cut slurry, dust, etc., and will not allow it to discharge to any resource. The Contractor will dispose of debris in accordance with the Maine Solid Waste Law (Title 38 M.R.S.A., Section 1301 et. seq.). The demolition plan, containment, and disposal of demolition debris will be addressed in the Contractor's SEWPCP.
<input type="checkbox"/>	<b>AMM 36:</b> Round pile size is limited to less than 30 inches in diameter. H-pile size is limited to less than 14 inches.
<input checked="" type="checkbox"/>	<b>AMM 37:</b> A vibratory hammer will be used as much as possible for all pile driving activities.
<input checked="" type="checkbox"/>	<b>AMM 38:</b> Pile driving will occur during the day when fish are less active and Atlantic salmon migrations are minimized.
<input type="checkbox"/>	<b>AMM 39:</b> Hydroacoustic monitoring will be completed for all impact pile driving using the monitoring template developed by the Fisheries Hydroacoustic Working Group and following the methods described in the Technical Guidance (Caltrans 2015).
<input type="checkbox"/>	<b>AMM 40:</b> A bubble curtain meeting the design criteria, as defined in the User's Guide, will be employed during all impact pile driving events. The bubble curtain design will mimic specifications for devices tested and employed for previous pile driving events.
<input type="checkbox"/>	<b>AMM 41:</b> In-water blasting is not allowed when Atlantic salmon could be present.
<input checked="" type="checkbox"/>	<b>AMM 42:</b> Permanent riprap placed in a stream below the bankfull elevation will be covered by CSM.
<input checked="" type="checkbox"/>	<b>AMM 43:</b> Any riprap that is placed in a stream that is not within a cofferdam will be cleaned prior to placement.
<input type="checkbox"/>	<b>AMM 44:</b> Cable mats used for scour protection will be backfilled with a gravel-like material between the voids. Any larger stones or streambed material excavated for the placement of the mats will then be distributed on top of the countermeasures.
<input type="checkbox"/>	<b>AMM 45:</b> The Proponents will not adversely affect Atlantic salmon adults sheltering in holding pools.
<input type="checkbox"/>	<b>AMM 46:</b> In Atlantic salmon rearing habitat, bridge replacements with piers and abutments will not result in a net increase of structure footprint. Piers and abutments will not be placed in Atlantic salmon spawning habitat.
<input type="checkbox"/>	<b>AMM 47:</b> All invert line and slipline projects will have fish passage measures included in the design. Fish passage measures include weirs inside and outside of the crossing structures to ensure that water depths and velocities allow for fish passage at a range of flows.
<input type="checkbox"/>	<b>AMM 48:</b> Invert line and slipline rehabilitation activities will not occur in Tier 1 priority areas.
<input type="checkbox"/>	<b>AMM 49:</b> Abutment demolitions with a hoe ram will occur inside of a dewatered cofferdam or outside of the water.
<input type="checkbox"/>	<b>AMM 50:</b> If piles are removed by cutting, they must be cut to one foot below the substrate level.
<input checked="" type="checkbox"/>	<b>AMM 51:</b> If a pile is pulled from the substrate, the work will be completed using a BMP specifically for minimizing turbidity, such as a turbidity curtain.
<input type="checkbox"/>	<b>AMM 52:</b> To minimize potential effects to fish passage with a culvert extension and stream realignment, design will ensure that: 1. The width of the relocated channel will match that of the pre-existing width; 2. Channel depths will match that of the pre-existing stream section; 3. CSM will be placed along the bottom of the reconstructed stream channel to re-establish stream substrate; and 4. Riprap placement in the stream will be minimized to that necessary for erosion/scour prevention and embedded and covered with natural substrate material.

\*AMM 53 and 54 do not exist\*

Maine Atlantic Salmon Programmatic Consultation for Transportation Projects  
Gulf of Maine Distinct Population Segment of Atlantic salmon, U.S. Fish and Wildlife Service Jurisdiction

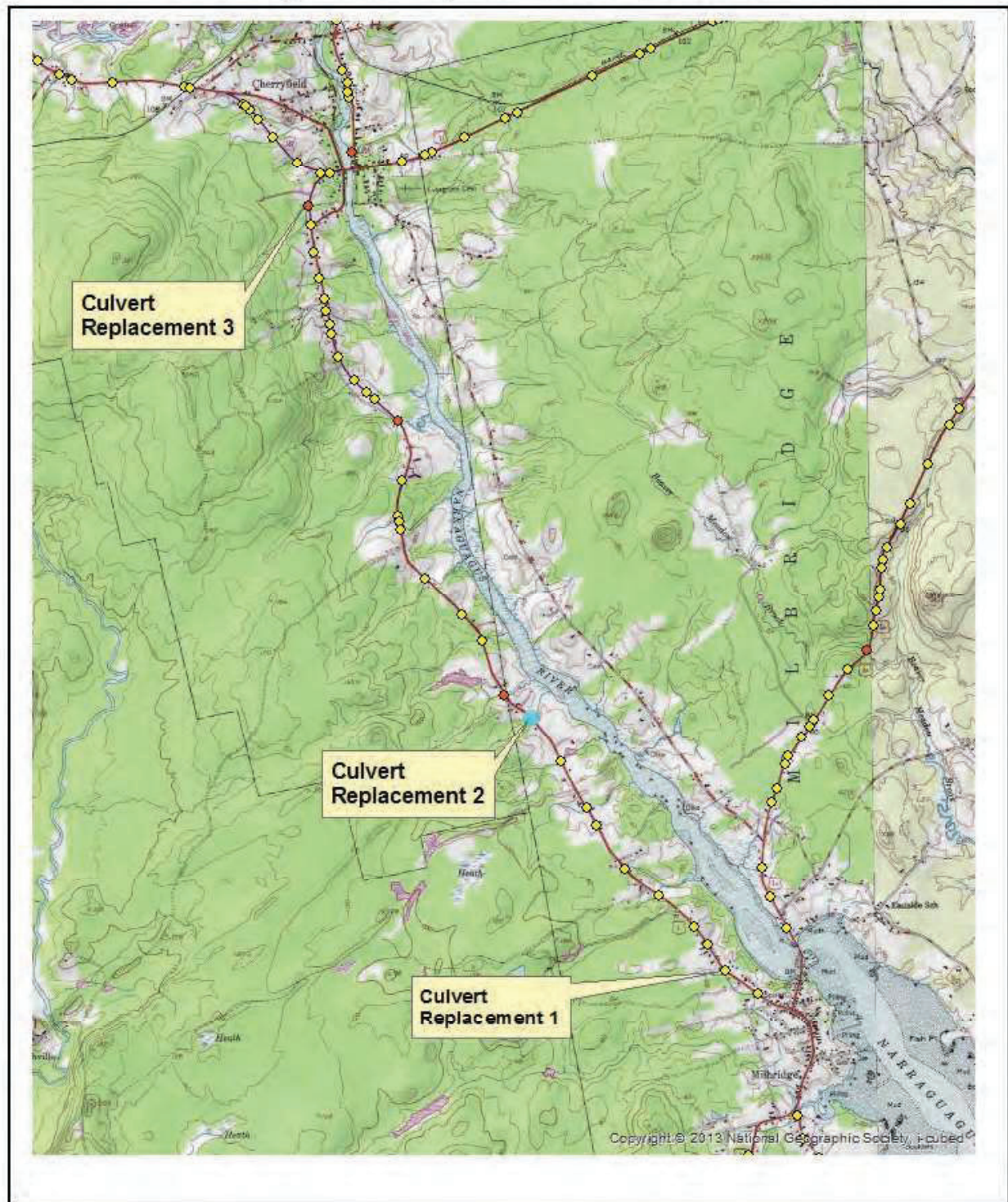
<input type="checkbox"/>	<b>AMM 55:</b> Cofferdams that span the entire channel will not be used for bridge scour countermeasure projects.
<input type="checkbox"/>	<b>AMM 56:</b> Compensatory mitigation, through the ILF program or another mitigation approach that is part of the program, will be provided for all culvert end extensions occurring in Tier 1 and Tier 2 areas.
<input type="checkbox"/>	<b>AMM 57:</b> The Proponents are limiting culvert extensions under this programmatic to a total of eight feet.
<input type="checkbox"/>	<b>AMM 58:</b> Compensatory mitigation, through the ILF program or another mitigation approach that is part of the program, will be provided for all bridge scour countermeasures occurring in Tier 1 and Tier 2 areas.
<input type="checkbox"/>	<b>AMM 59:</b> Compensatory mitigation, through the ILF program or another mitigation approach that is part of the program, will be provided for all stream crossing replacements in Tier 2 areas that are greater than 1.0 times the BFW but less than 1.2 times the BFW.
<input type="checkbox"/>	<b>AMM 60:</b> Compensatory mitigation, through the ILF program or another mitigation approach that is part of the program, will be provided for all invert line and slipline projects in Tier 2 areas.
<input type="checkbox"/>	<b>AMM 61:</b> Bridge scour countermeasures will incorporate the following measures into project design: <ol style="list-style-type: none"> <li>1. Cable mats will be installed to match the existing channel contours;</li> <li>2. A low flow channel will be added to allow adequate water depths (approximately 6 inches) during low flow periods; and</li> <li>3. Stream bed material and large rocks (greater than one</li> </ol>

**Additional information**

Photos are in the Habitat Connectivity Design (HCD) memo found at the end. Location maps are found below and in the HCD Memo. The MDMR email is below.



## Project Location - Culvert Replacements Milbridge-Cherryfield, Rt. 1, WIN 20405



Location map -- 118+18 is Culvert 1, 200+63 is Culvert 2 and 352+04 is culvert 3



## Appendix B. Verification Form

Federal Highway Administration (FHWA) or the applicable state Department of Transportation (state DOT) will email a signed version of this completed form, together with any project plans, maps, supporting analyses, etc., to NOAA's National Marine Fisheries Service (NMFS), Greater Atlantic Regional Fisheries Office, Habitat Conservation Division (GARFO HCD) at NMFS.GAR.EFH.Consultation@noaa.gov, upon obtaining sufficient information. FHWA/state DOT must receive a response from GARFO HCD or wait at least 30 calendar days to proceed under the programmatic EFH consultation. FHWA will compile the information from the completed Verification Forms for the purposes of tracking and annual monitoring. FHWA/state DOT must include the completed Verification Form as part of a permit application with any other federal agency, such as U.S. Army Corps of Engineers or U.S. Coast Guard, to confirm that EFH consultation is complete.

### Project Activity Type

1. ☐ Bridge repair, demolition, and replacement
2. ☒ Culvert repair and replacement
3. ☐ Docks, piers, and waterway access projects
4. ☐ Slope stabilization

### Transportation Project Information

Project Name:	Milbridge-Cherryfield Route 1	Project Number:	WIN 20405.00
Project Sponsor:	MaineDOT	Contact Person:	Richard Bostwick
Email:	richard.bostwick@maine.gov	Phone:	207-592-3904
Latitude (e.g., 42.625884):			
Longitude (e.g., -70.646114):			
City/Town, State:	Milbridge-Cherryfield, Maine -67.929044°	Waterway:	Freshwater Tributaries to the Narraguagus
Project Description and Purpose:	MaineDOT is proposing to replace three stream bearing cross culverts along a highway improvement project on Route 1 beginning in Milbridge, approximately 0.06 miles northerly of the intersection of Spruce Street and extending northerly 4.81 miles to the intersection of Route 182 in Cherryfield. The culverts to be replaced are located at Sta. 118+18 (44.541204° -67.990104°) Sta. 200+62 (44.550162° -67.907720°) and		
Anticipated Project Start Date:	7/15/22	Anticipated Project End Date:	9/30/22
Total area of impact to EFH (in acres): Include locus map with area of impact.	0.05		
Area of impacts to sensitive habitats (in square feet):	No impacts to submerged aquatic vegetation (SAV) or oyster reefs allowed.		
Natural rocky habitat (e.g., bedrock, boulders, cobble, and/or gravel):	0		
Salt marsh:	0		
Areas containing shellfish (excluding oyster reefs):	0		
Intertidal mudflats:	0		
Area of impact to diadromous fish habitat:	0		

**Potential Stressors Caused by the Activity (Check all that apply based on activity type)**

- ☐ Underwater Noise
- ☒ Impingement/Entrainment and Entanglement
- ☒ Water Quality/Turbidity
- ☒ Habitat Alteration
- ☐ Vessel Traffic

**EFH Conservation Recommendation Checklist**

FHWA/state DOT will indicate how the project addresses each of the programmatic EFH conservation recommendations, by selecting the appropriate check box and providing a brief explanation where necessary. If the project is not in compliance with a particular programmatic EFH conservation recommendation and FHWA/state DOT has still determined that the effects of a project on EFH are not substantial and the project is otherwise consistent with the FHWA programmatic EFH consultation, provide justification below under the conservation recommendations that is not included.

Underwater Noise

- ☒ Check here if the EFH conservation recommendations in this section are not applicable because the project will not create underwater noise as a stressor. Proceed to the next stressor.

1. Use a soft start each day of pile driving, after a break of 30 minutes or more, and if any increase in pile installation or removal intensity is required. Build up power slowly from a low energy start-up over a 20-minute period to warn fish to leave the vicinity. This buildup shall occur in uniform stages to provide a constant increase in output.

☐ Not met:

- ☐ Not applicable, provide reasoning:
- ☐ Project is unable to accommodate, provide justification:

☐ Met:

- ☐ Shown on project plans
- ☐ Included in description, other terms and conditions

2. Noise-generating work conducted in diadromous streams within the spring diadromous fish TOY restriction listed in Appendix D must be isolated behind sealed, dewatered cofferdams, to avoid impeding fish migration.

☐ Not met:

- ☐ Not applicable, provide reasoning:
- ☐ Project is unable to accommodate, provide justification:

☐ Met:

- ☐ Shown on project plans
- ☐ Included in description, other terms and conditions

### Impingement/Entrainment and Entanglement

☐ Check here if the EFH conservation recommendations in this section are not applicable because the project will not lead to impingement/entrainment and entanglement as a stressor. Proceed to the next stressor.

3. Turbidity control measures must be properly secured and monitored to ensure aquatic species are not entangled or trapped in the project area.

☐ Not met:

☐ Not applicable, provide reasoning:

☐ Project is unable to accommodate, provide justification:

☒ Met:

☐ Shown on project plans

☒ Included in description, other terms and conditions

4. Temporary intakes related to construction must be equipped with mesh size screening and approach velocity appropriate for the species and life stage anticipated. Per the NMFS Anadromous Salmonid Passage Facility Design manual, screen openings must not exceed 3/32 inch and screen approach velocity must be less than .25 feet per second (ft/sec).

- In New York, New Jersey, Delaware, Maryland, and Pennsylvania, 2 millimeter (mm) wedge wire screens must be used with a maximum intake velocity of 0.5 feet per second (ft/sec).

- In Virginia, a 1 mm wedge wire with a maximum intake velocity of 0.25 ft/sec).

☐ Not met:

☐ Not applicable, provide reasoning:

☐ Project is unable to accommodate, provide justification:

☒ Met:

☐ Shown on project plans

☒ Included in description, other terms and conditions

5. No new permanent surface water withdrawal, water intakes, or water diversions.

☐ Not met:

☐ Not applicable, provide reasoning:

☐ Project is unable to accommodate, provide justification:

☒ Met:

☐ Shown on project plans

☒ Included in description, other terms and conditions

### Water Quality/Turbidity

☐ Check here if the EFH conservation recommendations in this section are not applicable because the project will not negatively affect water quality or create turbidity. Proceed to the next stressor.

6. Install soil erosion, sediment, and turbidity controls and maintain them in effective operating condition during construction. Remove controls upon completion of work, after all exposed soil and other fills, as well as any work waterward of ordinary high water or the high tide line, are permanently stabilized.
- ☐ Not met:
- ☐ Not applicable, provide reasoning:
  - ☐ Project is unable to accommodate, provide justification:
- ☒ Met:
- ☐ Shown on project plans
  - ☒ Included in description, other terms and conditions
7. Install and remove any in-water soil erosion, sediment, and turbidity controls outside the TOY restrictions in Appendix D.
- ☐ Not met:
- ☐ Not applicable, provide reasoning:
  - ☐ Project is unable to accommodate, provide justification:
- ☒ Met:
- ☐ Shown on project plans
  - ☒ Included in description, other terms and conditions
8. Work that produces greater than minimal turbidity or sedimentation in diadromous streams or EFH must not be done during the TOY restriction(s) in Appendix D.
- ☐ Not met:
- ☐ Not applicable, provide reasoning:
  - ☐ Project is unable to accommodate, provide justification:
- ☒ Met:
- ☐ Shown on project plans
  - ☒ Included in description, other terms and conditions
9. Prevent construction debris and sediment from entering aquatic areas and remove all construction debris and excess/deteriorated materials and dispose of in an upland area.
- ☐ Not met:
- ☐ Not applicable, provide reasoning:
  - ☐ Project is unable to accommodate, provide justification:
- ☒ Met:
- ☐ Shown on project plans
  - ☒ Included in description, other terms and conditions

10. Dredged and/or excavated materials, including any fine-grained materials removed from inside culverts, shall either be moved to an upland location and stabilized to prevent reentry into the waterway or disposed of at a previously approved disposal site.

☐ Not met:

☐ Not applicable, provide reasoning:

☐ Project is unable to accommodate, provide justification:

☒ Met:

☐ Shown on project plans

☒ Included in description, other terms and conditions

11. Completely remove and do not reuse existing creosote piles that are affected by project activities and do not install new creosote piles.

☒ Not met:

☒ Not applicable, provide reasoning: not using creosote piles

☐ Project is unable to accommodate, provide justification:

☐ Met:

☐ Shown on project plans

☐ Included in description, other terms and conditions

12. Coat any chemically or pressure treated piles (CCA, ACQ, etc.) with an impact-resistant, biologically inert substance. Coat the piles at the point of manufacture, not on site.

☐ Not met:

☒ Not applicable, provide reasoning: not using wooden piles

☐ Project is unable to accommodate, provide justification:

☐ Met:

☐ Shown on project plans

☐ Included in description, other terms and conditions

13. Derelict, degraded, or abandoned piles, except for those inside of existing work footprints for piers, must be completely removed or cut and driven three feet below the surface.

☒ Not met:

☒ Not applicable, provide reasoning: not removing any existing piles

☐ Project is unable to accommodate, provide justification:

☐ Met:

☐ Shown on project plans

☐ Included in description, other terms and conditions

14. Ensure that raw concrete does not contact the water; wet pours of concrete must be confined within sealed forms until the concrete is set or pre-cast members installed.

☒ Not met:

- ☒ Not applicable, provide reasoning: not using uncured concrete,
- ☐ Project is unable to accommodate, provide justification:

☐ Met:

- ☐ Shown on project plans
- ☐ Included in description, other terms and conditions

#### Habitat Alteration

☐ Check here if the EFH conservation recommendations in this section are not applicable because the project will not cause habitat alteration. Proceed to the next stressor.

15. Remove temporary and/or obsolete structures and fills in their entirety. Use geotextile barriers prior to placement of temporary fill material to ensure complete removal.

☐ Not met:

- ☐ Not applicable, provide reasoning:
- ☐ Project is unable to accommodate, provide justification:

☒ Met:

- ☐ Shown on project plans
- ☒ Included in description, other terms and conditions

16. Install a riprap bedding layer (such as a gravel filter blanket or geotextile) prior to riprap placement to prevent underlying soils from washing through the riprap during high water.

☐ Not met:

- ☐ Not applicable, provide reasoning:
- ☐ Project is unable to accommodate, provide justification:

☒ Met:

- ☐ Shown on project plans
- ☒ Included in description, other terms and conditions

17. Return areas impacted by temporary activities, fills, or structures to pre-construction or better condition, including elevations and substrate, and replant with native species.

☐ Not met:

- ☐ Not applicable, provide reasoning:
- ☐ Project is unable to accommodate, provide justification:

☒ Met:

- ☐ Shown on project plans
- ☒ Included in description, other terms and conditions

18. Temporary monitoring devices shall be removed and the substrate restored to preconstruction elevations no later than 24 months from initial installation, or upon completion of data acquisition.

☒ Not met:

- ☒ Not applicable, provide reasoning: not using in-water temporary monitoring devices
- ☐ Project is unable to accommodate, provide justification:

☐ Met:

- ☐ Shown on project plans
- ☐ Included in description, other terms and conditions

19. Pipelines and cables that cross a waterway must not rest on the substrate. They may be attached to an overwater structure or be buried to allow an area to return to preexisting conditions.

☒ Not met:

- ☒ Not applicable, provide reasoning: not installing pipelines or cables
- ☐ Project is unable to accommodate, provide justification:

☐ Met:

- ☐ Shown on project plans
- ☐ Included in description, other terms and conditions

20. Any fill, including planting media and placement of any seed shellfish, spatted-shell, or cultch must be free of all non-native or invasive species and/or contaminants. An invasive species control plan must be part of the project if the transportation agency cannot guarantee this.

☐ Not met:

- ☐ Not applicable, provide reasoning:
- ☐ Project is unable to accommodate, provide justification:

☒ Met:

- ☐ Shown on project plans
- ☒ Included in description, other terms and conditions

21. Prevent dislodging of coir logs, mats, or native oyster shell.

☒ Not met:

- ☒ Not applicable, provide reasoning: none of these items are present
- ☐ Project is unable to accommodate, provide justification:

☐ Met:

- ☐ Shown on project plans
- ☐ Included in description, other terms and conditions

22. Incorporate measures to increase the ambient light transmission under overwater structures.

☒ Not met:

- ☒ Not applicable, provide reasoning: Not expected to be significant. While undetermined and unquantifiable, light levels will have some change due to





- ☐ Project is unable to accommodate, provide justification:
- ☐ Met:
- ☐ Shown on project plans
  - ☐ Included in description, other terms and conditions
23. The lowermost part of floating docks must be  $\geq 18$  inches above the substrate at all times, to avoid grounding and propeller scour and to provide adequate circulation and flushing.
- ☒ Not met:
- ☒ Not applicable, provide reasoning: No floating docks are being installed
  - ☐ Project is unable to accommodate, provide justification:
- ☐ Met:
- ☐ Shown on project plans
  - ☐ Included in description, other terms and conditions
24. Conduct and submit pre-dredge benthic biological surveys to determine benthic communities present and conduct post-dredge surveys to ensure targeted depths have been reached and to determine benthic recovery.
- ☒ Not met:
- ☒ Not applicable, provide reasoning: Work involves replacing an existing culvert and end protection and no new habitat elements will be affected
  - ☐ Project is unable to accommodate, provide justification:
- ☐ Met:
- ☐ Shown on project plans
  - ☐ Included in description, other terms and conditions
25. Grain size of any sediment used as part of habitat restoration must be the same size or larger than the native material at the site.
- ☐ Not met:
- ☐ Not applicable, provide reasoning:
  - ☐ Project is unable to accommodate, provide justification:
- ☒ Met:
- ☐ Shown on project plans
  - ☒ Included in description, other terms and conditions
26. If rock relocation is necessary, move them to an area of equivalent depth and substrate.
- ☒ Not met:
- ☒ Not applicable, provide reasoning: no rock relocation is anticipated
  - ☐ Project is unable to accommodate, provide justification:
- ☒ Met:
- ☐ Shown on project plans

☒ Included in description, other terms and conditions

27. Incorporate natural habitats (e.g., living shorelines) and soft approaches (e.g., vegetative plantings and large woody debris) into the stabilization design in addition to or instead of hardened structures. See NOAA's Guidance for Considering the Use of Living Shorelines for more information.

☒ Not met:

☒ Not applicable, provide reasoning:

☐ Project is unable to accommodate, provide justification:

☐ Met:

☐ Shown on project plans

☒ Included in description, other terms and conditions

*Sensitive Habitats (SAS, natural rocky habitats, intertidal areas, and areas containing shellfish)*

28. Locate all temporary structures, construction, access, and dewatering activities outside of sensitive habitats.

☐ Not met:

☐ Not applicable, provide reasoning:

☐ Project is unable to accommodate, provide justification:

☒ Met:

☐ Shown on project plans

☒ Included in description, other terms and conditions

29. Prior to construction, identify and mark in the field any SAV at the project site. An SAV survey is required for activities adjacent to mapped or known SAV if a survey has not been conducted in three years.

☒ Not met:

☒ Not applicable, provide reasoning: No SAV on site

☐ Project is unable to accommodate, provide justification:

☐ Met:

☐ Shown on project plans

☐ Included in description, other terms and conditions

30. Provide compensatory mitigation for all permanent and temporary impacts to sensitive habitats. This could include a contribution to an existing in-lieu fee program. When impacts are unavoidable:

- conduct a biological survey to map the coverage of the sensitive habitats;
- develop a compensatory mitigation plan for biological resource losses, including success criteria, monitoring plan, and long-term maintenance plan;

- submit the results of the biological survey and the mitigation plan to GARFO HCD for review; and
- undertake compensatory mitigation prior to or concurrent with any impacts to sensitive habitat.

☒ Not met:

- ☒ Not applicable, provide reasoning: no new sensitive habitats will be affected
- ☐ Project is unable to accommodate, provide justification:

☐ Met:

- ☐ Shown on project plans
- ☐ Included in description, other terms and conditions

31. Where construction requires heavy equipment operation in or across wetlands or mudflats, the equipment shall have low ground pressure (typically  $\leq 3$  pounds per square inch); be placed on construction timber mats that are adequate to support the equipment; or be operated on dry or frozen wetlands such that shear pressure does not cause subsidence of the wetlands immediately beneath equipment and upheaval of adjacent wetlands. Construction mats must not be dragged into position.

☐ Not met:

- ☐ Not applicable, provide reasoning:
- ☐ Project is unable to accommodate, provide justification:

☒ Met:

- ☐ Shown on project plans
- ☒ Included in description, other terms and conditions

32. Habitat restoration or mitigation projects must not result in a permanent conversion or loss of sensitive habitats.

☒ Not met:

- ☒ Not applicable, provide reasoning: this is not a habitat restoration or mitigation project
- ☐ Project is unable to accommodate, provide justification:

☐ Met:

- ☐ Shown on project plans
- ☐ Included in description, other terms and conditions

33. No dredging shall occur within:

- intertidal areas;
- 100 feet of SAV; or
- 25 feet of SAS, natural rocky habitats, or areas containing shellfish.

☐ Not met:

- ☐ Not applicable, provide reasoning:
- ☐ Project is unable to accommodate, provide justification:

☒ Met:

- ☐ Shown on project plans
- ☒ Included in description, other terms and conditions

34. The height of docks and piers must be at least four feet above salt marsh substrate and must be greater than or equal to the width of the deck, to minimize shading impacts. The height must be measured from the marsh substrate to the bottom of the longitudinal support beam.

☒ Not met:

- ☒ Not applicable, provide reasoning: Scope of project is culvert replacement and does not involve
- ☐ Project is unable to accommodate, provide justification:



☐ Met:

- ☐ Shown on project plans
- ☐ Included in description, other terms and conditions

35. Outlets must not discharge directly into sensitive habitats.

☐ Not met:

- ☐ Not applicable, provide reasoning:
- ☐ Project is unable to accommodate, provide justification:

☒ Met:

- ☐ Shown on project plans
- ☒ Included in description, other terms and conditions

### *Fish Passage/Migration Habitat*

36. Design replacement crossings to provide diadromous and resident fish and aquatic organism passage. Structures must:

- provide sufficient water depth and maintain suitable water velocities during migration periods; and
- maintain or replicate natural stream channel and flow conditions.

☐ Not met:

- ☐ Not applicable, provide reasoning:
- ☐ Project is unable to accommodate, provide justification:

☒ Met:

- ☒ Shown on project plans
- ☐ Included in description, other terms and conditions

37. Incorporate climate change projections into the project design. Use the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways (RCP) 8.5/high greenhouse gas emission scenario and RCP 4.5/intermediate greenhouse gas emission scenario (IPCC 2014) and the global mean and regional sea level rise projections for

intermediate-high and extreme scenarios referenced in Sweet *et al.* (2017) in design calculations for replacement structures.

☐ Not met:

☐ Not applicable, provide reasoning:

☐ Project is unable to accommodate, provide justification:

☒ Met:

☐ Shown on project plans

☒ Included in description, other terms and conditions

38. Replaced or upgraded crossings must be “in kind” or go up in order of preference set out in NMFS’ Anadromous Salmonid Passage Facility Design:

- Road abandonment and reclamation or road realignment to avoid crossing the stream.
- Bridge or stream simulation spanning the stream flood plain, providing long-term dynamic channel stability, retention of existing spawning areas, maintenance of benthic invertebrate production, and minimized risk of failure. If a stream crossing is proposed in a segment of stream channel that includes a salmonid spawning area, only full-span stream simulation designs are acceptable.
- Embedded pipe culvert, bottomless arch designs or non-floodplain spanning stream simulation.
- Hydraulic design method, associated with more traditional culvert design approaches- limited to low stream gradients (0 to 1%) or for retrofits.
- Culvert designed with an external fishway (including roughened channels) for steeper slopes.
- Baffled culvert or internal weirs- to be used only for when other alternatives are infeasible.

☐ Not met:

☐ Not applicable, provide reasoning:

☐ Project is unable to accommodate, provide justification:

☒ Met:

☐ Shown on project plans

☒ Included in description, other terms and conditions

39. For activities that require soil erosion, sediment, and turbidity controls

- in non-tidal streams containing diadromous fish:
  - i. They must not encroach >25% of the stream width measured from ordinary high water during the diadromous TOY restriction; and
  - ii. They must maintain safe, timely, and effective downstream fish passage throughout the project.
- in tidal waters:
  - i. They must not encroach >50% of a tidal stream’s width as measured from mean high water.

- ☐ Not met:
  - ☐ Not applicable, provide reasoning:
  - ☐ Project is unable to accommodate, provide justification:
- ☒ Met:
  - ☐ Shown on project plans
  - ☒ Included in description, other terms and conditions

### Vessel Traffic

- ☒ Check here if the EFH conservation recommendations in this section are not applicable because the project will not use vessels.

40. Project vessels shall be operated in adequate water depths to avoid propeller scour and grounding at all tides. Shallow draft vessels will be used in shallow areas to maximize the navigational clearance between the vessel and the bottom substrate. Spuds may be used to elevate the vessel.

- ☐ Not met:
  - ☐ Not applicable, provide reasoning:
  - ☐ Project is unable to accommodate, provide justification:
- ☐ Met:
  - ☐ Shown on project plans
  - ☐ Included in description, other terms and conditions

41. Project vessels shall not be moored in or use spuds in SAV or be located in such a way that the vessel could shade SAV.

- ☐ Not met:
  - ☐ Not applicable, provide reasoning:
  - ☐ Project is unable to accommodate, provide justification:
- ☐ Met:
  - ☐ Shown on project plans
  - ☐ Included in description, other terms and conditions

### **NEW CLAUSE**

#### **Other Justification for Use of the Programmatic EFH Consultation**

If the project is outside of the covered activities in the programmatic EFH consultation (i.e., is one of the actions described in the Excluded Activities list noted below) and FHWA/state DOT believes the effects are not any more significant and that the project should be eligible for programmatic EFH consultation, provide additional justification in the space below. FHWA/state DOT must provide appropriate rationale and GARFO HCD must review and approve it. The automatic concurrence period does not apply for transportation activities in this section that fall outside of the programmatic EFH consultation as described.

- ☒ The project is not listed as an excluded activity.

☐ The project is listed as an excluded activity.

Indicate the activity number from the list below (1 through 21):

Provide additional justification on why the activity should be eligible:

Activities that Require Individual Consultation

1. Any work (including anchoring) that results in impacts to:
  - existing or historically mapped submerged aquatic vegetation (SAV) beds or areas within 100 feet of existing or historically mapped SAV beds;
  - $\geq 1,000$  square feet of salt marsh, areas containing shellfish, and intertidal areas;
  - $\geq 100$  square feet of natural rocky habitat (e.g., bedrock, boulders, cobble, and/or gravel);
2. Stream channelization.
3. Any temporary structures, construction access, and dewatering activities proposed to be in place for  $\geq$  two years.
4. Slip-lining or invert lining existing culverts.
5. Any permanent structures longer than 150 linear feet over salt marsh.
6. Construction of new or expansion of existing boating facilities<sup>17</sup> or ferry terminals.
7. Independent pedestrian trails or bridges located directly adjacent to an existing crossing.
8. New or improvement dredging.
9. Any nearshore disposal or beach nourishment activities.
10. New fill/stabilization placed below mean low water in excess of 200 linear feet (lf).
11. Replacement or maintenance of:
  - sloped stabilization structures  $> 200$  lf and waterward of the existing toe, or
  - vertical structures  $> 18$  inches waterward of the existing face and  $> 200$  lf.
12. In-water utility lines  $\geq 100$  lf installed by trench excavation, or  $\geq 200$  lf installed by jetplow, fluidization or other direct burial methods.
13. Thin layer deposition as a part of wetland restoration.
14. Placement of any seed shellfish, spatting-shell, or cultch in SAS.
15. Any exploratory trenching or other similar survey activities.
16. Airgun seismic activities.
17. Any new permanent surface water withdrawal, water intakes, or water diversions.
18. Any blasting or use of explosives that affects EFH or diadromous species habitats.
19. Construction of new bridges or culverts, where no crossing existed previously.
20. Any new or replacement causeways (raised roadways across waters or wetlands).
21. Any in-water work on dams, tide gates, or breakwaters.



### **FHWA's Determination of Effects to Essential Fish Habitat and Signature**

After reviewing the programmatic EFH conservation recommendations in Appendix A, FHWA/state DOT will select the appropriate determination:

- ☒ The activity is in compliance with all programmatic EFH conservation recommendations in the FHWA programmatic EFH consultation and adverse effects to EFH will not be substantial.
- ☐ The activity is not in compliance with all of the programmatic EFH conservation recommendations in the FHWA programmatic EFH consultation, however, the justification below demonstrates that the adverse effects to EFH are not substantial. This does not apply to EFH conservation recommendations that are not applicable to the project.

Use the electronic fillable fields to include the name and signature of the FHWA/state DOT preparing this Verification Form, along with the date.

Richard Bostwick

FHWA/state DOT Name

*Richard D Bostwick*

Signature

1/6/19

Date

By providing your determination and signature, you are certifying that to the best of your knowledge the information provided in this form is accurate and based upon the best available scientific information. This form must be filled out and signed by FHWA or state DOT staff, as an officially designated non-federal representative. Do not lock the form when saving, as HCD will be unable to sign and finalize. Email this Verification Form as a fillable PDF to [NMFS.GAR.EFH.Consultation@noaa.gov](mailto:NMFS.GAR.EFH.Consultation@noaa.gov).

### **GARFO HCD Determination and Signature (To be filled out by NMFS)**

After receiving the Verification Form, GARFO HCD will contact FHWA/state DOT with any concerns. HCD will email the completed form back to the FHWA/state DOT for record keeping.

- ☒ GARFO HCD concurs with FHWA's determination that the proposed project is consistent with the programmatic EFH consultation (without the need for justification).
- ☐ GARFO HCD concurs with FHWA's determination that the proposed project is consistent with the programmatic EFH consultation, with justification described above.
- ☐ GARFO HCD does not concur with FHWA's determination that the project is consistent with the programmatic EFH consultation. FHWA/state DOT must conduct additional coordination with GARFO HCD and a separate individual EFH consultation may be required.

Michael Johnson

GARFO HCD Name

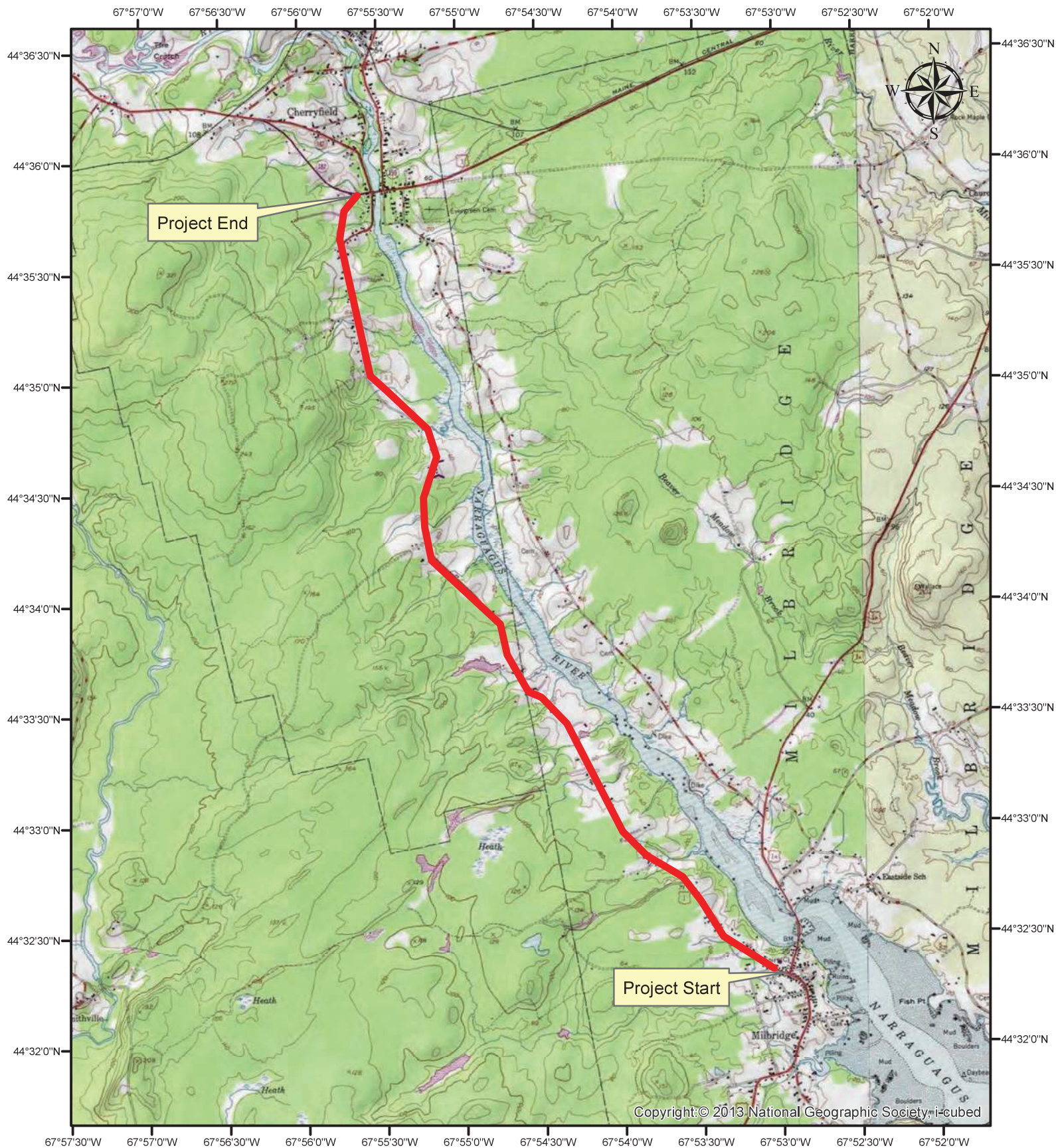
*Michael Johnson*

Signature

4/4/19

Date

# Project Location Map



Route 1 Reconstruction / Rehailitation  
MaineDOT WIN# 20405.00  
Milbridge - Cherryfield, ME (Washington County)

Coordinates  
Start: N 44.54002, W -67.886772  
End: N 44.597676, W -67.926539

0 0.85 1.7 Miles



## Project Plans - Index

Route 1, Milbridge-Cherryfield, ME  
NAE-2023-01043

Civil Plan Set, dated 3/1/2023	
Sheet #	Title
1	Title Sheet
2-5	Typical Sections
8-9	Drainage Summary
10	General Notes
14-15	Special Details – 72" RCP Class III
16-17	Special Details – 48" RCP Class III
18-19	Special Details – 96" RCP Class IV
20-21	Special Details – Concrete Box
64-103	Plan & Profiles
114-282	Cross Sections

Wetland Impact Plans, dated 5/17/2023	
Sheet #	STA(s)
1	106-110
2	116-120
3	125-129
4	130-133
5	143-146
6	151-153
7	159-162
8	165-169
9	172-175
10	179-182
11	186-190
12	192-196
13	199-202
14	208-211
15	216-219
16	224-226
17	232-235
18	246-248
19	260-265
20	270-274
21	274-278
22	289-293
23	297-301
24	304-308
25	312-314
26	318-321
27	324-327
28	333-336
29	339-341
30	344-347
31	350-353

## WASHINGTON COUNTY

**STP-2040(500)**

Boring  HB-XXX-##  
 Pavement Core  PC-#  
 Probe  P-#-#X  
 #, # = Depth  
 X = W (Weathered Rock)  
 R (Refusal)

**WASHINGTON COUNTY**

**ROUTE 1**

**STP-2040(500)**

**PROJECT LENGTH: 5.05 MILES**

**CHERRYFIELD TOWNSHIP**

**TRAFFIC DATA**

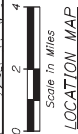
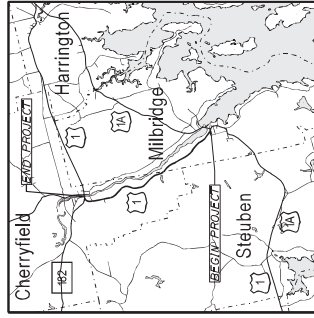
**Legend:**

- Buildings
- Conifer
- Deciduous
- Tree Line
- Clearing Limit Line
- Railroad
- Boring
- HB-XXX-###
- Pavement Core
- Test Pit
- Probe
- PC-#
- TP-XXX-###
- Probe
- ### = Depth
- X = W (Weathered Rock)
- R (Refusal)
- NK (No Refusal)

**Map Details:**

- Stationing: 210+00, 220+00, 230+00, 240+00, 250+00, 260+00, 270+00, 280+00, 290+00, 300+00, 310+00, 320+00, 330+00, 340+00, 350+00, 360+00
- Roads: CHERRYFIELD ROAD, WILSON HILL ROAD, BLACK HORN ROAD, ROUTE 92
- Project Features: BEGIN SHOULDER RECONSTRUCTION, END SHOULDER RECONSTRUCTION, BEGIN PAVEMENT MILL SHIM AND OVERLAY, END PAVEMENT MILL SHIM AND OVERLAY
- Limit of Work: STA. 356+75, STA. 366+97

<u>PROJECT LOCATION:</u>	The project is located on Route 1 in Milbridge and Cherryfield and begins 0.07 miles south of Spruce Street in Milbridge and extends northerly 5.05 miles to the intersection of Wilson Hill Road in Cherryfield
<u>PROGRAM AREA:</u>	Highway Program
<u>OUTLINE OF WORK:</u>	Highway rehabilitation with drainage and intersection improvements



BIWEEKLY UPDATE  
MARCH 1, 2023

**GORRILL  
PALMER**

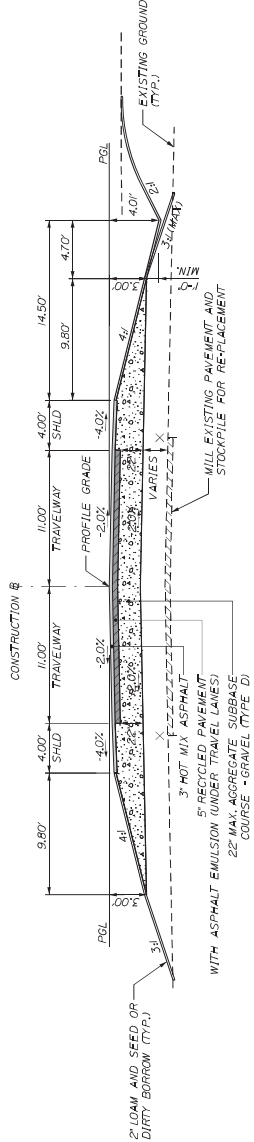
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## MILBRIDGE - CHERRYFIELD ROUTE 1 TYPICAL SECTIONS

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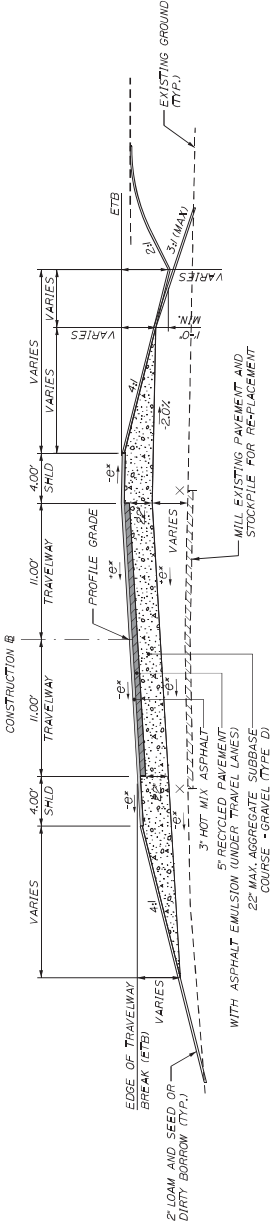
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	STP-2040(500)	WMN 20405.00 HIGHWAY PLANS
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ROUTE 1  
NORMAL CROWN  
FULL DEPTH RECONSTRUCTION

AGGREGATE SUBBASE COURSE GRAVEL		
LEFT SHOULDER 73.63 CY/100 LF	2 - 11 FT. TRAVEL LANES 149.38 CY/100 LF	RIGHT SHOULDER 73.63 CY/100 LF

STATION TO STATION
172-00 TO 174-00
246-00 TO 247-80



ROUTE 1  
SUPERELEVATED  
FULL DEPTH RECONSTRUCTION

AGGREGATE SUBBASE COURSE GRAVEL		
LEFT SHOULDER VARIES CY/100 LF	2 - 11 FT. TRAVEL LANES 149.38 CY/100 LF	RIGHT SHOULDER VARIES CY/100 LF

STATION TO STATION
141-50 TO 150-00
199-50 TO 201-50
209-00 TO 213-00
223-00 TO 226-50
247-80 TO 249-50









[illegible]

1. THE UTILITIES INVOLVED IN THIS CONTRACT ARE NOTED IN THE SPECIAL PROVISIONS, SEE, SPECIFICATIONS AND STANDARD SPECIFICATIONS.
2. ALL UTILITIES FOR ADDITIONAL INFORMATION.
3. ALL UTILITY FACILITIES SHALL BE ADJUSTED BY THE RESPECTIVE UTILITIES UNLESS OTHERWISE NOTED.
4. CLEARING LIMITS SHALL BE 10 FEET BEYOND AND PARALLEL TO THE CONSTRUCTION SLOPE LINES OR AS SHOWN ON THE PLANS UNLESS OTHERWISE AUTHORIZED BY THE RESIDENT.
5. THE CLEARING AND SELECTIVE CLEARING AND TRAINING LINES SHOWN ON THE PLANS ARE FOR ESTABLISHING PURPOSES ONLY. THE ACTUAL LINES FOR CLEARING AND TRAINING SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE RESIDENT.
6. STUMP REMOVAL HAS BEEN ESTIMATED UNDER STANDARD SPECIFICATIONS ITEM 204.04. REMOVE STUMP POWEREQUIPMENT DIRECTED BY THE RESIDENT. STANDARD SPECIFICATIONS ITEM 63.00, STUMP CHIPPER RENTAL (INCLUDING OPERATOR) MAY BE USED TO REMOVE STUMPS.
7. COMMON EXCAVATION CURBING SHALL BE CONSIDERED INCIDENTAL TO ITEM 203.20.
8. GRUBBING IN FILL AREAS HAVE BEEN SHOWN ON THE CROSS SECTIONS AND THE ESTIMATING PURPOSES ONLY. CURBING LIMITS MAY HAVE BEEN USED FOR THE GRUBBING LIMITS AS DIRECTED BY THE RESIDENT.
9. ALL INSLOPE AND DITCHES IN CUT AREAS SHALL BE GRADED AS SHOWN ON THE TYPICALS OR FLATTER, OR AS DIRECTED BY THE RESIDENT.
10. THE CONTRACTOR SHALL PLAN AND CONDUCT WORK SO THAT UPON COMPLETION OF THE PROJECT THERE IS NO DROPOFF FROM THE EDGE OF THE SHOULDER PAVEMENT.
11. DRIVEWAY FILL SIDE SLOPES SHALL BE THE SAME AS THE FILL SIDE SLOPES WITHOUT GUARDRAIL UNLESS OTHERWISE NOTED ON THE PLANS.
12. ALL WASTE MATERIAL NOT USED ON THE PROJECT SHALL BE DISPOSED OF OFF THE PROJECT SITE. ACCEPTABLE WASTE AREAS ARE GIVEN BY THE RESIDENT. GRADING, SEEDING AND MULCHING OF WASTE AREAS SHALL BE CONSIDERED INCIDENTAL.
13. REQUIRED DITCH PROTECTION SHOWN ON THE PLANS OR IN THE CONSTRUCTION NOTES IS TO BE CONSTRUCTED TO MAINTAIN ACTUAL TYPE AND LOCATION OF DITCH PROTECTION MAY BE ALTERED BY THE RESIDENT.
14. GRANULAR BORROW USED TO BACKFILL MOCK EXCAVATION OR IN LOW WET AREAS TO 1 FOOT ABOVE FINISHED GRADE SHALL BE UNDESIGNED BACKFILLS SPECIFIED IN STANDARD SPECIFICATIONS ITEM 703.09, GRANULAR BORROW.
15. EXISTING INSLOPES IN PROPOSED FILL AREAS SHALL BE DERIVED BY EXCAVATING STEPS WITH THE MATERIAL REMOVED TO MAINTAIN FILLING AND COMPACTING THE FILL MATERIAL ALONG WITH THE MATERIAL REMOVED.
16. EXISTING INSLOPES STEEPER THAN 2:1 IN PROPOSED FILL AREAS SHALL BE BENCHES AS DIRECTED BY THE RESIDENT.
17. RESIDENTIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH 2 INCHES OF HOT MIX ASPHALT AND 12 INCHES OF AGGREGATE SUBBASE COURSE GRAVEL.
18. COMMERCIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH 3 INCHES OF HOT MIX ASPHALT AND 11 INCHES OF AGGREGATE SUBBASE COURSE GRAVEL.
19. GRAVEL ENTRANCES SHALL BE CONSTRUCTED WITH 14 INCHES OF AGGREGATE SUBBASE UNLESS OTHERWISE NOTED. SURFACE COURSE UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.
20. CRUSHED STONE ENTRANCES SHALL BE CONSTRUCTED WITH 10 INCHES OF AGGREGATE SUBBASE COURSE GRAVEL AND 12 INCHES OF CRUSHED STONE SURFACE UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.
21. GRASS ENTRANCES SHALL BE CONSTRUCTED WITH 12 INCHES OF AGGREGATE SUBBASE COURSE GRAVEL AND 12 INCHES OF MULCH UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.
22. A 3 FOOT PAVED LIP SHALL BE PLACED AT ALL UNPAVED ENTRANCES UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.
23. ANY NECESSARY CLEANING OF EXISTING PAVEMENT PRIOR TO PAVING SHALL BE INCIDENTAL TO THE RELATED PAVING ITEMS.
24. PAVEMENT THICKNESSES SHOWN ON THE TYPICAL SECTIONS ARE INTENDED TO BE NOMINAL. CROSS SLOPES FOR NORMAL AND SUPERELEVATED SECTIONS WILL BE STRAIGHT UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
25. WHEN SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW-SIDE SHOULDER, THE LOW-SIDE SHOULDER WILL HAVE SAME SLOPE AS THE TRAVELWAY.
26. THE ALGEBRAIC DIFFERENCE BETWEEN TRAVELWAY AND SHOULDER CROSS SLOPE SHALL NOT EXCEED 1 PERCENT.

27. EXISTING CULVERTS AND CATCH BASINS WILL BE CLEANED AS DIRECTED BY THE RESIDENT UNDER THE APPROPRIATE PAY ITEMS.
28. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT.

29. INLETS AND OUTLETS OF ALL CULVERTS SHALL BE RIPRAPPED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.
30. THE CULVERT SIZES SHOWN ON THE PLANS AND CROSS SECTIONS ARE FOR SMOOTH-ENDED PIPES. INFORMATION ON COMPARABLE CORRUGATED SIZES IS NOT PROVIDED. IF CORRUGATED PIPES ARE PROPOSED, THE CONTRACTOR IS REQUIRED TO DETERMINE COMPARABLE PIPE SIZES.
31. FLAT TOPS FOR CATCH BASINS ARE NOT ALLOWED UNLESS NOTED ON THE PLANS OR AS DIRECTED BY THE RESIDENT.
32. PLASTIC END CAPS SHALL BE PLACED ON THE INLET END OF ALL DEAD-END 6 INCH TYPE B UNDERDRAIN AND SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.
33. ANY NECESSARY CUTTING OF PIPES TO FIT IN AREAS OF PROPOSED CATCH BASINS WILL NOT BE PAID FOR SEPARATELY, AND WILL BE CONSIDERED INCIDENTAL TO STANDARD SPECIFICATIONS SECTION 604, MANHOLES, INLETS AND CATCH BASINS.
34. ANY NECESSARY CUTTING OF EXISTING CATCH BASINS TO ALLOW FOR PROPOSED PIPE CONNECTIONS WILL BE PAID FOR SEPARATELY, AND WILL BE CONSIDERED INCIDENTAL TO STANDARD SPECIFICATIONS SECTION 603 PIPE CULVERTS AND STORM DRAINS OR STANDARD SPECIFICATIONS SECTION 605 UNDERDRAINS.
35. ALL UNDERDRAIN NOT SHOWN ON THE CROSS SECTIONS WILL HAVE A FLOW LINE OF 5.5 FEET BELOW FINISHED GRADE, DIRECTLY ABOVE THE UNDERDRAIN AND THE UNDERDRAIN SAND BACKFILL WILL BE PLACED TO AN ELEVATION EQUAL TO THE BOTTOM OF THE NEW GRAVEL LAYER. ALL UNDERDRAIN SHOWN ON THE CROSS SECTIONS WILL HAVE FLOW LINE SCALED FROM THE CROSS SECTIONS. ALL FLOW LINE ELEVATIONS ARE SUBJECT TO APPROVAL BY THE RESIDENT.
36. ALL CONNECTIONS FOR UNDERDRAIN TO ROADWAY CULVERTS WILL BE INCIDENTAL TO UNDERDRAIN PIPE ITEMS.
37. A 4 FOOT BY 3 FOOT SQUARE RIPRAP PAD SHALL BE CONSTRUCTED AT EACH UNDERDRAIN CULVERT.
38. EXISTING ABANDONED WATER MAINS BROKEN BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION. EXISTING MATERIAL TO THE CONTRACT AND NO DIRECT PAYMENT WILL BE MADE.
39. GUARDRAIL END TREATMENTS SHALL BE INSTALLED CONCURRENTLY WITH THE PLACEMENT OF EACH SECTION OF BEAM GUARDRAIL.
40. ALL EXISTING GUARDRAIL REMOVED WILL BECOME THE PROPERTY OF THE CONTRACTOR. REMOVAL AND DISPOSAL SHALL BE CONSIDERED INCIDENTAL TO THE GUARDRAIL ITEMS.
41. GUARDRAIL STATION AND OFFSET INFORMATION IS TO FACE OF RAIL.
42. TWO REFLECTORIZED FLEXIBLE GUARDRAIL MARKERS WILL BE INSTALLED AT EACH GUARDRAIL END AS SPECIFIED IN STANDARD SPECIFICATIONS ITEM 606.353, REFLECTORIZED FLEXIBLE GUARDRAIL MARKER.
43. A DELINEATOR POST WILL BE INSTALLED AT EACH UNDERDRAIN OUTLET AS SPECIFIED IN STANDARD SPECIFICATIONS ITEM 606.356 UNDERDRAIN DELINEATOR POST.
44. A DELINEATOR POST WILL BE INSTALLED AT EACH END OF EACH RUN OF BITUMINOUS CURB AS SPECIFIED IN STANDARD SPECIFICATIONS ITEM 606.356 UNDERDRAIN DELINEATOR POST.
45. BACKING UP BITUMINOUS OR CONCRETE SUPPLEMENT CURB IS INCIDENTAL TO THE CURB PLACEMENT. IN AREAS WHERE NEW BITUMINOUS OR CONCRETE SUPPLEMENT CURB IS DESIGNATED TO REPLACE EXISTING, THE REMOVAL OF THE OLD BITUMINOUS OR CONCRETE SUPPLEMENT CURB SHALL BE INCIDENTAL TO THE NEW CURB. IF CALLED FOR ON THE PLANS OR DIRECTED BY THE RESIDENT, LOAM OR DIRTY BORROW WILL BE PAID FOR SEPARATELY.
46. LOAM HAS BEEN ESTIMATED FOR DISTURBED LAWN AREAS. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS NOTED ON THE PLANS OR DESIGNATED BY THE RESIDENT.
47. DIRTY BORROW HAS BEEN ESTIMATED FOR ALL DISTURBED SLOPED AREAS. OTHER THAN LAWN AREAS, ACTUAL PLACEMENT OF THE DIRTY BORROW SHALL BE AS NOTED ON THE PLANS OR AS DESIGNATED BY THE RESIDENT.
48. UNLESS OTHERWISE NOTED, SEEDING METHOD NO. 1 SHALL BE UTILIZED ON ALL LAWN AREAS, AND DEVELOPED AREAS. SEEDING METHOD NO. 2 SHALL BE UTILIZED ON ALL OTHER AREAS.
49. LAWN SHALL BE PLACED TO A NOMINAL DEPTH OF 4 INCHES IN LAWN AREAS AND 2 INCHES IN ALL OTHER AREAS UNLESS OTHERWISE NOTED OR DIRECTED.
50. DIRTY BORROW SHALL BE PLACED TO A NOMINAL DEPTH OF 2 INCHES UNLESS OTHERWISE NOTED OR DIRECTED.
51. ASPHALT LATEX COLOR FINISH GREEN, STANDARD SPECIFICATIONS ITEM 655.20, ASPHALT LATEX COLOR FINISH SHALL BE PLACED ON ALL PAVED ISLANDS.
52. ANY BASE PAVEMENT NOT SURFACED BEFORE WINTER WILL REQUIRE TEMPORARY PAVEMENT MARKINGS OF PAINT, BUILT YELLOW CENTRALLINE AND YELLOW EDGE LINES AND WILL BE MARKED IN WHITE OR YELLOW. TEMPORARY PAVEMENT MARKINGS OF PAINT OR YELLOW MARKING LINE SHALL BE PLACED TO A NOMINAL DEPTH OF 2 INCHES UNLESS OTHERWISE NOTED OR DIRECTED.

53. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING MAILBOXES TO ENSURE THAT THE MAIL WILL BE DELIVERABLE. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
54. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING OPERATIONAL BUSINESS DIRECTIONAL SIGNS (BOS) TO ENSURE THAT THEY ARE VISIBLE TO THE TRAVELLING PUBLIC. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
55. ANY DAMAGE TO THE SLOPES CAUSED BY THE CONTRACTOR'S EQUIPMENT, PERSONNEL OR OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT. ALL WORK, INCLUDING THE REPAIR OF ANY MATERIALS REQUIRED TO MAKE THE REPAIRS SHALL AT THE CONTRACTOR'S EXPENSE.

56. THE PROJECT GEOTECHNICAL REPORT TITLED XXXXX, SOILS REPORT 20XX-XX, DATE CAN BE  
 57. ACCESSED AT THE MAINFODOT WEBSITE [HTTP://WWW.MAINE.GOV/MDOT/CONTRACTORS](http://www.maine.gov/mDOT/CONTRACTORS).

57. GEOTECHNICAL INFORMATION FURNISHED OR REFERRED TO IN THE BID DOCUMENTS IS FOR THE INFORMATION OF BIDDERS ONLY. BIDDERS WILL BE RESPONSIBLE FOR THEIR OWN INTERPRETATIONS OR REPRESENTATIVE OF THE ACTUAL SUBSAPABLE CONDITIONS THROUGHOUT THE CONSTRUCTION SITE. MANEOT WILL NOT BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONCLUSIONS DRAWN FROM THE GEOTECHNICAL INFORMATION. THE BORING LOGS PROVIDED IN THE BID DOCUMENTS (IF ANY PRESENT) FACTUAL, AND INTERPRETATIVE SUBSAPABLE INFORMATION COLLECTED AT DISCRETE LOCATIONS. DATA FROM ONE LOCATION WILL NOT BE REPRESENTATIVE OF THE SUBSAPABLE CONDITION BETWEEN BROWNS LOCATION.

58. AREAS ON THE PROJECT REQUIRING FILL WILL COME FROM SUITABLE SITES SUCH AS EXCAVATION DITCH AND INSLOPE OR EQUIPMENT RENTAL AREAS.

59. ESTIMATED QUANTITIES FOR REQUIRED STRUCTURAL EARTH EXCAVATION, DRAINAGE AND MINOR STRUCTURES ARE INFORMATIONAL ONLY AND REPRESENT THE APPROXIMATE MINIMUM QUANTITY REQUIRED TO INSTALL DRAINAGE STRUCTURES. ADDITIONAL EXCAVATION FOR THE CONTRACTOR'S CONVENIENCE OR TO COMPLY WITH BACKSLOPING REQUIREMENTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL TO THE RELATED DRAINAGE ITEMS.

60. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMEN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT AND LAYOUT WORK BEING PAID FOR UNDER EQUIPMENT RENTAL ITEMS.

61. "UNDETERMINED LOCATIONS" SHALL BE DETERMINED BY THE RESIDENT;

62. CONCRETE PIPE TIES (ITEM #603.55) SHALL BE USED AT THE LAST TWO JOINTS ON OPEN ENDED REINFORCED CONCRETE PIPES.

63. ALL DITCH ELEVATIONS SHOWN ON THE CROSS SECTIONS ARE FOR THE FINISHED DITCH FLOW LINE.

64. PAVEMENT CUT LINES SHALL BE NEAT CLEAN AND STRAIGHT AS DIRECTED BY THE RESIDENT. PAYMENT FOR CUTTING OF EXISTING PAVEMENT SHALL BE INCIDENTAL TO THE RELATED CONTRACT ITEMS AS SPECIFIED IN THE STANDARD SPECIFICATIONS SECTION 401.07-JOINTS.

65. FINAL STRIPING FOR THE PROJECT SHALL BE DONE BY THE CONTRACTOR PER THE STRIPING LAYOUT IN THE CONTRACT DOCUMENTS OR AS PROVIDED BY THE DEPARTMENT. PAYMENT SHALL BE MADE UNDER APPROPRIATE CONTRACT ITEMS.

66. CATCH BASIN AND RIM ELEVATIONS (INCL. "BEHIND CURB CATCH BASINS") NOTED ON THE CROSS SECTIONS ARE THE TOP OF GRATE ELEVATIONS AT THE CENTER OF GRATE. CATCH BASIN OFFSET LOCATIONS ARE MEASURED TO CENTER OF GRATE.

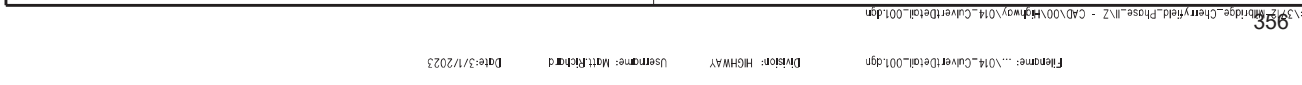
67. THE CONTRACTOR WILL PLACE APPROPRIATELY-MARKED STAKES AT THE FOLLOWING LOCATIONS ON THE PROJECT: STRIPPING PATTERN CHANGES, CROSS-SLOPE CHANGES, AND EVERY 500 FEET FOR STATIONING. THE CONTRACTOR WILL PAINT EVERY STATION 100 FEET LONG. THE LEFT AND RIGHT SHOULDER WILL BE PAINTED THROUGHOUT THE PROJECT. THE PAVEMENT SURFACE WILL BE PAINTED THROUGHOUT THE PROJECT. THROUGHOUT THE PROJECT, THE CONTRACTOR WILL PLACE STRIPING PATTERN CHANGES WILL BE PLACED ON SURFACE STRIPING. STATIONING MUST BE PLACED BEFORE WORK CAN COMMENCE. CROSS-SLOPE AND STRIPING CHANGE CONTROLS MUST BE PLACED BEFORE PAVING CAN COMMENCE.

68. THE PRECAST CONCRETE BOX CULVERT AT STA. 351+94.23 HAS BEEN IDENTIFIED BY THE DEPARTMENT AS BRIDGE NO. 6675 "CHERRYFIELD BRIDGE". THE DEPARTMENT WILL FURNISH THE CONTRACTOR WITH A PLAQUE READING "BRIDGE NO. 6675". THE CONTRACTOR SHALL INSTALL THIS PLAQUE ON A DELINEATOR POST AND LOCATE AS DIRECTED BY THE RESIDENT. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

69. ALL MHA FOR PATCHING AROUND ADJUSTED OR REBUILT UTILITY STRUCTURES SHALL BE 1.5 INCHES THICK AND APPROXIMATELY 18 INCHES WIDE. THE GAS GATE VALVES, THE CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT FOR THE PATCH AT LEAST TWO FEET AWAY FROM THE NEAREST EDGE OF THE STRUCTURE. THE PAVEMENT DEPTH OR A MAXIMUM OF 6 INCHES, AS DIRECTED BY THE RESIDENT AND COMPACT THE MIXING WITH A MINIMUM OF A 150-POUND PLATE COMPACTOR. MHA FOR PATCHING AROUND ADJUSTED, ALTERED OR REBUILT UTILITY STRUCTURES IS CONSIDERED PATCHING AROUND ADJUSTED, ALTERED OR REBUILT UTILITY STRUCTURES TO THE RESPECTIVE PAY ITEM OR AUGUST, ALTER, OR REBUILD UTILITY STRUCTURE.

MILBRIDGE - CHERRYFIELD										GENERAL NOTES									
ROUTE 1																			
PROJECT NUMBER										FIGURES 1									
DRAWING NUMBER										FIGURES 2									
SHEET NUMBER										FIGURES 3									
DATE										FIGURES 4									
BY										FIELD CHANGES									
CHECKED BY																			
DATE																			
SIGNATURES										P.E. NUMBER									
DATE										DATE									
STATE OF MAINE										HIGHWAY PLANS									
DEPARTMENT OF TRANSPORTATION										20405.00									
STP-2040(500)										WM									
10										10									
OF 322										SHEET NUMBER									

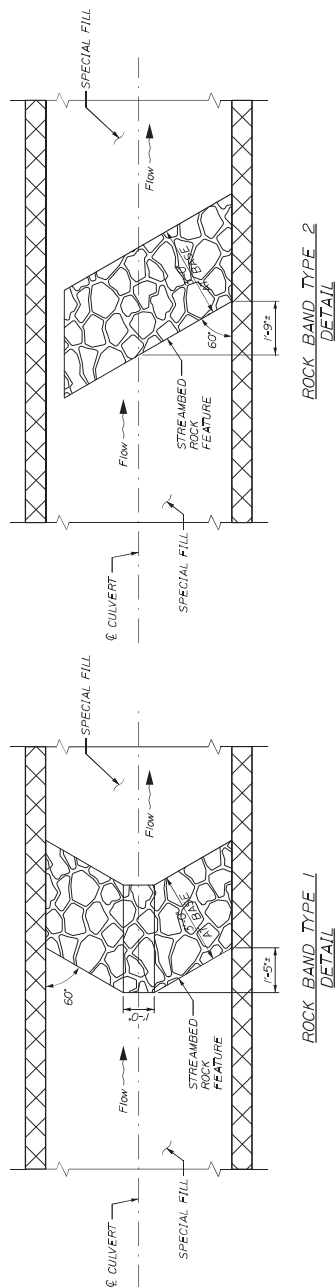
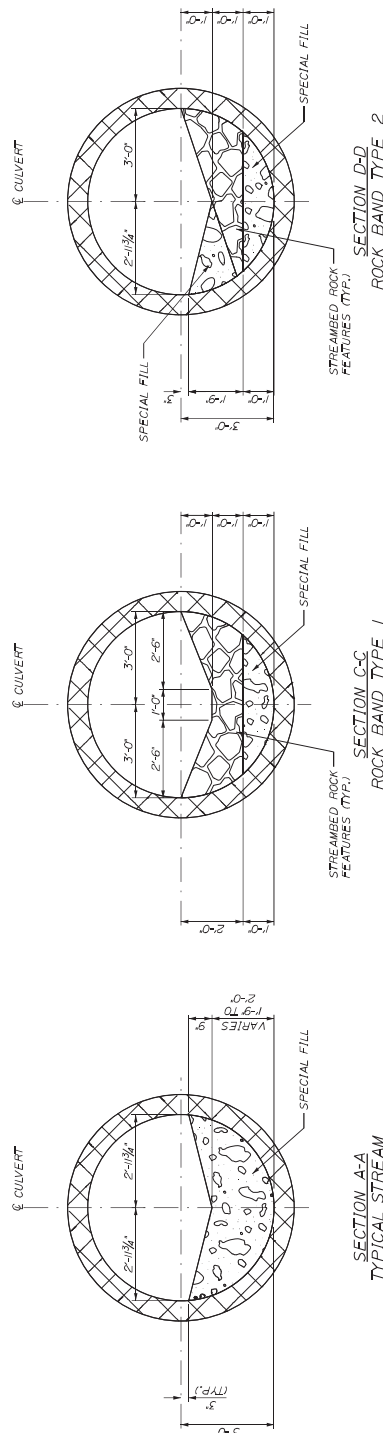


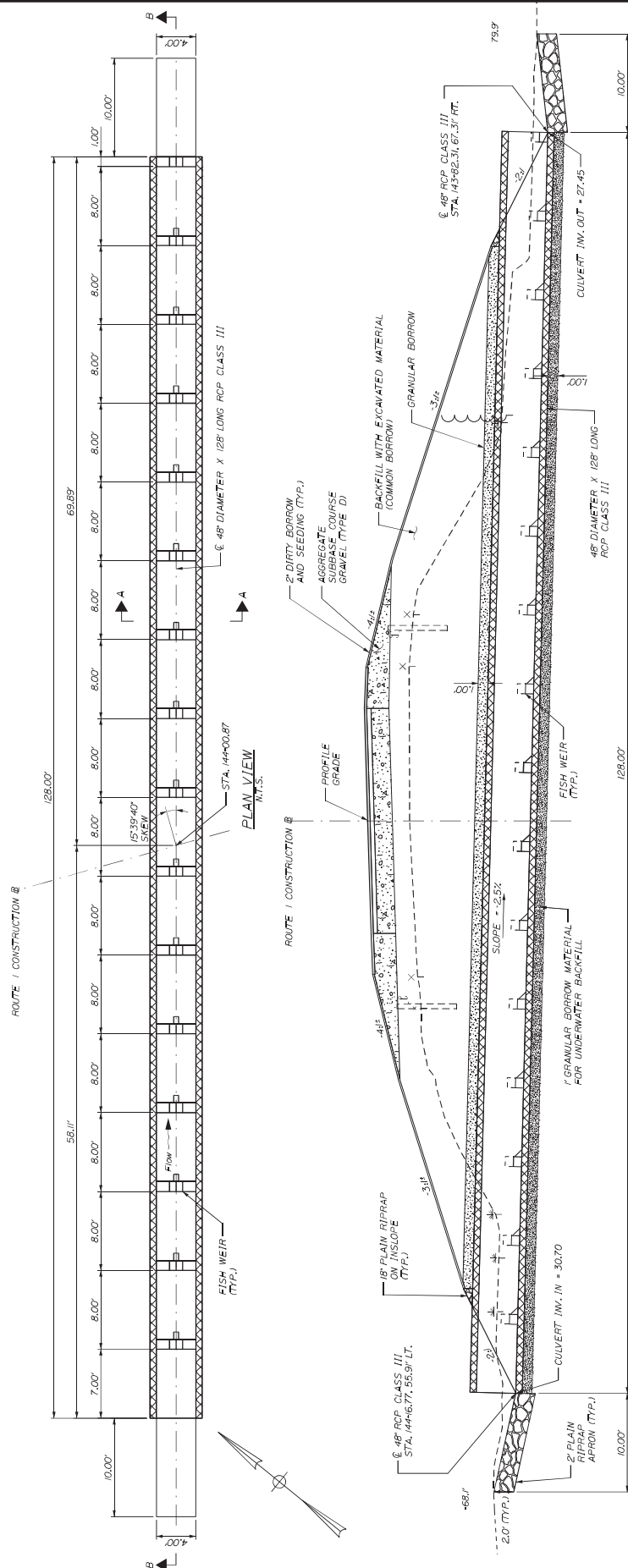


BRIDGE - CHERRYFIELD  
ROUTE 1  
SPECIAL DETAILS  
72" RCP CLASS III

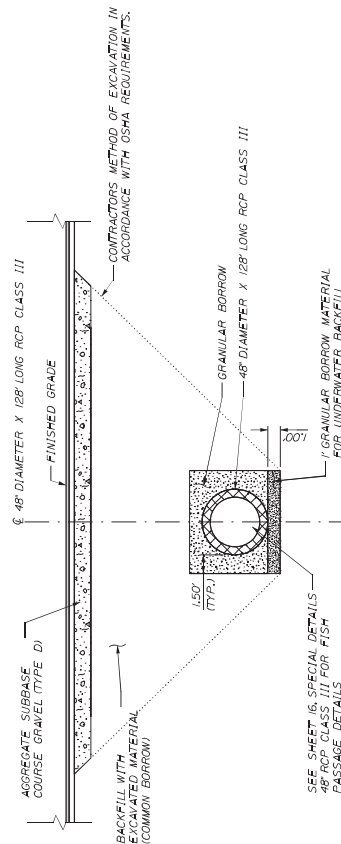
DESIGN-DETAILED	M. RICHARD	W. LUNDUFF	03/25
CHECKED-REVIEWED	D. LITINGER	D. LITINGER	03/25
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

STATE OF MINNEAPOLIS DEPARTMENT OF TRANSPORTATION	STP-2040(500)	WIN 20405.00 HIGHWAY PLANS
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TRANSVERSE SECTION B-B (ALONG CULVERT C)



TYPICAL SECTION A-A  
NTS

1. THE CURVE SHALL BE BEDDED ON A 4-FOOT LAYER OF COMPACTED GRANULAR BORROW. MATERIAL MEETING REQUIREMENTS FOR UNDERWATER BACKFILL.
2. OFFERMENTS ARE TO BE PLACED AT BOTH THE DOWNSTREAM AND UPSTREAM ENDS OF THE CURVE TO ALLOW CONSTRUCTION OF THE CURVE IN THE DRY.
3. RIPRAP SHALL BE INSTALLED ON THE INSIDE AREA OF THE CURVE ENDS AT BOTH THE INLET AND OUTLET. SEE PLAN FOR LOCATIONS, AND MAINCOT STANDARD DETAIL 802051.
4. INLET AND OUTLET GRADING SHALL BE COORDINATED WITH THE MAINE DOT HYDROLOGIST SECTION. THE CONTRACTOR SHALL GIVE THE RESIDENT A MINIMUM OF 48 HOURS NOTICE OF ANY GRADING WORK. ALL GRADING, ROCK EXCAVATION, RIPRAP, AND SPECIAL FILL WILL BE PAID FOR UNDER THE APPROPRIATE ITEMS.
5. VOIDS IN RIPRAP ABOVE SHALL BE INFILLED WITH SPECIAL FILL. WATERED IN AND TAMPED PRIOR TO COVERING WITH SPECIAL FILL.



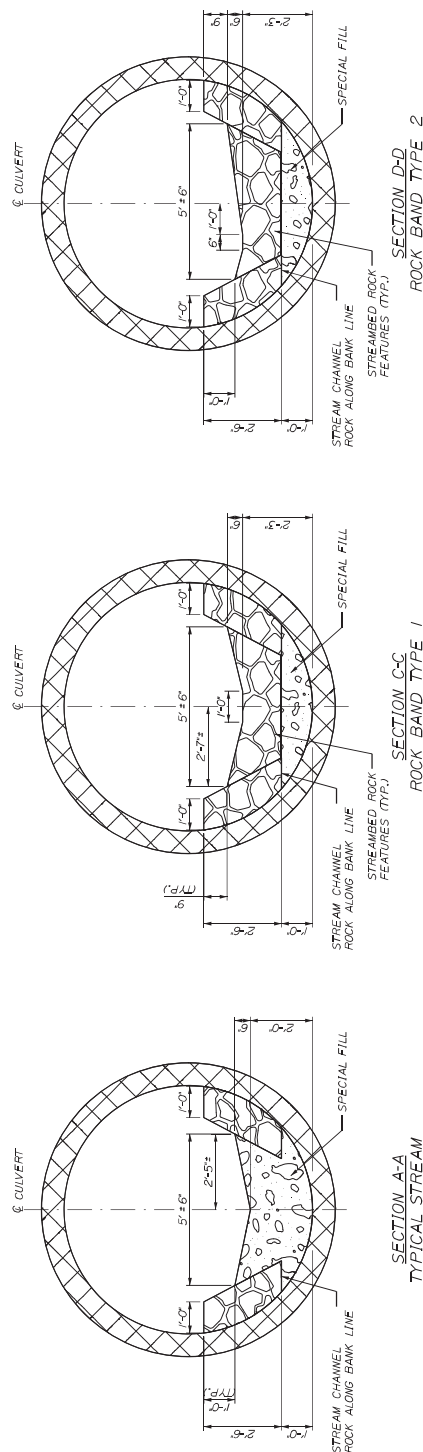




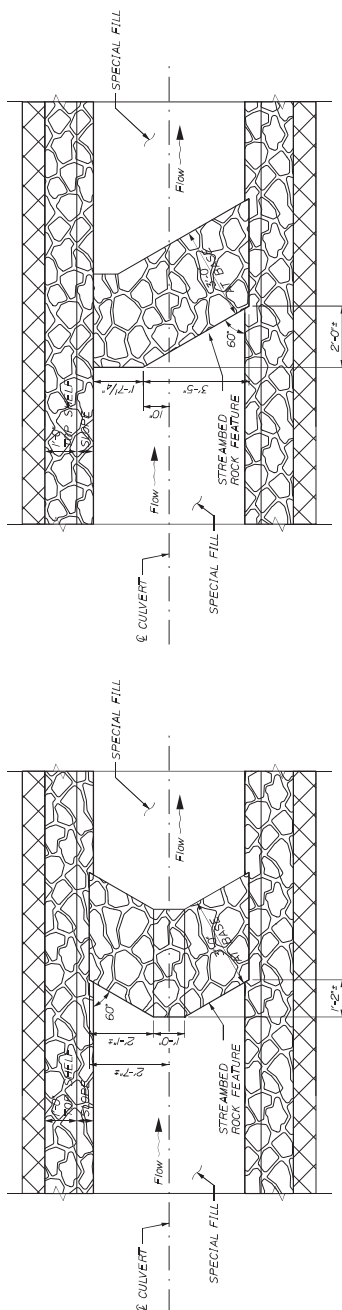
RIDGE - CHERRYFIELD  
ROUTE 1  
SPECIAL DETAILS  
96" RCP CLASS IV

	FIELD CHANGES	
--	PERMISSIONS 4	--
--	PERMISSIONS 3	--
--	PERMISSIONS 2	--
--	PERMISSIONS 1	--
--	DESIGN-DETAILED 3	--
--	DESIGN-DETAL D02	--
03/73	CHECKED-RFV-DW0	D.LITINGER
03/73	DESIGN-DETAILED	N.CLAUDOFF

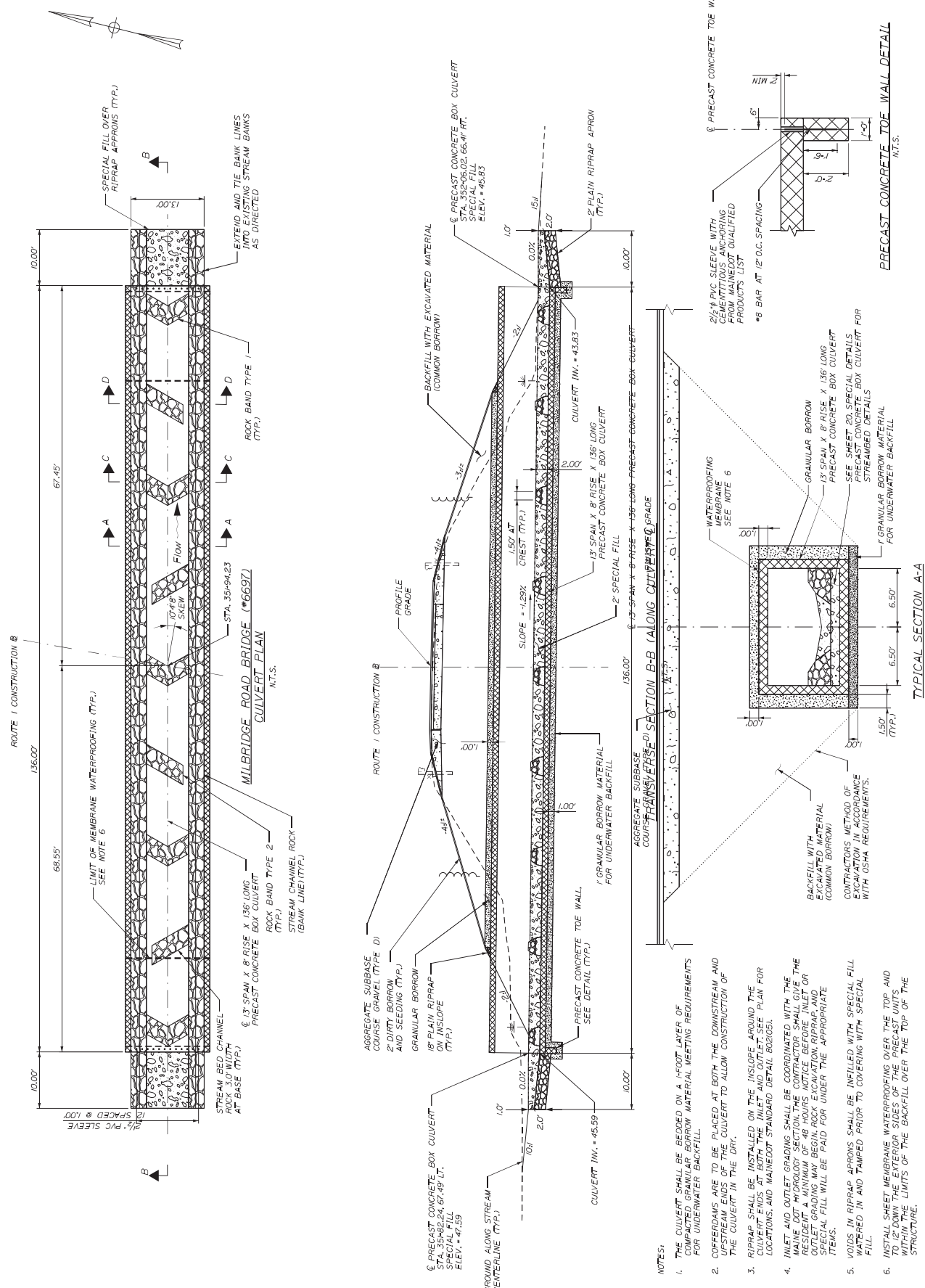
STATE OF MINNEAPOLIS DEPARTMENT OF TRANSPORTATION	STP-2040(500)	WIN 20405.00 HIGHWAY PLANS
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ROCK BAND TYPE 2  
DETAIL



ROCK BAND TYPE I  
DETAIL



- NOTE:
1. THE CULVERT SHALL BE BEDDED ON A HOOT LAYER OF COMPACTED GRANULAR BORROW MATERIAL MEETING REQUIREMENTS FOR UNDERMINE BANKFILL.
2. OFFROADS ARE TO BE PLACED AT BOTH THE DOWNSTREAM AND UPSTREAM ENDS OF THE CULVERT TO ALLOW CONSTRUCTION OF THE CULVERT IN THE DIRT.
3. RIPRAP SHALL BE INSTALLED ON THE INSLOPE AROUND THE CULVERT AND NOT TO EXCEED THE PLAN FOR LOCATIONS, AND MAINTENT STANDARD DETAIL 802/050.
4. INLET AND OUTLET GRADING SHALL BE COORDINATED WITH THE ADJACENT PROPERTY OWNER AND THE CITY OF BIRMINGHAM. THE RESIDENT A MINIMUM OF 48 HOURS NOTICE BEFORE INLET OR OUTLET GRADING MAY BEGIN. ROCK EXCAVATION, RIPRAP, AND SPECIAL FILL WILL BE PAID FOR UNDER THE APPROPRIATE ITEMS.
5. VOIDS IN RIPRAP APRONS SHALL BE INFILLED WITH SPECIAL FILL WATHEED IN AND TAMPED PRIOR TO COVERING WITH SPECIAL FILL.
6. INSTALL SHEET MEMBRANE WATERPROOFING OVER THE TOP AND DOWN THE SIDE OF THE EXPOSED SLOPES OF THE CULVERT WITHIN THE LIMITS OF THE SHOULDER OVER THE TOP OF THE STRUCTURE.

