Updated 8/1/2026

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 2026 Edition.

February 5, 2026
Supersedes April 28, 2017

NOTICE

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

Prospective bidders, subcontractors or suppliers who wish to download a copy of the bid package and receive a courtesy notification of project specific bid amendments must fill out the on-line plan holder registration form and provide an email address to the MDOT Contracts mailbox at: MDOT.contracts@maine.gov. Each bid package will require a separate request.

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

The downloading of bid packages from the MDOT website is not the same as providing an electronic bid to the Department. Electronic bids must be submitted via http://www.BIDX.com. For information on electronic bidding contact Guy Berthiaume at 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
WIN:
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
WIN:
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
WIN:
Town:
Name of Contractor:

STATE OF MAINE DEPARTMENT OF TRANSPORTATION

Bid Guaranty-Bid Bond Form

KNOW ALL MEN BY THESE PRESENTS THAT_____

_____, of the City/Town of_____and State of_____

as Principal, and_____as Surety, a

Corporation duly organized under the laws of the State of_____and having a usual place of

Business in_____and hereby held and firmly bound unto the Treasurer of

the State of Maine in the sum of_____,for payment which Principal and Surety bind

themselves, their heirs, executers, 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: _____

SAMPLE

NOTICE

Bidders:

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

These are the only allowable mechanisms for answering Project specific questions. Maine DOT will not be bound to any answers to Project specific questions received during the Bidding phase through other processes.

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

State of Maine
Department of Transportation

RFI No: _____

REQUEST FOR INFORMATION

Date _____ Time _____

Information Requested for:

WIN(S): _____ Town(s):_____Bid Date: _____

Question(s):_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Request by:

Company Name:_____**Phone:(_____)**_____

Email:_____**Fax: (_____)**_____

Complete this form and fax to 207-624-3431, Attn: Project Manager (name listed on the "Notice to Contractors"), or Email questions to RFI-Contracts.MDOT@maine.gov. Please include the word "RFI" along with the Project Name and Identification Number in the Subject line, or electronically by using the RFI Tab located on the Individual Projects Detail page.

NOTICE

BIDDER'S LIST FORM

All Bidders must submit the Bidder's List Form with their bid.

The Bidder's List Form contains information required by USDOT.

The Bidder's List Form must be completed by each Prime Contractor.

A copy of the new Bidder's List 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 or by calling 207-624-3056.

Revised: 5/2025

INSTRUCTIONS FOR PREPARING THE MAINEDOT BIDDER'S LIST 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 Bidder's List Form in its entirety for itself and each subcontractor on that project.

SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

Section A:

1. Insert Prime 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 and 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 firm for every Contractor and Sub-Contractor
G. Enter the Proposed amount of payment (Bid amount) for each Contractor/Sub-Contractor.

Maine Department of Transportation
BIDDER'S LIST FORM

SECTION A. Bidder/Prime Contractor Information - ***This section must be completed by the Bidder/Prime Contractor***

Prime Contractor Name:_____

Prime Contractor Email Address:_____ Bid Date:_____

Federal Project WIN:_____ Project Location:_____

SECTION B. COMMITMENT DETAILS – ***Prime contractor and all proposed subcontractor information is required in this section.***

A. **Firm 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.** **Age of each firm**	**F.** **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 additional form.

For a complete list of certified DBE firms, please visit: https://www.maine.gov/dot/doing-business/civil-rights/dbe

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

MaineDOT Use Only: ☐ FHWA ☐ FTA ☐ FAA

Received Date:_____ Verified by:_____ Rev. 06.26

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

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) 624-3056

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 **Downtown Improvements, Highway Reconstruction, Parking Facility, & Mill and Fill** in the City of **Sanford**" 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 **October 28, 2026**, 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,** 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. 2246201 & 2834200 WINs 022462.01 & 028342.00

Location: In York County,
Project 022642.01 is located in the city of Sanford
Volume 1 is located on Route 4A/109 (Main Street) from the Emery Street intersection to the Lebanon Street/Winter Street intersection, including improvements to Washington Street, River Street and School Street.
Volume 2 is located beginning 0.05 miles south of the intersection with River Street and extending 0.76 miles to the Compact Urban Line.
Volume 3 is located on Riverside Avenue and William Oscar Emery Drive beginning at Washington Street and extending 0.89 miles to River Street.
Volume 4 is located on Emerson Street, directly west of Cumberland Farms.
Project 028342.00 is located on Route 202 in the city of Sanford beginning at Route 4A and extending north 0.23 of a mile , includes on ramp to Route 11.

Outline of Work: Downtown Improvements, Highway Reconstruction, Parking Facility, & Mill and Fill, and other incidental work.

The basis of award will be Section 1 Only. Sections 1 and 2 must be bid.

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 **Ernie Martin** at (207) 624-3431, use electronic RFI form or email questions to RFI-Contracts.MDOT@maine.gov, project name and identification number should be in the subject line. Questions received after 12:00 noon of 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 **$509.00 ($524.00** by mail). Half size plans **$254.50 ($260.50** by mail), Bid Book $10 ($13 by mail), Single Sheets $2, payment in advance, all non-refundable.

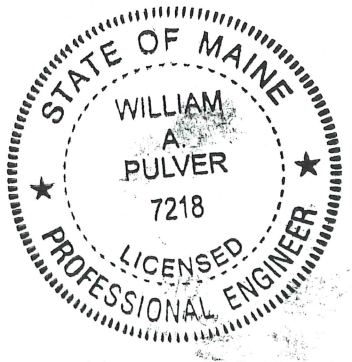
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of 5% of the bid amount, payable to Treasurer, 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 2026 Edition*, price $10 [$15 by mail], and *Standard Details, March 2026 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 https://www.maine.gov/dot/doing-business/bid-opportunities/standards

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

Augusta, Maine
September 23, 2026



WILLIAM A. PULVER 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)

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0010	107.51 PROSECUTION OF WORK - INITIAL SCHEDULE	LUMP SUM	LUMP SUM		_____	____
0020	107.531 BI-WEEKLY UPDATES	LUMP SUM	LUMP SUM		_____	____
0030	201.11 CLEARING	0.920 AC	_____	____	_____	____
0040	201.23 REMOVING SINGLE TREE TOP ONLY	43.000 EA	_____	____	_____	____
0050	201.24 REMOVING STUMP	45.000 EA	_____	____	_____	____
0060	202.12 REMOVING EXISTING STRUCTURAL CONCRETE	15.000 CY	_____	____	_____	____
0070	202.121 REMOVING EXISTING CONCRETE	LUMP SUM	LUMP SUM		_____	____
0080	202.15 REMOVING EXISTING MANHOLE OR CATCH BASIN	125.000 EA	_____	____	_____	____
0090	202.17 REMOVING EXISTING STRUCTURAL CONCRETE	LUMP SUM	LUMP SUM		_____	____
0100	202.2023 REMOVING PAVEMENT SURFACE - MEDIUM CUT DRUM	14,540.000 SY	_____	____	_____	____
0110	202.203 PAVEMENT BUTT JOINTS	650.000 SY	_____	____	_____	____

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0120	202.56 REMOVE EXISTING ADVANCE WARNING BEACON	1.000 EA				
0130	203.20 COMMON EXCAVATION	58,294.000 CY				
0140	203.21 ROCK EXCAVATION	15.000 CY				
0150	203.25 GRANULAR BORROW	541.000 CY				
0160	206.061 STRUCTURAL EARTH EXCAVATION - DRAINAGE AND MINOR STRUCTURES, BELOW GRADE	207.000 CY				
0170	206.07 STRUCTURAL ROCK EXCAVATION - DRAINAGE AND MINOR STRUCTURES	15.000 CY				
0180	206.082 STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	21.000 CY				
0190	206.092 STRUCTURAL ROCK EXCAVATION - MAJOR STRUCTURES	3.000 CY				
0200	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	45,630.000 CY				
0210	403.2081 12.5 MM POLYMER MODIFIED HOT MIX ASPHALT	6,040.000 T				
0220	403.209 HOT MIX ASPHALT 9.5 MM (SIDEWALKS, DRIVES, INCIDENTALS)	1,936.000 T				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
0230	403.2111 9.5 MM POLYMER MODIFIED HMA (SHIM)	417.000 T	_____.____	_____.____
0240	403.2131 12.5 MM POLYMER MODIFIED HMA BASE	10,950.000 T	_____.____	_____.____
0250	409.15 BITUMINOUS TACK COAT - APPLIED	5,556.000 G	_____.____	_____.____
0260	424.22 ASPHALT RUBBER CRACK SEALER TYPE 2, APPLIED	1,300.000 LB	_____.____	_____.____
0270	424.38 CRACK REPAIR - HOT POUR MASTIC	310.000 LB	_____.____	_____.____
0280	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS 16 CY	LUMP SUM	LUMP SUM	_____.____
0290	502.261 STRUCTURAL CONCRETE ROADWAY & SIDEWALK SLAB ON CONCRETE BRIDGE 25 CY	LUMP SUM	LUMP SUM	_____.____
0300	502.3414 STRUCTURAL CONCRETE, RAISED GENERATOR PAD	LUMP SUM	LUMP SUM	_____.____
0310	502.461 STRUCTURAL CONCRETE, REPLACE CONCRETE SLAB.	16.000 CY	_____.____	_____.____
0320	503.12 REINFORCING STEEL, FABRICATED AND DELIVERED	6,000.000 LB	_____.____	_____.____

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
0330	503.13 REINFORCING STEEL, PLACING	6,000.000 LB	_____.____	_____.____
0340	507.08511 STEEL HANDRAIL – REMOVE & RESET	190.000 LF	_____.____	_____.____
0350	508.141 HIGH PERFORMANCE WATERPROOFING MEMBRANE REPAIR	2,420.000 SF	_____.____	_____.____
0360	511.07 COFFERDAM: - ABUTMENT EXTENSION	LUMP SUM	LUMP SUM	_____.____
0370	512.081 FRENCH DRAINS	LUMP SUM	LUMP SUM	_____.____
0380	515.202 PROTECTIVE COATING FOR CONCRETE SURFACES - SILANE SEALER	14,001.000 SY	_____.____	_____.____
0390	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES 177 SY	LUMP SUM	LUMP SUM	_____.____
0400	518.50 REPAIR OF UPWARD FACING SURFACES - TO REINFORCING STEEL < 8 IN.	10.000 SF	_____.____	_____.____
0410	518.60 REPAIR OF VERTICAL SURFACES < 8 IN.	10.000 SF	_____.____	_____.____
0420	523.52 BEARING INSTALLATION	4.000 EA	_____.____	_____.____

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
0430	523.5403 PLAIN ELASTOMERIC BEARINGS	4.000 EA	_____.____	_____.____
0440	524.301 TEMPORARY STRUCTURAL SUPPORT SANFORD DOWNTOWN REDESIGN	LUMP SUM	LUMP SUM	_____.____
0450	526.323 TEXAS CLASSIC RAIL	LUMP SUM	LUMP SUM	_____.____
0460	534.71 PRECAST CONCRETE BOX CULVERT	LUMP SUM	LUMP SUM	_____.____
0470	535.60 PRESTRESSED STRUCTURAL CONCRETE SLAB	LUMP SUM	LUMP SUM	_____.____
0480	603.05 6 INCH PVC PIPE	11.000 LF	_____.____	_____.____
0490	603.1311 8 " PVC PIPE	12.000 LF	_____.____	_____.____
0500	603.149 10" DIAMETER PVC PIPE	12.000 LF	_____.____	_____.____
0510	603.155 12 INCH REINFORCED CONCRETE PIPE CLASS III	1,024.000 LF	_____.____	_____.____
0520	603.1552 12 INCH REINFORCED CONCRETE PIPE CLASS IV	228.000 LF	_____.____	_____.____
0530	603.157 12 INCH PVC PIPE	26.000 LF	_____.____	_____.____
0540	603.159 12 INCH CULVERT PIPE OPTION III	588.000 LF	_____.____	_____.____

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0550	603.165 15 INCH REINFORCED CONCRETE PIPE CLASS III	830.000 LF				
0560	603.1652 15 INCH REINFORCED CONCRETE PIPE CLASS IV	124.000 LF				
0570	603.169 15 INCH CULVERT PIPE OPTION III	654.000 LF				
0580	603.175 18 INCH REINFORCED CONCRETE PIPE CLASS III	150.000 LF				
0590	603.179 18 INCH CULVERT PIPE OPTION III	55.000 LF				
0600	603.195 24 INCH REINFORCED CONCRETE PIPE CLASS III	1,028.000 LF				
0610	603.199 24 INCH CULVERT PIPE OPTION III	140.000 LF				
0620	603.55 CONCRETE PIPE TIES	2.000 GP				
0630	603.9704 STORMWATER TREATMENT SYSTEM	LUMP SUM	LUMP SUM			
0640	604.072 CATCH BASIN TYPE A1-C	31.250 EA				
0650	604.076 60 INCH CATCH BASIN TYPE A1-C	2.000 EA				
0660	604.077 72 INCH CATCH BASIN TYPE A1-C	1.125 EA				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
0670	604.09 CATCH BASIN TYPE B1	26.375 EA				
0680	604.092 CATCH BASIN TYPE B1-C	67.975 EA				
0690	604.093 60 INCH CATCH BASIN TYPE B1	3.250 EA				
0700	604.094 72 INCH CATCH BASIN TYPE B1	2.000 EA				
0710	604.0957 96" CATCH BASIN TYPE B1-C	3.500 EA				
0720	604.096 60 INCH CATCH BASIN TYPE B1-C	3.875 EA				
0730	604.16 ALTERING CATCH BASIN TO MANHOLES	2.000 EA				
0740	604.161 ALTERING CATCH BASIN	4.000 EA				
0750	604.164 REBUILDING CATCH BASIN	3.000 EA				
0760	604.18 ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	27.000 EA				
0770	604.247 CATCH BASIN TYPE F5-C	16.000 EA				
0780	604.249 CATCH BASIN TYPE F6-C	4.000 EA				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0790	604.252 CATCH BASIN TYPE A5-C	30.000 EA				
0800	604.2521 60" CATCH BASIN A5-C	1.000 EA				
0810	604.26 CATCH BASIN TYPE B5	1.000 EA				
0820	604.262 CATCH BASIN TYPE B5-C	28.125 EA				
0830	604.2621 60 " CATCH BASIN TYPE B5-C	3.000 EA				
0840	604.2622 72 " CATCH BASIN TYPE B5-C	1.375 EA				
0850	605.09 6 INCH UNDERDRAIN TYPE B	5,100.000 LF				
0860	605.11 12 INCH UNDERDRAIN TYPE C	7,585.000 LF				
0870	605.12 15 INCH UNDERDRAIN TYPE C	1,934.000 LF				
0880	605.13 18 INCH UNDERDRAIN TYPE C	540.000 LF				
0890	605.15 24 INCH UNDERDRAIN TYPE C	2,200.000 LF				
0900	606.1301 31" W-BM GR, MID-WAY SPLICE-SGL FACED	482.500 LF				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0910	606.1303 31" W-BM GR, MID-WAY SPLICE-15' RAD AND LESS	25.000 LF				
0920	606.1305 31" W-BM GR, MID-WAY SPLICE FLARED TERMINAL	1.000 EA				
0930	606.259 ANCHORAGE ASSEMBLY	1.000 EA				
0940	606.265 TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	3.000 EA				
0950	606.352 REFLECTORIZED BEAM GUARDRAIL DELINEATORS	4.000 EA				
0960	606.353 REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	4.000 EA				
0970	606.356 UNDERDRAIN DELINEATOR POST	22.000 EA				
0980	606.47 SINGLE WOOD POST	13.000 EA				
0990	606.51 MULTIPLE MAILBOX SUPPORT	1.000 EA				
1000	607.142 WALK GATEWAY 4 FOOT – VINYL WHITE	1.000 EA				
1010	607.16 CHAIN LINK FENCE - 4 FOOT	49.000 LF				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
1020	607.163 CHAIN LINK FENCE - 4 FOOT P.V.C. COATED	220.000 LF				
1030	607.22 CEDAR RAIL FENCE	904.000 LF				
1040	607.24 REMOVE AND RESET FENCE	600.000 LF				
1050	607.25 REMOVE AND RESET CHAIN LINK FENCE	190.000 LF				
1060	607.291 REMOVE AND RESET STONE WALL	49.000 LF				
1070	607.461 SOLID VINYL FENCE – 8 FOOT TALL WHITE	530.000 LF				
1080	608.08 REINFORCED CONCRETE SIDEWALK	12,709.000 SY				
1090	608.09 BRICK SIDEWALK	12.000 SY				
1100	608.10 BRICK SIDEWALK, REMOVE AND REBUILD	120.000 SY				
1110	608.241 PRECAST CONCRETE PAVERS	30.000 SF				
1120	608.26 CURB RAMP DETECTABLE WARNING FIELD	2,314.000 SF				
1130	608.261 RESET CONCRETE PAVERS	14.000 SY				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
1140	608.272 GRANITE COBBLES WITH BITUMINOUS BASE COBBLESTONE SURFACE	32.000 SY				
1150	608.46 REGRADING SIDEWALK	120.000 SY				
1160	609.11 VERTICAL CURB TYPE 1	9,617.000 LF				
1170	609.1101 SPECIAL GRANITE CURB - 48"	594.000 LF				
1180	609.12 VERTICAL CURB TYPE 1 - CIRCULAR	1,283.000 LF				
1190	609.13 VERTICAL BRIDGE CURB TYPE 1	51.000 LF				
1200	609.21 CONCRETE SLIPFORM CURB	12,378.000 LF				
1210	609.219 CONCRETE SLIPFORM CURB - TERMINAL END	2,209.000 LF				
1220	609.221 TERMINAL CURB TYPE 1	1,306.000 LF				
1230	609.222 TERMINAL CURB TYPE 1 - CIRCULAR	764.000 LF				
1240	609.312 SPECIAL CURB - WHEEL STOP	160.000 LF				
1250	609.34 CURB TYPE 5	932.000 LF				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
1260	609.3401 TERMINAL CURB TYPE 5	104.000 LF				
1270	609.35 CURB TYPE 5 - CIRCULAR	158.000 LF				
1280	609.38 RESET CURB TYPE 1	16.000 LF				
1290	610.08 PLAIN RIPRAP	179.000 CY				
1300	613.319 EROSION CONTROL BLANKET	291.000 SY				
1310	615.07 LOAM	2,575.000 CY				
1320	615.073 LOAM PLANTING BEDS	1,019.000 CY				
1330	615.27 UNDERDRAIN SOIL FILTER	 LUMP SUM	LUMP SUM			
1340	618.13 SEEDING METHOD NUMBER 1	216.000 UN				
1350	619.12 MULCH	216.000 UN				
1360	619.13 BARK MULCH	230.000 CY				
1370	620.58 EROSION CONTROL GEOTEXTILE	346.000 SY				
1380	621.046 EVERGREEN TR (8' - 10') GP A	8.000 EA				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
1390	621.2011 MEDIUM DECIDUOUS TREE (2.5 INCH - 3 INCH CALIPER) GROUP A	54.000 EA				
1400	621.279 LARGE DECIDUOUS TREE (2.50 INCH - 3 INCH CALIPER) GROUP A	91.000 EA				
1410	621.54 DECIDUOUS SHRUBS (18 INCH - 24 INCH) GROUP A	29.000 EA				
1420	621.71 HERBACEOUS PERENNIALS GROUP A	4,951.000 EA				
1430	621.80 ESTABLISHMENT PERIOD	LUMP SUM	LUMP SUM			
1440	626.11 PRECAST CONCRETE JUNCTION BOX	46.000 EA				
1450	626.21 METALLIC CONDUIT	410.000 LF				
1460	626.22 NON-METALLIC CONDUIT 1 1/2 INCH	14,510.000 LF				
1470	626.22 NON-METALLIC CONDUIT 1-INCH	720.000 LF				
1480	626.22 NON-METALLIC CONDUIT 3 INCH	780.000 LF				
1490	626.22 NON-METALLIC CONDUIT 3 INCH, EMPTY LIGHTING	170.000 LF				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
1500	626.221 NON-METALLIC CONDUIT CONCRETE ENCASED	330.000 LF				
1510	626.251 NON-METALLIC UNDER PAVEMENT CONDUIT (SCHEDULE 80 OR GREATER RATING)	520.000 LF				
1520	626.35 CONTROLLER CABINET FOUNDATION	1.000 EA				
1530	626.36 REMOVE OR MODIFY CONCRETE FOUNDATION	8.000 EA				
1540	626.38 GROUND MOUNTED CABINET FOUNDATION	5.000 EA				
1550	626.421 24 INCH DIAMETER FOUNDATION	1,519.000 LF				
1560	626.44 36 INCH DIAMETER FOUNDATION	105.000 LF				
1570	627.733 4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	43,555.000 LF				
1580	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	15,880.000 SF				
1590	627.77 REMOVING PAVEMENT MARKINGS	220.000 SF				
1600	627.78 TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	19,260.000 LF				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
1610	629.05 HAND LABOR, STRAIGHT TIME	204.000 HR				
1620	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	354.000 HR				
1630	631.13 BULLDOZER (INCLUDING OPERATOR)	4.000 HR				
1640	631.14 GRADER (INCLUDING OPERATOR)	4.000 HR				
1650	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	364.000 HR				
1660	631.18 CHAIN SAW RENTAL (INCLUDING OPERATOR)	12.000 HR				
1670	631.20 STUMP CHIPPER (INCLUDING OPERATOR)	28.000 HR				
1680	631.32 CULVERT CLEANER (INCLUDING OPERATOR)	44.000 HR				
1690	634.16 HIGHWAY LIGHTING COTTAGE ST	LUMP SUM	LUMP SUM			
1700	634.16 HIGHWAY LIGHTING ORNAMENTAL LIGHT FIXTURE (FIXTURE A)	LUMP SUM	LUMP SUM			
1710	634.16 HIGHWAY LIGHTING PARK & RIDE	LUMP SUM	LUMP SUM			

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
1720	634.160 HIGHWAY LIGHTING RIVERSIDE AVENUE & WILLIAM OSCAR EMORY DRIVE	LUMP SUM	LUMP SUM		_____	.____
1730	634.2041 LUMINAIRES	194.000 EA	_____	.____	_____	.____
1740	634.210 CONVENTIONAL LIGHT STANDARD 15 FOOT POLE	164.000 EA	_____	.____	_____	.____
1750	634.210 CONVENTIONAL LIGHT STANDARD 18 FOOT POLE	30.000 EA	_____	.____	_____	.____
1760	634.2223 REMOVE AND RESET LIGHT STANDARD WITH LUMINAIRE	1.000 EA	_____	.____	_____	.____
1770	634.25 SERVICE POLE COMPLETE WITH CABINET AND CONTROLS	9.000 EA	_____	.____	_____	.____
1780	639.18 FIELD OFFICE TYPE A	1.000 EA	_____	.____	_____	.____
1790	641.12 BENCH	9.000 EA	_____	.____	_____	.____
1800	641.34 TRASH RECEPTACLE	2.000 EA	_____	.____	_____	.____
1810	642.12 WOODEN STEPS	2.000 EA	_____	.____	_____	.____
1820	642.15 PRECAST CONCRETE STEPS	8.000 EA	_____	.____	_____	.____

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
1830	642.17 CAST-IN-PLACE CONCRETE STEPS	4.000 CY	_____.____	_____.____
1840	643.21 NON-INVASIVE DETECTION - STOP LINE: WASHINGTON ST/RIVER ST & HIGH ST	LUMP SUM	LUMP SUM	_____.____
1850	643.60 FLASHING BEACON AT: MODIFICATION AT COTTAGE ST AND BROOK ST	LUMP SUM	LUMP SUM	_____.____
1860	643.621 RECTANGULAR RAPID FLASHING BEACON ASSEMBLY	6.000 EA	_____.____	_____.____
1870	643.631 RECTANGULAR RAPID FLASHING BEACON - REMOVE AND RESET - 2 EACH	LUMP SUM	LUMP SUM	_____.____
1880	643.71 TRAFFIC SIGNAL MODIFICATION COTTAGE ST & RIVER ST	LUMP SUM	LUMP SUM	_____.____
1890	643.71 TRAFFIC SIGNAL MODIFICATION MAIN AND WASHINGTON	LUMP SUM	LUMP SUM	_____.____
1900	643.71 TRAFFIC SIGNAL MODIFICATION MAIN ST & EMERY ST	LUMP SUM	LUMP SUM	_____.____
1910	643.71 TRAFFIC SIGNAL MODIFICATION WASHINGTON ST/RIVER ST & HIGH ST	LUMP SUM	LUMP SUM	_____.____
1920	643.81 TRAFFIC SIGNAL CONTROL SYSTEM	LUMP SUM	LUMP SUM	_____.____

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
1930	643.88 TRAFFIC SIGNAL BLANKOUT SIGN	1.000 EA				
1940	643.91 MAST ARM POLE 22' ARM AND 50' ARM	1.000 EA				
1950	643.91 MAST ARM POLE 30' ARM	1.000 EA				
1960	643.91 MAST ARM POLE 30' ARM AND 45' ARM	1.000 EA				
1970	643.91 MAST ARM POLE W/26' ARM	1.000 EA				
1980	643.91 MAST ARM POLE W/45' ARM	1.000 EA				
1990	643.92 PEDESTAL POLE	11.000 EA				
2000	643.922 REMOVE AND RESET PEDESTAL POLE	4.000 EA				
2010	643.93 STRAIN POLE	2.000 EA				
2020	645.106 DEMOUNT REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	231.000 EA				
2030	645.108 DEMOUNT POLE	5.000 EA				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
2040	645.116 REINSTALL REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	42.000 EA				
2050	645.271 REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS, TYPE I	1,300.000 SF				
2060	645.292 REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE II	1,808.000 SF				
2070	645.516 SPECIAL SIGNING	2.000 EA				
2080	645.561 36" STOP SIGN - SOLAR POWERED	4.000 EA				
2090	652.31 TYPE I BARRICADE	6.000 EA				
2100	652.312 TYPE III BARRICADE	8.000 EA				
2110	652.33 DRUM	295.000 EA				
2120	652.34 CONE	690.000 EA				
2130	652.35 CONSTRUCTION SIGNS	3,950.000 SF				
2140	652.36 MAINTENANCE OF TRAFFIC CONTROL DEVICES	1,710.000 CD				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
2150	652.38 FLAGGER	56,070.000 HR				
2160	652.381 TRAFFIC OFFICER	3,020.000 HR				
2170	652.41 PORTABLE CHANGEABLE MESSAGE SIGN	8.000 EA				
2180	652.47 TEMPORARY PORTABLE RUMBLE STRIP	3.000 GP				
2190	653.22 2 INCH POLYSTYRENE PLASTIC INSULATION	150.000 SY				
2200	654.351 CONNECTED ROADSIDE UNIT (RSU)	1.000 EA				
2210	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM	LUMP SUM			
2220	658.20 ACRYLIC LATEX COLOR FINISH, GREEN	35.000 SY				
2230	659.10 MOBILIZATION	LUMP SUM	LUMP SUM			
2240	660.21 ON-THE-JOB TRAINING (BID)	3,000.000 HR				
2250	673.10 WET CAST SMALL LANDSCAPE BLOCK WALL	384.000 SF				

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 1 VOLUME 1 - 024395.01 - SANFORD DOWNTOWN REDESIGN

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
2260	801.03 TEST PITS	35.000 EA				
2270	801.141 4" PVC SANITARY SEWER (SDR-35)	105.000 LF				
2280	801.16 6 INCH PVC SANITARY SEWER (SDR-35)	1,355.000 LF				
2290	841.4712 STEEL BOLLARD, 6 INCH	14.000 EA				
2300	890.07 BIKE RACKS	11.000 EA				
2310	890.08 BIKE RACK - REMOVE AND RESET	1.000 EA				
	Section: 1		**Total:**			

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 022642.01 **Project(s):** 022642.01, 028342.00

SECTION: 2 BID ALT 1 SANFORDNET FIBER DUCT BANK

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
2320	626.11 PRECAST CONCRETE JUNCTION BOX	11.000 EA				
2330	626.22 NON-METALLIC CONDUIT 1-INCH	1,400.000 LF				
2340	626.221 NON-METALLIC CONDUIT CONCRETE ENCASED	340.000 LF				
2350	652.33 DRUM	40.000 EA				
2360	652.34 CONE	70.000 EA				
2370	652.361 MAINTENANCE OF TRAFFIC CONTROL DEVICES	LUMP SUM	LUMP SUM			
2380	652.38 FLAGGER	300.000 HR				
2390	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM	LUMP SUM			
2400	659.10 MOBILIZATION	LUMP SUM	LUMP SUM			
	Section: 2		**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, WIN **022642.01 & 028342.00** for **Highway Reconstruction, Downtown Improvements, Design & Construction of a New Parking Facility, and Mill & Fill** in the city of **Sanford**, County of **York, 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; warrantying 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 **December 21, 2030.** 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 2026 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 $_____

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 2026 Edition, Standard Details March 2026 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 2026 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 2026 Edition, Standard Details March 2026 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **WIN 022642.01 & 028342.00** for **Highway Reconstruction, Downtown Improvements, Design & Construction of a New Parking Facility, and Mill & Fill in the city of Sanford, County of York, 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 2026 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 2026 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 ❑

Contract Amount: _____

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

MAINE DEPARTMENT OF TRANSPORTATION

Date	By: Dale F. Doughty, Commissioner
Witness	

CONTRACT AGREEMENT, OFFER & AWARD

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

_____

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

_____

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

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, WIN **022642.01 & 028342.00** for **Highway Reconstruction, Downtown Improvements, Design & Construction of a New Parking Facility, and Mill & Fill** in the city of **Sanford**, County of **York, 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; warrantying 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 **December 21, 2030.** 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 2026 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 $_____

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 2026 Edition, Standard Details March 2026 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 2026 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 2026 Edition, Standard Details March 2026 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **WIN 022642.01 & 028342.00** for **Highway Reconstruction, Downtown Improvements, Design & Construction of a New Parking Facility, and Mill & Fill in the city of Sanford, County of York, 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 2026 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 2026 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 ❑

Contract Amount: _____

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

MAINE DEPARTMENT OF TRANSPORTATION

_____	_____
Date	By: Dale F. Doughty, 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:

SAMPLE

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, WIN 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, warrantying 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 2026 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 2026 Edition, Standard Details March 2026 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 2026 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.

SAMPLE

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications, March 2026 Edition, Standard Details March 2026 Edition*, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

WIN 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.

SAMPLE

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 2026 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 2026 Edition* and complete the Work within the time limits given in the Special Provisions of this Contract.

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

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

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

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

CONTRACTOR

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

SAMPLE

G. Award.

Your offer is hereby accepted. This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

Date	By: Dale F. Doughty, Commissioner

(Witness)

BOND # _____

CONTRACT PERFORMANCE BOND
(Surety Company Form)

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

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

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

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

WITNESSES:	SIGNATURES:
	CONTRACTOR:
Signature.....	.....….....
Print Name Legibly	Print Name Legibly ...……....
	SURETY:
Signature	....……....
Print Name Legibly	Print Name Legibly .....
SURETY ADDRESS:	NAME OF LOCAL AGENCY:
.....	ADDRESS .....
.....	...…….....
.....	.....…….....
TELEPHONE.....	.....…….....

SAMPLE

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	…….....

SAMPLE

"General Decision Number: ME20260049 05/18/2026

State: Maine

Construction Types: Highway

Counties: Maine Counties of
York

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026

SUME2014-044 06/23/2017

	Rates	Fringes
TRUCK DRIVER: DUMP TRUCK	$ 19.99	4.00
TRAFFIC CONTROL: LABORER-CONES/ BARRICADES/BARRELS - SETTER/MOVER/SWEEPER	$ 17.84	5.91
TRAFFIC CONTROL: FLAGGER	$ 10.33	0.00
OPERATOR: ROLLER ASPHALT	$ 19.64	6.09
OPERATOR: ROLLER (EARTH)	$ 16.52	1.66
OPERATOR: PAVER (ASPHALT, AGGREGATE, AND CONCRETE)	$ 20.17	4.83
OPERATOR: MILLING MACHINE	$ 27.44	6.37
OPERATOR: MECHANIC	$ 24.71	7.83
OPERATOR: LOADER	$ 18.91	3.27
OPERATOR: GRADER/BLADE	$ 27.40	8.13
OPERATOR: BULLDOZER	$ 21.71	5.67
OPERATOR: BROOM/SWEEPER	$ 19.49	0.00
OPERATOR: BOBCAT/SKID STEER/SKID LOADER	$ 23.66	0.97
OPERATOR: BACKHOE/EXCAVATOR/TRACKHOE	$ 20.58	3.81
LABORER: WHEELMAN	$ 20.97	5.13
LABORER: EPOXY INJECTOR (CONCRETE)	$ 13.43	1.15
LABORER: COMMON OR GENERAL	$ 15.11	2.46

LABORER: ASPHALT, INCLUDES RAKER, SHOVELER, SPREADER AND DISTRIBUTOR	**$ 17.53**	**2.13**
IRONWORKER, STRUCTURAL	**$ 22.78**	**4.40**
IRONWORKER, REINFORCING	**$ 21.85**	**0.00**
INSTALLER - GUARDRAIL	**$ 19.98**	**2.55**
HIGHWAY/PARKING LOT STRIPING: LABORER	**$ 16.27**	**2.19**
ELECTRICIAN	**$ 25.21**	**5.63**
CEMENT MASON/CONCRETE FINISHER	**$ 19.83**	**1.16**
CARPENTER, INCLUDES FORM WORK	**$ 18.66**	**3.46**

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

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.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least $13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

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)).

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

Union Rate Identifiers

A four-letter identifier beginning with characters other than "SU", "UAVG", "SA", or "SC" denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate 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. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The "SU" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the 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. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

"SU" wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The "SA" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the "SA" identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

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

- **a) a survey underlying a wage determination**
- **b) an existing published wage determination**
- **c) an initial WHD letter setting forth a position on a wage determination matter**
- **d) an initial conformance (additional classification and rate) determination**

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail 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 an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

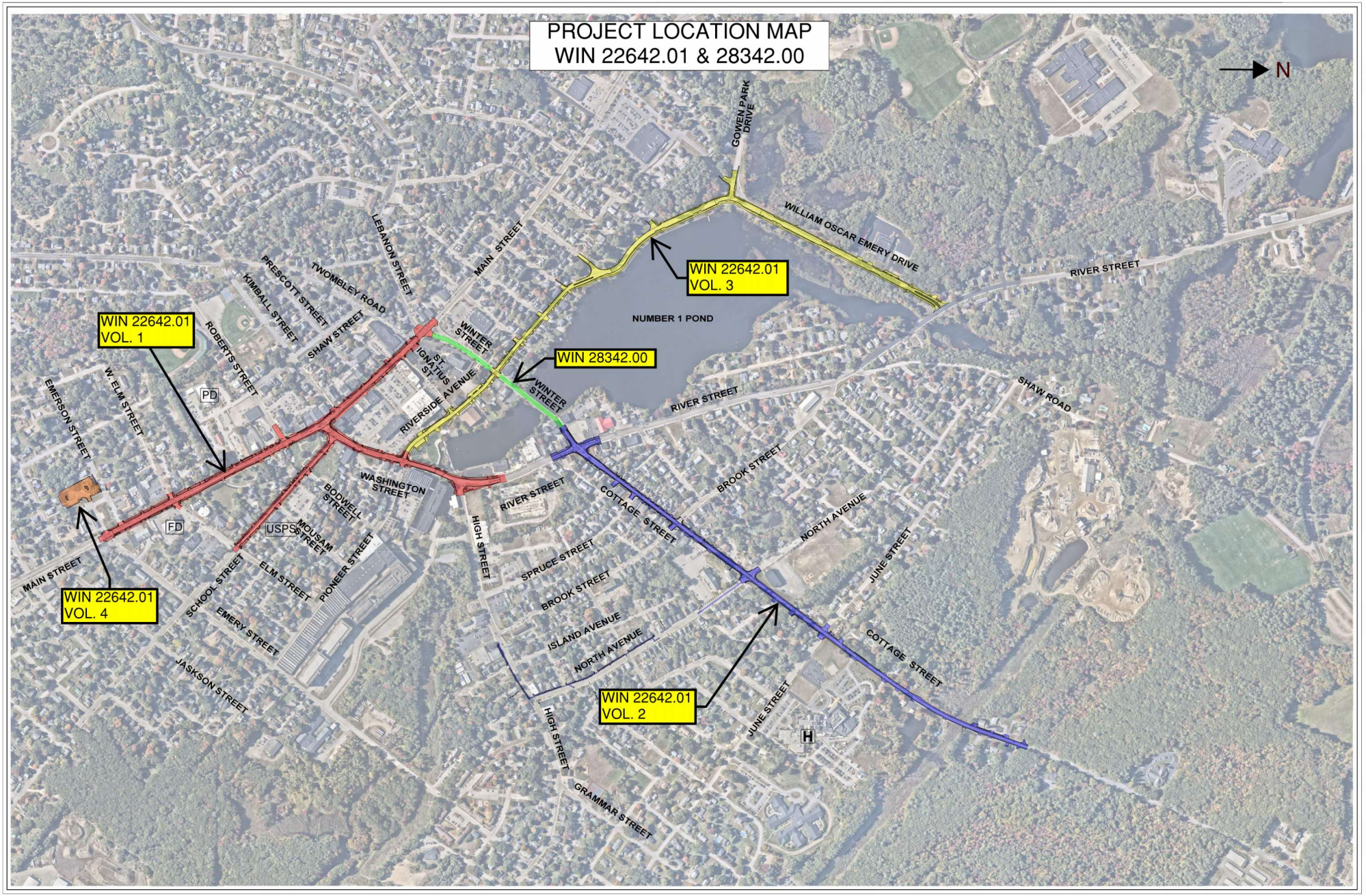
Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

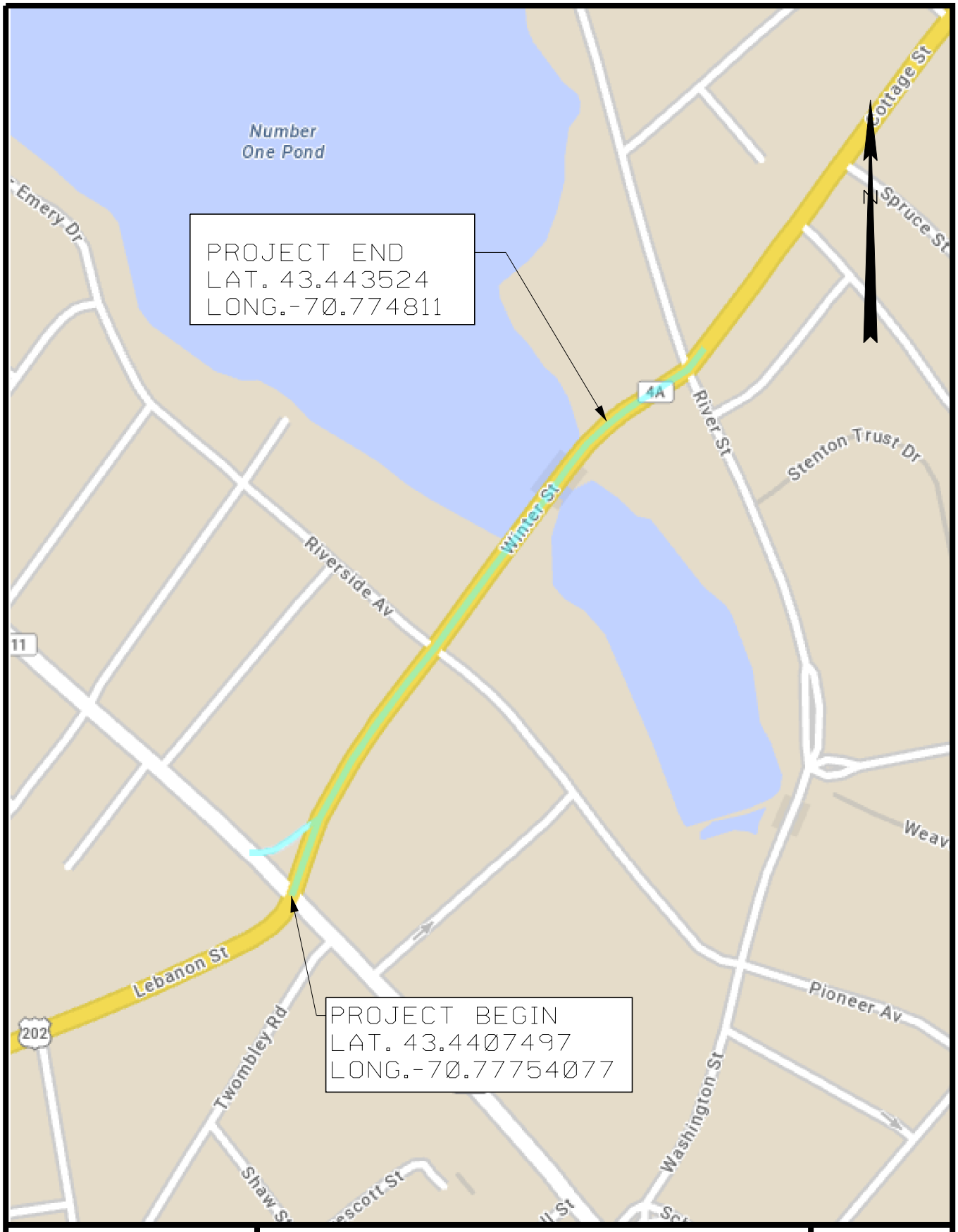
The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

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.

END OF GENERAL DECISION


PROJECT LOCATION MAP
WIN 22642.01 & 28342.00
N
WIN 22642.01
VOL. 1
WIN 22642.01
VOL. 3
WIN 28342.00
WIN 22642.01
VOL. 4
WIN 22642.01
VOL. 2
NUMBER 1 POND
GOWEN PARK DRIVE
WILLIAM OSCAR EMERY DRIVE
RIVER STREET
SHAW ROAD
MAIN STREET
LEBANON STREET
TWOMBLEY ROAD
PRESCOTT STREET
KIMBALL STREET
SHAW STREET
ROBERTS STREET
W. ELM STREET
EMERSON STREET
WINTER STREET
ST IGNATIUS ST
RIVERSIDE AVENUE
PD
FD
USPS
WASHINGTON STREET
BODWELL STREET
MOUSAM STREET
PIONEER STREET
SCHOOL STREET
ELM STREET
EMERY STREET
JASKSON STREET
HIGH STREET
SPRUCE STREET
BROOK STREET
ISLAND AVENUE
NORTH AVENUE
COTTAGE STREET
JUNE STREET
GRAMMAR STREET
H



STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN: 28342.00	US ROUTE 202 SANFORD YORK	SHEET NUMBER 1 OF 1
2834200	LOCATION MAP	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

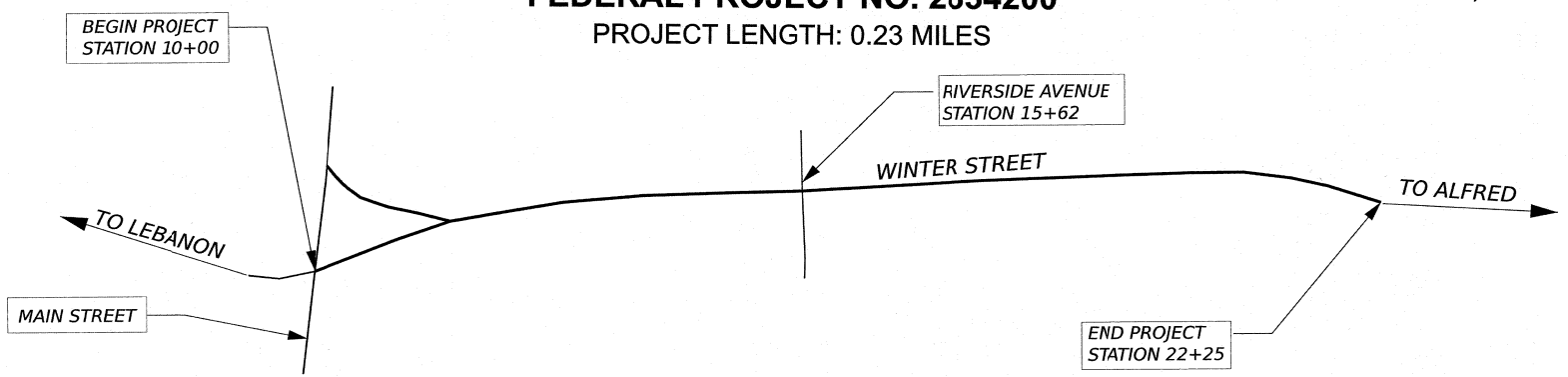
SANFORD

YORK COUNTY

U.S. ROUTE 202

FEDERAL PROJECT NO. 2834200

PROJECT LENGTH: 0.23 MILES





LOCATION MAP

TRAFFIC DATA	
Current (2025) AADT	7300
Future (2037) AADT	7440
DHV - % of AADT	11%
Design Hour Volume	851
% Heavy Trucks (AADT)	11%
% Heavy Trucks (DHV)	8%
Directional Distribution (DHV)	55%
18-kip Equivalent P 2.0	286
18-kip Equivalent P 2.5	272
Design Speed (mph)	25
Corridor Priority	1

PROJECT LOCATION:	BEGINNING AT ROUTE 4A AND EXTENDING NORTH 0.23 OF A MILE. INCLUDES ON RAMP TO ROUTE 11.
PROGRAM AREA:	REGIONAL PROGRAM
SCOPE OF WORK:	MILL AND FILL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED

COMMISSIONER: [signature] DATE 7-8-25

CHIEF ENGINEER: [signature] DATE 9-8-2025

STATE OF MAINE — Scott Bickford 8231 — LICENSED PROFESSIONAL ENGINEER

SIGNATURE [signature] P.E. NUMBER 8231 DATE 5/26/25

PROJECT INFORMATION

PROGRAM	REGIONAL	
PROJECT MANAGER	RYAN HODGMAN	
DESIGNER	ALI AL BAGHDADI	
CONSULTANT	$	
PROJECT RESIDENT	$	
CONTRACTOR	$	
PROJECT COMPLETION DATE	$	

FEDERAL PROJECT NO. 2834200

WIN 28342.00

SANFORD
U.S. ROUTE 202
TITLE SHEET

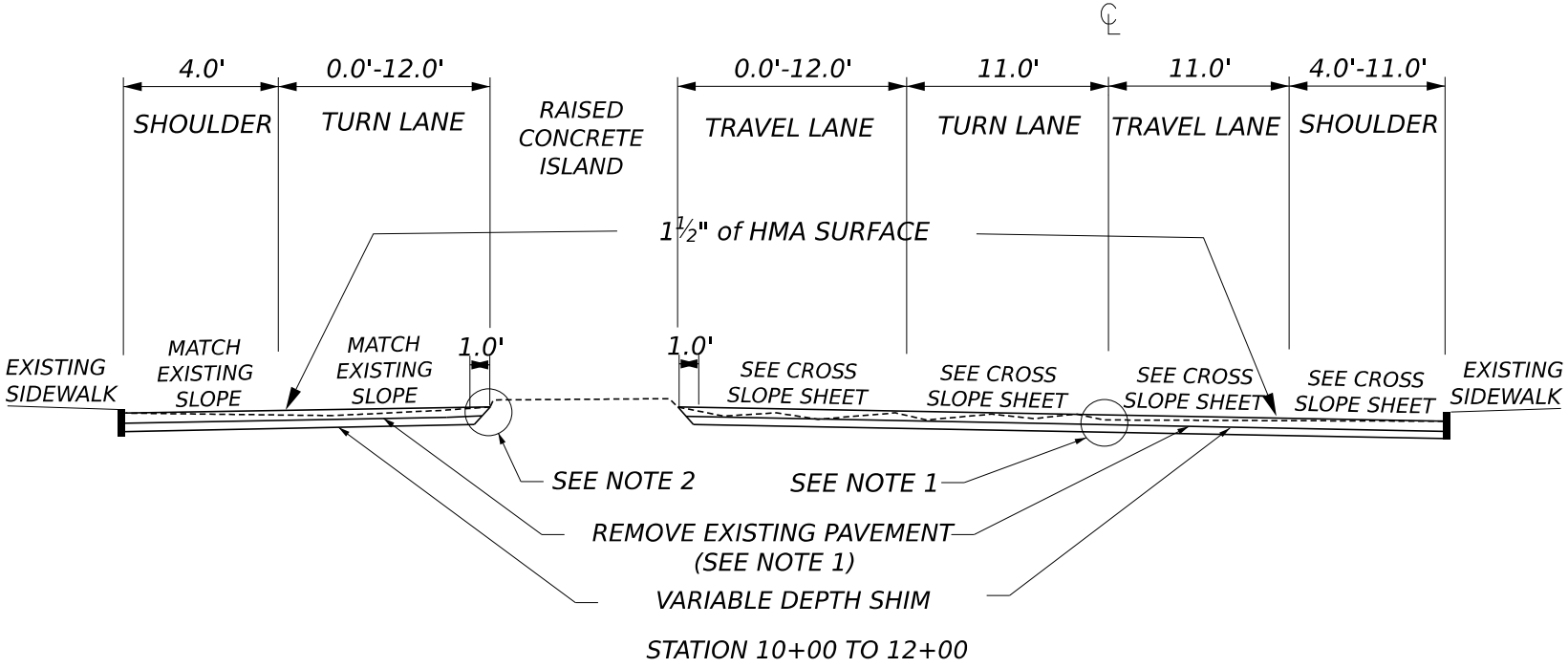
SHEET NUMBER 1 OF 1

Filename: C:\Users\Ali.AlBaghdadi\State of Maine\MaineDOT Work - 28344_00\HIGHWAY\BookJob_Title.dgn

Username: $user$ Date: $date$

09

MILL AND FILL
WITH VARIABLE DEPTH SHIM



NOTE 1: THE POINTS IDENTIFIED SHALL BE THE MILLING CONTROL POINTS. THE CUT DEPTH SHALL BE VARIABLE AT THE CONTROL POINTS AND THE TRAVEL LANES SHALL BE MILLED TO SLOPE. SEE CROSS SLOPE SHEET FOR PROPOSED SLOPES AND CUT DEPTHS.

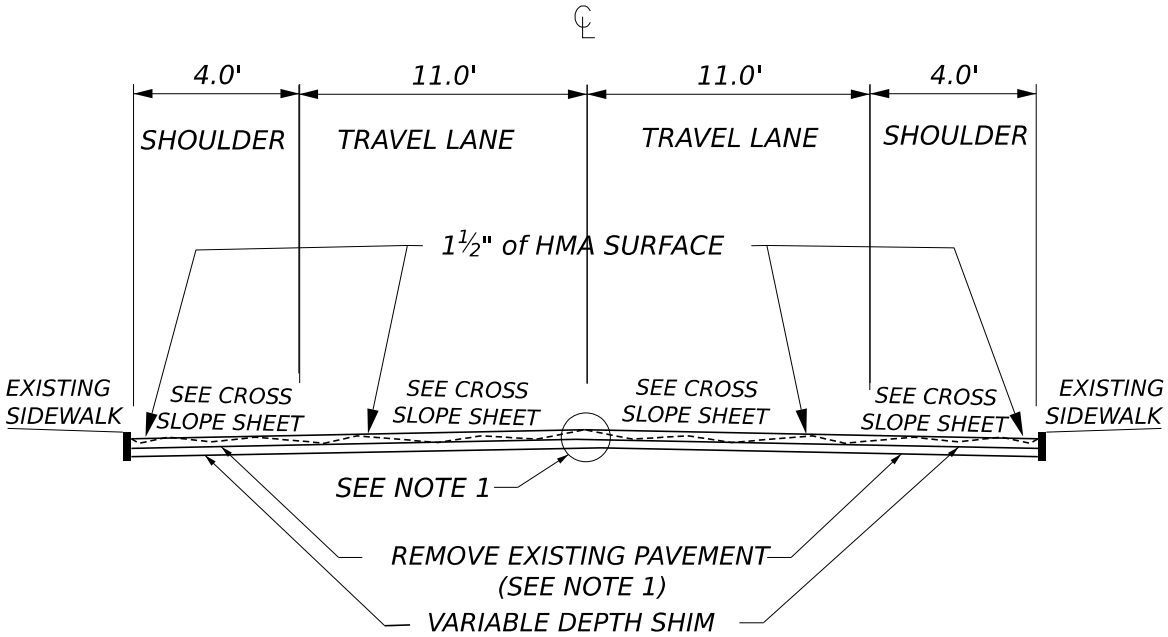
NOTE 2: CUT 2" ALONG THE CONCRETE ISLAND ON THE LEFT

NOT TO SCALE

SANFORD U.S. ROUTE 202		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	SHEET NUMBER 1 OF 3
TYPICAL SECTIONS	WIN 28342.00	2834200 HIGHWAY PLANS	

61

MILL AND FILL
WITH VARIABLE DEPTH SHIM



STATIONS:
12+00 TO 17+50
21+00 TO 22+25

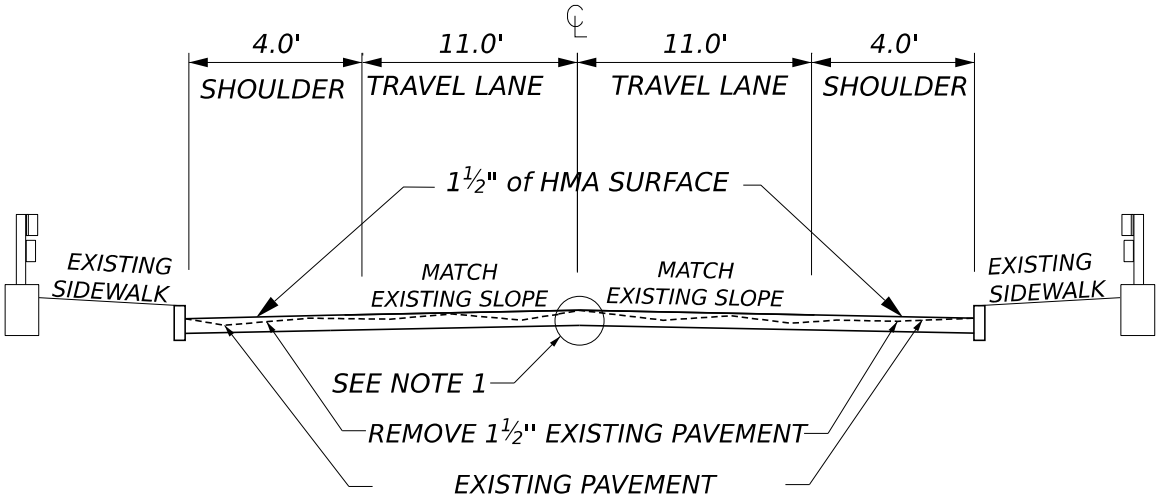
NOTE 1: THE POINTS IDENTIFIED SHALL BE THE MILLING CONTROL POINTS. THE CUT DEPTH SHALL BE VARIABLE AT THE CONTROL POINTS AND THE TRAVEL LANES SHALL BE MILLED TO SLOPE. SEE CROSS SLOPE SHEET FOR PROPOSED SLOPES AND CUT DEPTHS.

NOT TO SCALE

SANFORD U.S. ROUTE 202		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	SHEET NUMBER 2 OF 3
TYPICAL SECTIONS	WIN 28342.00	2834200 HIGHWAY PLANS	

62

MILL AND FILL
BRIDGE SECTION



BRIDGE NUMBER: 2961 STATION 17+50 TO 21+00

NOTE 1: THE POINTS IDENTIFIED SHALL BE THE MILLING CONTROL POINTS.

NOT TO SCALE

SANFORD U.S. ROUTE 202		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	SHEET NUMBER 3 OF 3
TYPICAL SECTIONS	WIN 28342.00	2834200 HIGHWAY PLANS	

Estimated Quantities

Route 202 Mill & Fill

Item No.	Item Description	Quantity	Unit
202.2023	Remove Pavement Surface – Medium Cut Drum	5,100	SY
202.203	Pavement Butt Joints	120	SY
403.2081	12.5 mm Polymer Modified Hot Mix Asphalt	430	T
403.2111	Polymer Modified Hot Mix Asphalt (Shimming)	430	T
403.2131	12.5 mm Polymer Modified HMA Base	430	T
409.15	Bituminous Tack Coat – Applied	400	G
424.22	Asphalt Rubber Crack Sealer Type 2 – Applied	1,300	LB
424.38	Crack Repair – Hot Pour Mastic	310	LB
604.161	Altering Catch Basin	2	EA
604.18	Adjusting Manhole or Catch Basin to Grade	6	EA
608.08	Reinforced Concrete Sidewalk	120	SY
608.26	Curb Ramp Detectable Warning Field	60	SF
608.46	Regrading Sidewalk	120	SY
609.11	Vertical Curb Type 1	48	LF
609.38	Reset Curb Type 1	16	LF
615.07	Loam	10	CY
618.13	Seeding Method Number 1	1	UN
619.12	Mulch	1	UN
627.733	4” White or Yellow Painted Pavement Marking Line	2,880	LF
627.75	White or Yellow Pavement & Curb Marking	2,880	LF
627.78	Temporary 4” Painted Pavement Marking Line, White or Yellow	2,880	LF

Item No.	Item Description	Quantity	Unit
629.05	Hand Labor, Straight Time	20	HR
631.12	All Purpose Excavator (Including Operator)	10	HR
631.172	Truck – Large (Including Operator)	20	HR
652.33	Drum	10	EA
652.34	Cone	70	EA
652.38	Flagger	570	HR
652.381	Traffic Officer	20	HR
656.75	Temporary Soil Erosion and Water Pollution Control	1	LS
659.10	Mobilization	1	LS

Sanford
28342.00
US Route 202
March 16, 2026

PROJECT STATIONING

Left	Station	Right
End Project	**22+25**	**End Project**
CMP TP#11	21+55	
Bridge Joint	20+10	Bridge Joint
Street Light Pole #7.1	17+87	
Riverside Avenue	15+62	Riverside Avenue
CMP TP#3	12+68	
CMP TP#1	10+95	
Begin Project	**10+00**	**Target 43.440813°, -70.777397°**

CONSTRUCTION NOTES

202.2023 Removing Pavement Surface – Medium Cut Drum

Station	to	Station	Side	Comments
10+00		22+25	Lt/Rt	Travelway and Shoulders
18+50		20+00	Lt/Rt	1.5" Mill Depth for Bridge Deck

403.2081 HMA, 12.5 mm Nominal Maximum Size Polymer Modified, Surface

Station	to	Station		Comments
10+00		22+25	Lt/Rt	Travelway and Shoulders

Station	Side	Side Road	Length
15+62	Lt	Riverside Avenue	15'
15+62	Rt	Riverside Avenue	15'

403.2111 Polymer Modified Hot Mix Asphalt Shim

Station	to	Station	Side	Comments
10+00		18+50	Lt/Rt	Travelway and Shoulders
20+00		22+25	Lt/Rt	Travelway and Shoulders

The Resident will check the project after milling is complete for any spot shims. Undetermined locations as directed by Resident.

403.2131 HMA, 12.5 mm Nominal Maximum Size Polymer Modified, Base

Station	to	Station	Side	Comments
15+42		15+54	Rt	ADA Curb New
15+42		15+54	Lt	ADA Curb New
15+80		15+92	Rt	ADA Curb New
15+80		15+92	Lt	ADA Curb New

Item to be used for patching around the catch basins & drain manholes.

CONSTRUCTION NOTES

424.22 Asphalt Rubber Crack Sealer Type 2, Applied

Station	to	Station	Side	Comments
10+00		22+25	Lt/Rt	Travelway and Shoulders

To be used to seal all surface cracks less than 1" in width that remain after milling.

424.38 Crack Repair, Hot Mastic Pour

Station	to	Station	Side	Comments
10+00		22+25	Lt/Rt	Travelway and Shoulders

To be used to seal all surface cracks greater than 1" in width that remain after milling and as directed by the Resident.

604.161 Altering Catch Basin

Station	Side	Comments
18+08	Lt & Rt	Alter Catch Basin to Cascade

Undetermined locations to be determined by the Resident.

604.18 Adjusting Manhole or Catch Basin to Grade

Station	Side	Comments
10+35	Lt	Catch Basin
11+45	Rt	Catch Basin
15+16	Lt & Rt	Catch Basin
20+77	Lt & Rt	Catch Basin

Undetermined locations to be determined by the Resident.

CONSTRUCTION NOTES

608.08 Reinforced Concrete Sidewalk
608.46 Regrading Sidewalk

Station	to	Station	Side	Comments
10+68		11+08	Rt	Driveway
12+10		12+30	Lt	Driveway
12+50		12+65	Lt	Driveway
13+12		13+30	Lt	Driveway
13+80		14+00	Lt	Driveway
14+35		14+49	Lt	Driveway
14+63		14+75	Lt	Driveway
15+22		15+37	Lt & Rt	ADA Ramp
15+65		15+80	Lt & Rt	ADA Ramp

608.26 Curb Ramp Detectable Warning Fields

Station	Side	Standard Detail Reference
15+27	Lt & Rt	801(16) Parallel Pedestrian Ramp Option 2A
15+65	Lt	801(18) Parallel Pedestrian Ramp Option 2B
15+70	Rt	801(18) Parallel Pedestrian Ramp Option 2B
15+65	Lt	801(19) Perpendicular Pedestrian Ramp Option 2B
15+70	Rt	801(19) Perpendicular Pedestrian Ramp Option 2B

609.11 Vertical Curb Type 1

Station	to	Station	Side	Comments
15+20		15+32	Lt & Rt	New Curb for ADA Ramps
15+62		15+74	Lt & Rt	New Curb for ADA Ramps

609.38 Reset Curb Type 1

Station	to	Station	Side
15+20		15+28	Lt & Rt
15+62		15+70	Lt & Rt

CONSTRUCTION NOTES

615.07 Loam
618.13 Seeding Method Number 1
619.12 Mulch

Station	to	Station	Side
15+22		15+37	Lt & Rt
15+65		15+80	Lt & Rt

These items are to be used for lawn areas affected by ADA work and as determined by the Resident.

627.733 4" White or Yellow Painted Pavement Marking Line

Center lines and edge lines shall be painted on all matched pavements 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 Curb Marking

Stop Bar:

Station	Side
10+25	Rt
15+35	Lt
15+50	Rt

Crosswalks:

Station	Side
9+85	Rt
10+00	Lt
15+25	Ctr
15+50	Lt & Rt
15+68	Ctr

Symbol	Qty
Turn	4
Straight	3
ONLY	1

CONSTRUCTION NOTES

627.78 Temporary 4" Painted Pavement Marking 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.

The Contractor shall remove all TOMs after striping.

CROSS SLOPE SHEET

STA	LEFT			Control Line	RIGHT	
	Shoulder Slope (%)	**Travel Lane Slope** %	**Turn Lane Slope** %	**Cut/Fill** inch	**Turn Lane Slope** %	**Shoulder Slope** (%)
22+50	**Match WIN 22462.01**					
22+00	-1.0	**-1.0**		**-1.50**	**-2.0**	**-2.0**
21+50	-1.0					
21+00	-1.5	**-1.0**			**-2.0**	**-2.0**
20+50	-1.5	-1.5		**-1.50**	-1.5	-1.5
20+10	**Match**	**Match**		-2.00	**Match**	**Match**
20+00	**Bridge**	**Bridge**		**-1.50**	**Bridge**	**Bridge**
18+00	**Bridge**	**Bridge**			**Bridge**	**Bridge**
17+50	**Match**	**Match**		**-1.50**	**Match**	**Match**
17+00	**-1.5**	**-1.5**		**-2.00**	**-2.0**	**-2.0**
16+00				**-2.00**		
15+50				-1.50		
15+00				**-2.00**		
14+50	**-1.5**	**-1.5**				
14+00	-1.0	-1.0			**-2.0**	**-2.0**
13+50	0.5	0.5			-3.0	-3.0
13+00	2.0	2.0			**-4.0**	**-4.0**
12+50	**3.0**	**3.0**	**End**			
12+00			3.0			
11+50	**3.0**	**3.0**	3.0		**-4.0**	**-4.0**
11+00	2.0	2.0	2.0		-2.5	-2.5
10+50	2.0	2.0	2.0		-1.5	-1.5
10+00	**Match**	**Match**	**Match**	**-2.00**	**Match**	**Match**

Note: The dedicated right turn lane (sta 10+00 to 11+00) will be milled to match the existing slope at a control depth of 2 inches at the edge of curbs.

December 17, 2010
Supersedes December 30, 2009

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.

Specific conditions and requirements for each project of this Contract may be found under the corresponding project's section of this Specification.

THE CONTRACTOR SHALL PLAN AND CONDUCT WORK ACCORDINGLY.

MEETING

A Preconstruction Utility Conference, as defined in Subsection 104.4.6 of the Standard Specifications **IS REQUIRED**.

GENERAL INFORMATION

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

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

Overview & Utility/Railroad Contact Information:

Utility/Railroad	Aerial	Underground	Contact Name	Contact Number
Breezeline/Comcast	**X**		***Chris Roberts** **Jonathan Ramsdell**	**(603) 393-0358** **(603) 507-9896**
Central Maine Power	**X**		**Craig Bate**	**(207) 578-2062**
City of Sanford (Drainage)		**X**	**Matt Hill**	**(207) 324-9135, ext.1**
City of Sanford (Street Lights)	**X**		**Matt Hill**	**(207) 324-9135, ext.1**
City of Sanford (Traffic Signals)	**X**	**X**	**Matt Hill**	**(207) 324-9135, ext.1**
Fidium / Consolidated Communications	**X**	**X**	**Mike McPherson**	**(207) 217-7711**
FirstLight	**X**		**Heather Araujo**	**(978) 302-9334**
SanfordNet Fiber	**X**	**X**	**Tom Gilmore**	**(207) 286-7479**
Sanford Sewerage District		**X**	***Andre Brousseau** **Dan Davis**	**(207) 467-0910** **(207) 432-3079**
Sanford Water District		**X**	**Keith Levasseur**	**(207) 446-0410**
Unitil Corp.		**X**	**Derick Giroux**	**(207) 251-2533**

*** = Primary Contact**

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

All adjustments are to be made by the respective Utility Company 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 shall be completed before the utilities are able to relocate their facilities.

It is the responsibility of the Contractor with the Utility Pole owner, to lay out all the proposed pole locations in the field prior to the start of utility relocations. Should any adjustments be needed, the Utility Company 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 shall 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 Central Maine Power*****

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

PLEASE NOTE

Some of the utilities have underground service facilities located within the project limits. Underground service transfers have been included in the working days estimates.

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

Several private construction projects are in various stages of planning, design or construction within the limits of each project. The locations and status of these projects will be discussed at the preconstruction meeting.

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.

VOLUME 1 - DOWNTOWN IMPROVEMENTS
(WIN 24395.01)

AERIAL

Summary:

Utility	Pole Set	Run New/ Trans. Wires/ Cables	Remove Poles	Estimated Working Days
Breezeline / Comcast		**X**		**5**
Central Maine Power	**X**	**X**	**X**	**20**
City of Sanford (Streetlights)		**X**		**1**
Fidium / Consolidated Communications		**X**		**10**
FirstLight		**X**		**5**
SanfordNet Fiber		**X**		**3**
			Total:	**44**

Utility Specific Issues:

Central Maine Power

Central Maine Power has approximately **16 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 CMP once all poles are staked, pole access is provided, and the clearing and spot cuts/fills are completed. **CMP will require two weeks to schedule their work after notice is received that the prep work is completed.** Once work is scheduled, CMP estimates **20 working days to complete their work.** CMP will remove the old poles once all transfers are complete.

FirstLight

FirstLight has cables in the following sections to run/transfer to the new pole locations:

- Main Street, from West Elm Street to Roberts Street
- Washington Street, from the Riverside Avenue/Pioneer Avenue intersection to High Street and continuing up River Street

FirstLight is also located in a customer-owned underground conduit attached to one pole within the project limits, running from pole 52 near Station 12+78 to the nearby apartment building.

The Contractor and/or preceding Utility Company shall notify FirstLight once all prior necessary work is completed. **FirstLight will require two weeks to schedule their work after notice is received.** Once work is scheduled FirstLight estimates **5 working days to complete the transfer work**.

Breezeline / Comcast
Breezeline has cables to run/transfer to the new pole locations. The Contractor and/or preceding Utility Company shall notify Breezeline once all prior necessary work is completed. **Breezeline will require two weeks to schedule their work after notice is received.** Once work is scheduled, Breezeline estimates **5 working days to complete their transfer work**.

Fidium / Consolidated Communications
Fidium / Consolidated Communications (CCI) has cables to run/transfer to the new pole locations. The Contractor and/or preceding Utility Company shall notify Fidium once all prior necessary work is completed. **Fidium will require two weeks to schedule their work after notice is received.** Once work is scheduled, Fidium estimates **10 working days to complete their transfer work**.

City of Sanford (Streetlights)
The City of Sanford has LED streetlights to transfer to the new pole locations. After CMP has completed their work, the City shall begin their work. The Contractor and/or CMP shall notify the City once all of CMP's work is completed. **The City of Sanford will require two weeks to schedule their work after notice is received.** Once work is scheduled, the City estimates **1 working day to complete their transfer work**.

SanfordNet Fiber
SanfordNet Fiber has cables to adjust/transfer to the new pole locations. The Contractor and/or preceding Utility Company shall notify SanfordNet Fiber once all prior necessary work is completed. **SanfordNet** Fiber **will require two weeks to schedule their work after notice is received.** Once work is scheduled, SanfordNet Fiber estimates **3 working days to complete their transfer work**.

Pole List:

Existing Pole #	Existing Station	Left/Right		Existing Offset	Proposed Station	Left/Right		Proposed Offset	Comments
		LT	RT			LT	RT		
MAIN STREET									
CMP 44 NETT 12	3+55.64	X		16.62					
CMP 23	3+83.10		X	35.56					**REMOVE**
CMP 23	4+10.97		X	95.66	**4+10.97**		**X**	**95.66**	**REPLACE W/ TALLER POLE IN SAME LOCATION**
CMP 22	4+31.19		X	138.08					ON EMERY ST
NEW CMP 45	5+05.37	X		19.90	**4+97**	**X**		**20.75**	**RELOCATE**
OLD CMP 45	5+07.87	X		19.90					**REMOVE**
NEW CMP 46	6+23.62	X		19.35	**6+28**	**X**		**26**	
OLD CMP 46 NETT 9	6+27.62	X		17.35					**REMOVE**
NEW CMP 47	7+33.64	X		18.50	**7+36**	**X**		**26**	
OLD CMP 47 NETT 8	7+36.69	X		17.67					**REMOVE**
OLD CMP 48 7	8+47.20	X		17.96					**REMOVE**
NEW CMP 48	8+49.29	X		20.34	**8+46**	**X**		**26**	**RELOCATE**
CMP 1	9+16.98	X		105.17					ON WEST ELM ST
CMP 49 W/LIGHT	9+51.23	X		19.62	**9+52**	**X**		**23**	
CMP 0.5 NY 0.5	9+82.47		X	76.05					
OLD CMP J50	10+61.08	X		19.86					**REMOVE**
NEW CMP J 50	10+56.58	X		22.92	**10+58**	**X**		**22**	**RELOCATE**
CMP J 51 W/LIGHT	11+55.00	X		21.24	**11+52**	**X**		**21.4**	
					11+60		**X**	**29.25**	**ADD SUPPORT POLE**

CMP 52	12+78.25	X		21.91	**12+78.25**	**X**		**23.25**	
OLD CMP 53	13+88.77	X		20.87					**REMOVE**
NEW CMP 53	13+93.27	X		21.54					
CMP 54	15+31.70	X		20.49					
54H					**15+53.50**	**X**		**20.5**	**NEW PROPOSED POLE (CMP) - APPROX. LOCATION**
OLD CMP 55	16+37.31	X		20.44					**REMOVE**
NEW CMP 55	16+39.81	X		20.44					
	17+91.90	X		141.71					ON ROBERTS ST
CMP 56 W/LIGHT	17+94.62	X		28.12					
CMP 56S	18+96.23		X	41.76					
STEEL POLE RT 4A/109	20+43.69		X	28.75					**REMOVE**
STEEL POLE W/CROSSWALK SIGNAL	20+70.91		X	38.72					
STEEL POLE	20+76.25	X		26.46					
	21+50.19	X		31.67					
STEEL POLE	21+58.51		X	44.59					**SAWCUT FLUSH**
STEEL POLE W/CROSSING SIGNAL	21+65.29		X	34.76					**SAWCUT FLUSH**
CMP 1 LP TRANS	22+28.64	X		115.22					ON KIMBALL ST
	22+60.90	X		108.10					BRACE POLE ON KIMBALL ST
	28+60.90		X	109.56					ON ST. IGNATIUS ST
	28+71.11		X	141.20					ON ST. IGNATIUS ST
NO # W/LIGHT	29+31.82		X	35.79					
CMP 10	29+42.63	X		120.73					ON TWOMBLEY RD
	31+00.10		X	91.29					
	31+24.12	X		31.54					
1 (OLD)	31+30.53	X		183.21					ON LEBANON ST
1	31+32.17	X		187.26					ON LEBANON ST
5 W/LIGHT	31+52.13		X	32.35					
J 1	31+91.04		X	109.62					
W/SIGN RT 11/109	32+81.25		X	24.84					
WASHINGTON STREET									
1.01	44+85.80		X	62.59					ON CHURCH ST
W/CONDUIT	44+93.52		X	121.30					ON CHURCH ST
	46+14.62	X		42.28					
13	46+60.28		X	144.55					ON PIONEER AVE
	46+62.77	X		142.86					ON RIVERSIDE AVE
14	46+70.39		X	50.63					ON PIONEER AVE
W/LIGHT	46+71.70	X		19.84	**46+72.00**	**X**		**27**	
7	47+67.52		X	17.86	**47+64.50**		**X**	**20**	
W/LIGHT	48+44.61		X	28.72					
	48+77.49	X		38.93					
CMP 9 NEW	49+90.55		X	22.79					
TRAFFIC/WALK SIG	49+93.39		X	23.75					
TRAFFIC/WALK SIG	50+11.32	X		22.53					
	50+51.26	X		63.71					

CMP 9.5 W/LIGHT	50+75.93		X	87.95					
CMP 10 W/LIGHT	51+04.52		X	178.31					
TRAFFIC METER BOX	51+09.60		X	45.13					
TRAFFIC/WALK SIG	51+19.75	X		35.69					
	51+46.98		X	47.13					
CMP 2	52+35.30		X	27.11					
CMP 4	53+96.36		X	25.50					
CMP 4.5	54+45.33		X	25.50					
CMP 5	55+15.33		X	25.50					
SCHOOL STREET									
9 W/LIGHT	61+47.73	X		17.67					
7	62+99.51	X		20.02					
OLD	64+29.78	X		23.64					
NEW CMP 6 W/ LIGHT & METER	64+32.38	X		23.65					
W/LIGHT	65+78.94	X		23.72					
J 1	65+80.29		X	23.99					
NO #	66+71.46	X		23.86					
NO # W/LIGHT	67+64.26	X		24.31	**67+64.26**	**X**		**22.5**	
					67+64.26		**X**	**10.25**	**ADD SUPPORT POLE**
CMP 3.5	67+99.85	X		25.02	**67+99.41**	**X**		**22.5**	
W/LIGHT & UNDERGROUND UTIL	68+95.16	X		23.41					
NO # W/UNDERGROUND UTIL	69+75.17	X		23.38					
NO # W/LIGHT	70+82.06		X	9.66					

UNDERGROUND

Summary:

Utility	Summary of Work	Estimated Working Days
City of Sanford (Drainage)	Tie into existing drainage system	**n/a**
City of Sanford (Traffic Signals)	Adjust traffic signal / electrical facilities	**n/a**
Fidium / Consolidated Communications	Relocate and adjust communication facilities	**15**
SanfordNet Fiber	(none)	**n/a**
Sanford Sewerage District	Adjust sewer facilities	**30**
Sanford Water District	Replace, relocate and adjust water facilities	**45**
Unitil Corp.	Replace, relocate and adjust gas facilities	**2**
	Total:	**92**

Utility Specific Issues:

City of Sanford

City of Sanford has aerial signals and cables for traffic signals within the project limits.

In general, all 120/240-volt upgrade projects will require a new electric service order with Central Maine Power. The Contractor shall provide the following information with the new electric service order request:

- Electrician's name performing the work
- Voltage
- Amperage
- Pole number of the existing power supply
- Distance from the pole to the control box
- The 7-digit meter number of the closest meter to the pole associated with each traffic signal location

The Contractor shall allow at least 4 weeks for the Municipality to establish the account.

Underground electric lines are to be installed by the Contractor at two locations in the project that will be owned and maintained by the City of Sanford. One is on Main Street near St. Ignatius Street and the other on School Street near Central Park. Refer to the contract plans for more information.

Underground electric lines are to be installed by the Contractor for the new streetlights throughout the project as shown on the contract plans.

City of Sanford (Traffic Signals)
The Contractor will install approximately 15' of new conduit for the traffic signal system at the intersection of Emery Street and Main Street, approximately 260' of new conduit for the traffic signal system at the intersection of Washington Street and Main Street, and approximately 250' of new conduit for the new traffic signal system at the intersection of Washington Street, High Street and River Street.

City of Sanford (Drainage)
The Contractor shall ensure that any existing drainage structures beyond the project limits are properly connected to the new drainage system constructed as part of this project as shown on the contract plans.

Fidium / Consolidated Communications
Fidium has underground facilities throughout the project. Fidium has approximately **13 telephone manholes** to adjust to grade and conduit riser transfers to new poles. Fidium intends to lower their manholes prior to milling/excavating. Fidium intends to adjust the manholes prior to paving surface and estimates a total of **15 working days** to complete the work. The Contractor shall provide **two weeks notification** to Fidium for any and all work to be performed by Fidium.

SanfordNet Fiber
SanfordNet Fiber has underground facilities within the project. If accepted as a bid alternative to this project, a utility duct bank owned and managed the City of Sanford is to be installed by the Contractor, along Main Street beginning at Roberts Street and running north to the intersection of Lebanon Street. The installation of the fiber lines will be performed at a later date after construction. If the City's bid cost for this work is higher than the estimated cost, the City reserves the right to coordinate with the Contractor directly to have this work done as independent/non-participating work instead.

Sanford Sewerage District
Sanford Sewerage District has approximately **29 sewer manholes** to adjust to grade. The Sewerage District intends to lower their manholes prior to milling/excavating. The Sewerage District intends to adjust the

manholes prior to paving surface.

The Sewerage District plans to use a third-party contractor to rehab a total of 11 pipe segments using CIPP within the project, including the following facilities:

Main Street: 8 pipe segments, totaling 1200 ft.
Washington Street: 3 pipe segments, totaling 650 ft.

The Sanford Sewerage District estimates a total of **30 working days to complete the work**. The Contractor shall provide **two weeks notification** to the Sewerage District for any and all work to be performed by the Sewerage District.

Several properties along Main Street and Washington Street have roof and/or cellar drains that currently connect directly into the storm/sewer system. Sanford Sewerage District is in the process of coordinating with these property owners to disconnect from the current system and to connect to the new drainage system that is to be constructed as part of this project. The Contractor is responsible for installing storm water system connections for these properties to the sidewalk at station locations to be directed by the Sewerage District. Existing storm water pipes that connect to the sewer network will be capped and abandoned. The properties with known connections are as follows:

885 Main Street
900 Main Street
901 Main Street
906 Main Street
917 Main Street
4 Washington Street
13 Washington Street

Sanford Water District

Sanford Water District has water mains and services within the project, including the following facilities:

- Main Street: 26 services, 21 gate boxes
- School Street: 8 services, 9 gate boxes
- Washington Street: 6 services, 12 gate boxes

The District will self-perform service replacements, gate box replacements, hydrant relocations/improvements and various other water related work as required. The hydrant on Main Street will be relocated from Station 16+64 Rt to station 14+75 Rt. The District will cut out the abandoned hydrant lateral near 40+75 Lt on Washington Street for installation of a new catch basin at that location. The District intends to lower their gate valves prior to milling/excavating, where needed. The District intends to loosen and raise the gate valves prior to paving surface. Sanford Water District estimates **45 working days** to complete the adjustments and hydrant relocation. **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.

Unitil Corp.

Unitil has gas mains and gate valves located within the project limits. Prior to construction, Unitil will be relocating approximately 400' of their line along Washington Street from approximate Station 42+50 to Station 46+25, and approximately 700' of their main along School Street from approximate Station 61+90 to 68+90. This work is currently scheduled to be done in 2027.

The Contractor shall notify Unitil for additional information on the location of the Gas main prior to beginning

any excavation. Unitil intends to lower their gate valves prior to milling/excavating where needed and raise the gate valves prior to paving surface and estimates **2 working days** to complete the adjustments. The Contractor shall notify Unitil prior to any/all subsurface work in the vicinity of the Unitil main. **One-week initial notification and 48 hours' notification for subsequent work** is required so they may have a representative present.

VOLUME 2 – ROUTE 202/COTTAGE STREET (WIN 22642.00)

AERIAL

Summary:

Utility	Pole Set	Run New/ Trans. Wires/ Cables	Remove Poles	Estimated Working Days
Breezeline / Comcast		**X**		**10**
Central Maine Power	**X**	**X**	**X**	**40**
Fidium / Consolidated Communications		**X**		**15**
FirstLight		**X**		**5**
SanfordNet Fiber		**X**		**5**
Sanford Traffic Signals		**X**		**2**
			Total:	**77**

Utility Specific Issues:

Central Maine Power

Central Maine Power has approximately **21 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 CMP once all poles are staked, pole access is provided, and the clearing and spot cuts/fills are completed. **CMP will require two weeks to schedule their work after notice is received that the prep work is completed.** Once work is scheduled CMP estimates **40 working days to complete their work.** CMP will remove the old poles once all transfers are complete. The majority of new poles along Rt. 202/Cottage Street will have alley arms.

FirstLight

FirstLight has cables in the following sections to run/transfer to the new pole locations:

- Intersection of Cottage, River & Winter Streets (Cable runs along River Street, crossing Cottage Street)
- Cottage Street, from the North Avenue intersection, north to the end of the project.

The Contractor and/or preceding Utility Company shall notify FirstLight once all prior necessary work is completed. **FirstLight will require two weeks to schedule their work after notice is received.** Once work is scheduled FirstLight estimates **5 working days to complete their transfer work**.

Breezeline / Comcast

Breezeline has cables to run/transfer to the new pole locations. The Contractor and/or preceding Utility Company shall notify Breezeline once all prior necessary work is completed. **Breezeline will require two weeks to schedule their work after notice is received.** Once work is scheduled Breezeline estimates **10 working days to complete their transfer work**.

Fidium / Consolidated Communications

Fidium / Consolidated Communications (CCI) has cables to run/transfer to the new pole locations. The Contractor and/or preceding Utility Company shall notify Fidium once all prior necessary work is completed. **Fidium will require two weeks to schedule their work after notice is received.** Once work is scheduled Fidium estimates **15 working days to complete their transfer work**.

SanfordNet Fiber
SanfordNet Fiber has cables to adjust/transfer to the new pole locations. The Contractor and/or preceding Utility Company shall notify SanfordNet Fiber once all prior necessary work is completed. **SanfordNet** Fiber **will require two weeks to schedule their work after notice is received.** Once work is scheduled SanfordNet Fiber estimates **5 working days** to complete their transfer work.

City of Sanford (Traffic Signals)
The City of Sanford has traffic signal lines at the intersection of Brook Street and Cottage Street to run/transfer to the new pole locations. After CMP has completed their work, the City shall begin their work. The Contractor and/or preceding Utility Company shall notify the City once all prior necessary work is completed. **The City will require two weeks to schedule their work after notice is received.** Once work is scheduled it is assumed **2 working days** will be required to complete the transfer work, to be verified by the City's representative.

Fidium / Consolidated Communications
Fidium / Consolidated Communications (CCI) has cables to run/transfer to the new pole locations. After CMP has completed their work, Fidium shall begin their work. The Contractor and/or preceding Utility Company shall notify Fidium once all prior necessary work is completed. **Fidium will require two weeks to schedule their work after notice is received.** Once work is scheduled Fidium estimates **15 working days to complete their transfer work**.

Pole List:

Existing Pole #	Existing Station	Left/Right		Existing Offset	Proposed Station	Left/Right		Proposed Offset	Comments
		LT	RT			LT	RT		
WINTER STREET									
CMP 11.1	96+94.19		X	34.20					OFF PROJECT
CMP 11	98+21.48	X		17.76					OFF PROJECT
OLD CMP 12	99+03.00	X		16.71					**REMOVE**
CMP 12	99+03.00	X		24.00					
COTTAGE STREET									
CMP 1	100+95.23		X	13.08	**100+97**		**X**	**21.00**	**REPLACE 50FT, 10' DOUBLE ALLEY, SIDE ANCHOR**
CMP 2 / 2 FP	101+99.90		X	12.62	**102+07**		**X**	**21.00**	**REPLACE 45FT, 10' DOUBLE ALLEY**
CMP 3	103+14.00		X	13.26	**103+10**		**X**	**20.50**	**REPLACE 45FT, 10' DOUBLE ALLEY**
CMP 4 W/UT DROP	103+95.58		X	13.82	**104+00**		**X**	**20.50**	**REPLACE 45FT, 10' DOUBLE ALLEY**
	105+16.70		X	203.15					OFF PROJECT
CMP 1 / VZ 1	105+16.99		X	94.00					OFF PROJECT
	105+38.97		X	202.97					OFF PROJECT
CMP 6	105+53.48		X	14.39	**105+54**		**X**	**20.50**	**REPLACE 45FT, 10' DOUBLE ALLEY**

CMP 7	106+60.06		X	14.08	**106+65**		**X**	**20.50**	**REPLACE 45FT, 10' DOUBLE ALLEY**
J 7	106+63.23		X	14.22					**REMOVE AND TRANSFER LINES TO 106+65**
CMP 8 / 8 FP	107+56.71		X	14.26	**107+65**		**X**	**20.50**	**REPLACE 45FT, 10' DOUBLE ALLEY**
J 13	108+51.20		X	117.90					OFF PROJECT
CMP 8H/VZ 14 W/UT DROP	108+71.83		X	20.66					KEEP EXISTING LOCATION; RAISE WIRES TO AVOID BEACON
15 NETT	108+99.85	X		112.84					OFF PROJECT
CMP J 9	110+22.79		X	20.10	**110+25**		**X**	**22.50**	**REPLACE 50FT, 10' DOUBLE ALLEY**
CMP 10	111+25.93		X	19.74	**111+26**		**X**	**23.50**	**REPLACE 45FT, 10' DOUBLE ALLEY**
CMP 11 / 180 FP	112+68.94		X	19.61	**112+69**		**X**	**22.50**	**REPLACE 45FT, 10' DOUBLE ALLEY**
OLD CMP 12	113+96.00		X	19.50					**REMOVE AND TRANSFER LINES TO 113+99**
CMP 12 / 181 FP	113+98.41		X	19.43	**113+99**		**X**	**22.50**	**REPLACE**
CMP 13 / 13 NETT	115+04.89		X	112.11					OFF PROJECT
CMP 13	115+45.46		X	19.52	**115+46.90**		**X**	**22.54**	**REPLACE 45FT, 10' DOUBLE ALLEY**
OLD POLE	115+46.08		X	21.20					**REMOVE AND TRANSFER LINES TO 115+60**
CMP J 4 W/UT DROP	115+66.83	X		85.36					
OLD CMP 14	116+35.92		X	18.94					
CMP 14	116+39.85		X	18.53	**116+40**		**X**	**22.50**	**REPLACE 45FT, 10' DOUBLE ALLEY**
15	117+46.97		X	18.48	**117+47**		**X**	**22.50**	**REPLACE 45FT, 10' DOUBLE ALLEY**
OLD 15	117+49.97		X	18.48					REMOVE
16	118+30.52		X	17.38	**118+31**		**X**	**22.50**	**REPLACE 45FT, 10' DOUBLE ALLEY**
OLD POLE	118+32.85		X	17.90					**REMOVE AND TRANSFER LINES TO 118+31**
CMP J7	119+11.81		X	127.40					OFF PROJECT
OLD 17	119+42.14		X	17.51					**REMOVE**
CMP 17/86	119+45.27		X	17.14	**119+43**		**X**	**22.50**	**REPLACE 45FT, 10' DOUBLE ALLEY**
OLD 17	119+48.38		X	17.62					**REMOVE**
OLD POLE 18	120+86.75		X	16.82					**REMOVE AND TRANSFER LINES TO 120+96**
CMP 18	120+95.29		X	16.23	**120+96**		**X**	**23.50**	**REPLACE 45FT, 10' DOUBLE ALLEY**
19	122+05.31		X	20.20	**122+17.31**		**X**	**21.20**	**REPLACE**

CMP 20	123+52.18		X	18.75	**123+52.21**		**X**	**22.91**	**NEW X-ARMS**
CMP 21	125+52.92		X	20.74					**NEW X-ARMS**
CMP 23.1 W/UE DROP	127+53.98		X	36.92					
CMP 23	127+54.37		X	17.47	**127+60**		**X**	**18.25**	**REPLACE 45FT**
CMP 24	128+60.35		X	17.57					**NEW X-ARMS**
OLD POLE CMP 24	128+63.94		X	17.25					
OLD POLE CMP 25	129+98.52		X	19.00					
CMP 25	130+00.71		X	20.39					**NEW X-ARMS**
CMP 26	131+47.45		X	25.66					**NEW X-ARMS**
CMP 27	132+97.08		X	30.79					
CMP 114-41	133+42.79		X	75.72					
CMP 28	134+45.12		X	24.05					
CMP 29	135+99.40		X	23.30					
CMP 30	136+90.60		X	23.27					
CMP 31S	138+63.85	X		29.65					SUPPORT POLE, OFF PROJECT
CMP 31/200	138+64.19		X	24.40					OFF PROJECT
CMP 32/201	140+12.35		X	25.26					OFF PROJECT
RIVER STREET									
CMP 9.01	312+89.06		X	15.91					
CMP 9	313+37.00	X		27.50					
SIGNAL POLE W/ DROPS	314+17.71		X	14.19					
CMP11	315+21.36	X		29.35					**REMOVE**
CMP12	317+11.00	X		28.23					OFF PROJECT
JUNE STREET									
CMP 16	122+07.31	X		148.21	**122+07.31**	**X**		**148.21**	**REPLACE IN SAME LOCATION W/TALLER POLE**
OLD CMP 13	122+05.54		X	138.30					OFF PROJECT
CMP 13	122+05.81		X	146.95					OFF PROJECT
CMP 14	122+04.59		X	249.35					OFF PROJECT

UNDERGROUND

Summary:

Utility	Summary of Work	Estimated Working Days
City of Sanford (Drainage)	Tie into existing drainage system	**n/a**
City of Sanford (Traffic Signals)	Adjust traffic / electrical facilities	**n/a**
Fidium / Consolidated Communications	Relocate and adjust communication facilities	**15**
Sanford Sewerage District	Adjust sewer facilities	**11**
Sanford Water District	Replace, relocate and adjust water facilities	**35**
Unitil Corp.	Replace, relocate and adjust gas facilities	**3**
	Total:	**64**

Utility Specific Issues:

City of Sanford

City of Sanford has aerial signals and cables for traffic signals within the project limits.

In general, all 120/240-volt upgrade projects will require a new electric service order with Central Maine Power. The Contractor shall provide the following information with the new electric service order request:

- Electrician's name performing the work
- Voltage
- Amperage
- Pole number of the existing power supply
- Distance from the pole to the control box
- The 7-digit meter number of the closest meter to the pole associated with each traffic signal location

The Contractor shall allow at least 4 weeks for the Municipality to establish the account.

City of Sanford (Traffic Signals)
The Contractor will install 350' of new conduit for the new traffic signal system at the intersection of River Street and Cottage Street. The Contractor will also install 90' of new conduit to the new strain pole for the new flashing beacon at the intersection of Brook Street and Cottage Street. Underground electric lines are to be installed by the Contractor as noted above and will be owned and maintained by the City of Sanford.

City of Sanford (Drainage)
The Contractor shall ensure that any existing drainage structures beyond the project limits are properly connected to the new drainage system constructed as part of this project as shown on the contract plans.

Fidium / Consolidated Communications
Fidium has underground facilities throughout the project. Fidium has approximately **8 telephone manholes** to adjust to grade and conduit riser transfers to new poles. Fidium intends to lower their manholes prior to milling/excavating. Fidium intends to adjust the manholes prior to paving surface and estimates a total of **15 working days** to complete the work. The Contractor shall provide **two weeks notification** to Fidium for any and all work to be performed by Fidium.

Fidium owns a concrete pad and unused conduits at the corner of River Street and Cottage Street. This pad, its surrounding bollards and the conduits within are to be removed by the Contractor as part of this project. The ducts are to be plugged with waterproof grout wherever they are cut below grade.

Sanford Sewerage District
Sanford Sewerage District has approximately **15 sewer manholes** to adjust to grade. The Sewerage District intends to lower their manholes prior to milling/excavating. The Sewerage District intends to adjust the manholes prior to paving surface.

Sanford Sewerage District will also replace the 6" sewer main along Cottage Street from the Spruce Street intersection to the Brook Street intersection. This replacement will require a full road closure. The Sewerage District estimates a total of **11 working days** to complete all work listed above. The Contractor shall provide **two weeks notification** to the Sewerage District for any and all work to be performed by the Sewerage District.

Sanford Water District
Sanford Water District has water mains and services within the project, including the following facilities:

- Cottage Street: 40 services, 27 gate boxes

The District will self-perform service replacements, gate box replacements, hydrant relocations/improvements and various other water related work as required. The District has **4 hydrants** that will be relocated. Three of these are on Rt. 202/Cottage Street, near Stations 100+10 Rt (to be relocated near Station 100+82 Lt), 105+50 Rt (to be relocated near Station 100+64 Rt), and 115+30 Rt (to be relocated near Station 115+60 Rt). One hydrant is on North Avenue near Station 409+95 Rt (to be relocated to the other side of North Avenue). The District intends to lower their gate valves prior to milling/excavating, where needed. The District intends to loosen and raise the gate valves prior to paving surface. Sanford Water District estimates **35 working days** to complete the adjustments and hydrant relocation. **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.

Unitil Corp.
Unitil has gas mains and approximately **12 gate valves** located within the project limits. The Contractor shall notify Unitil for additional information on the location of the Gas main prior to beginning any excavation. Unitil intends to lower their gate valves prior to milling/excavating, where needed and raise the gate valves prior to paving surface and estimates **3 working days** to complete the adjustments. The Contractor shall notify Unitil prior to any/all subsurface work in the vicinity of the Unitil main. **One-week initial notification and 48 hours' notification for subsequent work** is required so they may have a representative present.

VOLUME 3 – RIVERSIDE AVENUE & WILLIAM OSCAR EMERY DRIVE (WIN 25335.00)

AERIAL

Summary:

Utility	Pole Set	Run New/ Trans. Wires/ Cables	Remove Poles	Estimated Working Days
Breezeline/Comcast		X		10
Central Maine Power	X	X	X	26
Fidium/Consolidated Communications		X		10
FirstLight		X		10
			Total:	56

Utility Specific Issues:

Central Maine Power
Central Maine Power has approximately **15 poles** to set, **15 poles** to transfer wires to/from, and **24 poles** to remove as per the pole list noted below. The variance in the number of pole sets and removals is due to previously installed poles that have not yet had transfers completed, which shall be resolved as part of this project. Sidewalk guy wires (either as part of new pole installations or replacements for existing guy wires) are being requested at certain locations (as noted in the pole list) to ensure ADA compliance. CMP shall complete these changes while new pole installations are being completed in coordination with the Contractor, who will provide the location of the proposed back-of-sidewalk. The contractor shall notify CMP once all poles are staked, pole access is provided, and the clearing and spot cuts/fills are completed. **CMP will require 2 weeks to schedule their work after receiving notice that the prep work is complete.** Once work is scheduled, CMP estimates **22 working days** to complete its work. CMP will remove the old poles once all transfers are complete.

There are two proposed lighting controller cabinets located at approximately Sta. 210+95, Rt., and 230+15, Lt.. that will require a metered connection for the project. Power will be run from pole CMP 6 (Summer Street) at Sta. 70+68, Rt., and the unnumbered pole at Sta. 229+68, Lt. to their respective lighting controller cabinet. CMP will be required to install the meter on each cabinet (once the cabinets are installed) and to energize the systems after all lighting work is completed. **CMP will require two (2) weeks to schedule their work after receiving notice that the prep work is complete.** Once work is scheduled, CMP estimates **4 working days** (intermittent) to complete their work.

Breezeline/Comcast
Breezeline/Comcast has cables to run/transfer to the new pole locations. Breezeline/Comcast also has an underground conduit within the project limits that extends from pole CMP 01 (utility drop at Sta. 101+41, Lt.), into the Mid-Town Mall Plaza. This underground conduit will need to be relocated to the new utility pole scheduled for installation at Sta. 101+35, Lt. (see underground section below for additional information). The Contractor and/or preceding Utility Company shall notify Breezeline/Comcast once all of the prior necessary work is completed. **Breezeline/Comcast will require 2 weeks to schedule its work after receiving notice.** Once work is scheduled, Breezeline/Comcast estimates **10 working days** to complete its work.

FirstLight
Firstlight has cables to run/transfer to the new pole locations. The Contractor and/or preceding Utility Company shall notify FirstLight once all prior necessary work is completed. **Firstlight will require 2 weeks to schedule its work after receiving notice.** Once work is scheduled, Firstlight estimates **10 working days** to complete its transfer work.

Fidium/Consolidated Communications
Fidium/Consolidated Communications (CCI) has cables to run/transfer to the new pole locations. The Contractor and/or preceding Utility Company shall notify Fidium/CCI once all prior necessary work is completed. **Fidium/CCI will require 2 weeks to schedule its work after receiving notice.** Once work is scheduled, Fidium/CCI estimates **10 working days** to complete its transfer work.

Pole List:

Existing Pole #	Existing Station	Left/ Right		Existing Offset (from proposed CL)	Proposed Station	Left/ Right		Proposed Offset	Comments
		LT	RT			LT	RT		
Riverside Avenue									
No Number	100+20.52		✓	25.50					Coordinate with WIN 24395.01 (Volume 1 – Downtown)
No Number	100+40.52	✓		32.48					Coordinate with WIN 24395.01 (Volume 1 – Downtown)
CMP 01	101+41.18	✓		13.32	101+35.00	✓		14.50	Replace existing utility pole & reconstruct underground utility duct banks **(1)**
CMP 02	103+14.43	✓		18.74	102+77.00	✓		14.50	Install a new utility pole, transfer utility lines, transfer the overhead cobra-style light to the new pole, and remove the old pole.
CMP 03-Guy Pole	104+64.89		✓	21.80					Existing utility aerial guy pole to remain
CMP 03 (Old)	104+73.09	✓		19.30					Transfer utilities from stub pole to existing utility pole **(2)**
CMP 03	+/- 104+70	✓		+/- 18.50					Existing utility pole to remain **(2)**
-	106+52.20		✓	17.65					Existing utility pole was removed by CMP
CMP 1	106+53.15		✓	22.70					Existing utility pole & aerial guy to remain
CMP 2	107+36.32		✓	18.32	107+40.00		✓	21.00	Install a new utility pole, transfer utility lines, transfer

									overhead cobra-style light to the new pole, install a new aerial guy, and remove the old pole
CMP 3	108+33.52		✓	17.63	108+30.00		✓	13.50	Install a new utility pole, transfer utility lines, and remove the old pole.
CMP 3 ½ (Old)	+/- 108+80		✓	+/- 18.00					Remove stub pole **(3)**
CMP 3 ½	108+84.09		✓	18.36	108+86.00		✓	14.00	Install a new utility pole, transfer utility lines, transfer overhead cobra-style light to the new pole, install a new sidewalk guy, and remove the old pole **(3)**
CMP J4	110+17.57		✓	18.39	110+15.00		✓	13.50	Install a new utility pole, transfer utility lines, and remove the old pole. CMP is planning on installing a new transformer on this pole
CMP J5	111+15.98		✓	17.99	111+20.00		✓	13.50	Install a new utility pole, transfer utility lines, and remove the old pole
CMP J5 (Old)	111+20.90		✓	17.99					Remove the existing stub pole
CMP 6 (Old)	112+02.18		✓	15.81					Remove the existing stub pole
CMP 6	112+04.49		✓	15.24	112+07.00		✓	13.50	Install a new utility pole, transfer utility lines, transfer overhead cobra-style light to the new pole, install a new sidewalk guy and aerial guy, and remove the old pole
CMP 7	113+11.86		✓	15.77	113+10.00		✓	13.50	Install a new utility pole, transfer utility lines, and remove the old pole
CMP 7 (Old)	113+16.82		✓	15.81					Remove the existing stub pole
CMP 8	114+19.44		✓	16.47	114+18.00		✓	13.50	Install a new utility pole, transfer utility lines, transfer overhead cobra-style light to the new pole, install a new aerial guy, and remove the old pole
CMP 9	115+43.71		✓	16.11	115+48.00		✓	13.50	Install a new utility pole, transfer utility lines, and remove the old pole
CMP 9 (Old)	115+48.21		✓	16.07					Remove the existing stub pole
CMP 10	116+82.25		✓	12.63	116+80.00		✓	13.50	Install a new utility pole, transfer utility lines, transfer overhead cobra-style light to the new pole, install a new sidewalk guy, and remove the old pole
CMP 10 (Old)	116+85.16		✓	13.04					Remove the existing stub pole
CMP 11	117+94.36	✓		18.50					Existing utility pole and aerial guy to remain, remove existing overhead power, and replace the existing guy-wire
No Number	118+69.16		✓	18.52					Remove the existing City-owned utility pole, meter, and guy wire
William Oscar Emery Drive									
No Number	210+99.06		✓	37.86					Existing City-owned pole to remain
CMP 8 ½	216+22.53	✓		36.57	216+77.00	✓		38.00	Install a new utility pole, transfer utility lines, transfer overhead cobra-style light to the new pole, install a new sidewalk guy, and remove the old pole
No Number	218+08.93	✓		27.43					Existing utility pole to remain
No Number	219+67.43	✓		27.39					Existing utility pole to remain
CMP 6	221+70.22	✓		26.09					Existing utility pole to remain
No Number	223+66.51	✓		26.26					Existing utility pole to remain
CMP 4	225+68.22	✓		25.84					Existing utility pole to remain
-	227+68.33	✓		26.10					Existing utility pole was removed by CMP
CMP J3	227+71.30	✓		27.57					Existing utility pole to remain
No Number	229+68.07	✓		26.70					Existing utility pole to remain
CMP 1	231+72.34	✓		28.77	231+88.00	✓		29.00	Install a new utility pole, transfer utility lines, transfer overhead cobra-style light to the new pole, install new guy-wires, and remove the old pole
St. Ignatius Street									
CMP 1	11+21.84	✓		25.28					Existing utility pole to remain
Winter Street									
CMP 5	22+24.23		✓	19.07					Existing utility pole to remain

Acorn Street									
CMP 4	30+88.14	✓		14.42					Existing utility pole to remain, replace aerial guy
Maple Street									
CMP 1	45+77.86	✓		10.76					Existing utility pole to remain
Pleasant Avenue									
CMP 4	51+10.32	✓		10.44					Utility pole was recently replaced; existing utility pole to remain, transfer remaining utilities, & remove stub pole
Lincoln Street									
No Number	62+30.61		✓	17.93					Existing utility pole to remain
Summer Street									
CMP 6	70+68.65		✓	15.00					Existing utility pole to remain, replace the existing guy wire with a new sidewalk guy
Gowen Park Drive									
No Number	82+02.82		✓	32.32	New utility pole location TBD **(4)**				Install a new utility pole, transfer utility lines, transfer overhead cobra-style light to the new pole, install a new sidewalk guy, and remove the old pole
Front Street									
CMP 9	90+52.70	✓		63.39					Existing pole to remain

Notes:

(1) Install a new utility pole, transfer utility lines, transfer the overhead cobra-style light to the new pole, install new guywires, and remove the old pole. CMP shall reconstruct the underground electrical conduit heading under the Midtown Mall parking lot. Comcast shall reconstruct the underground communication conduit from the parking lot to the new pole. The new conduit duct bank shall avoid all proposed drainage infrastructure noted on the plans.

(2) CMP recently replaced the pole on this corner; the pole shown in the survey is the original pole (now a stub pole) that has existing aerial utilities that still need to be transferred to the new pole. The new pole was not collected by survey; we have provided approximate Sta. & offset information for the new pole that is set to remain.

(3) CMP recently replaced the pole on this corner; the pole shown in the survey is the original pole (now a stub pole) that has existing aerial utilities that still need to be transferred to the new pole. The new pole was not collected by survey; we have provided an approximate Sta. & offset information for the newer utility pole to be replaced.

(4) CMP requested that this utility pole be replaced to better align the overhead aerial wires with the revised pole location for pole (CMP 8 ½). Since we do not have a survey for any additional utility poles along Gowen Park Drive, this pole location will need to be determined in the field once pole CMP 8 ½ is installed.

* Station and offset information listed are to the face of the existing and proposed poles closest to the roadway centerline *

UNDERGROUND

Summary:

Utility	Summary of Work	Estimated Working Days
City of Sanford	Establish accounts with CMP for the lighting cabinets	1
Central Maine Power	Install a new utility drop-down on proposed CMP 01 (Sta. 101+35, Lt.) and reconstruct a portion of the underground power duct bank that extends under the Mid-Town Mall parking lot.	3
Breezeline/Comcast	Install a new utility drop-down on proposed CMP 01 (Sta. 101+35, Lt.) and reconstruct a portion of the underground communication duct bank that extends under the Mid-Town Mall entrance.	3
Sanford Sewerage District	Adjust nine (9) sewer manholes to grade, replace one (1) sewer manhole & 153 linear feet of 8" sewer main with associated laterals	7
Sanford Water District	Relocate hydrants and adjust water facilities	15
Unitil Corp.	Relocate the gas main in two (2) locations and adjust the gas facilities during paving operations.	6

Total:	**35**

Utility Specific Issues:

City of Sanford

City of Sanford will have two (2) new lighting controller cabinets (located at approximately Sta. 210+95, Rt. and 230+15, Lt.) within the project limits.

In general, all 120/240-volt upgrade projects will require a new electric service order with Central Maine Power. The Contractor shall provide the following information with the new electric service order request:

- Electrician's name performing the work
- Voltage
- Amperage
- Pole number of the existing power supply
- Distance from the pole to the control box
- The 7-digit meter number of the closest meter to the pole associated with each traffic signal location

The contractor shall allow at least 4 weeks for the Municipality to establish the account.

Underground electric lines are to be installed by the Contractor as noted above and will be owned and maintained by the City of Sanford. Refer to the contract plans (Volume 3 – Riverside Avenue & William Oscar Emery Drive, Appendix A – Lighting Plans) for more information.

Central Maine Power

Central Maine Power has a utility drop at the existing utility pole CMP 01 (Sta. 101+41, Lt.), which is set to be replaced with a new pole (Sta. 101+35, Lt.). The conduit runs southwest from the pole across the City of Sanford-owned parking lot in front of the Mid-Town Mall. CMP will need to install a new pole as noted on the pole list and relocate the underground utility connection. Once the contractor has staked the proposed pole locations, CMP will complete the necessary underground work before the contractor begins any sidewalk or roadway work in the area. **CMP will require 2 weeks to schedule their work after confirming that all prep work has been completed.** Once work is scheduled, CMP estimates **3 working days** to complete its work.

Breezeline/Comcast

Breezeline/Comcast has an underground conduit (4" PVC) that runs east down the center of the Mid-Town Mall parking lot (isle/entrance) before turning 90 degrees to the south and extending to the existing utility drop at utility pole CMP 01 (Sta. 101+41, Lt.). This run of conduit will need to be reconstructed, starting at the 90-degree turn (within the entrance) and extending south to the new pole (Sta. 101+35, Lt.). After CMP has completed its work (pole installation, wire transfers, and underground relocations), Breezeline/Comcast shall begin its work. The Contractor and/or CMP shall notify Breezeline/Comcast once all of CMP's work is completed. Breezeline/Comcast will require **2 weeks to schedule its work** after receiving notice. Once work is scheduled, Breezeline/Comcast estimates **3 working days** to complete the work.

Sanford Sewerage District

Sanford Sewerage District has approximately **9 sewer manholes** to adjust to grade. The Sewerage District intends to lower its manholes prior to milling/excavating. The Sewerage District intends to adjust the manholes prior to paving the surface and estimates a total of **4 working days** to complete the work. The Contractor shall provide **two weeks' notification** to the Sewerage District for any and all work to be performed by the Sewerage District.

The Sanford Sewerage District has noted that the residential properties at 60, 63, and 67 Riverside Avenue connect to the last sewer manhole on Riverside Avenue, which is located at Sta. 116+00, Rt. In addition, the residential property at 4 William Oscar Emery Drive has a private sewer pump line that connects to the existing sewer manhole. The Contractor should be made aware that this manhole, the sewer laterals, and the existing sewer main on Riverside Avenue (from Sta. 114+50 to Sta. 116+00) are extremely shallow (within the roadway subbase). Due to the proposed 8" cut along the roadway centerline, the District plans on replacing (and lowering – roughly 10") the existing 8" sewer main (and associated laterals) beginning at the SMH located at Sta. 114+45, Rt. and extending 153' north to the SMH located at Sta. 116+00, Rt. Work will also include replacing the SMH located at Sta. 116+00, Rt. The District will chase the four sewer laterals noted above out to the right-of-way, where they will connect to the existing sewer laterals. The District estimates **3 working days** to complete its work. In addition, due to the existing/proposed shallow cover in this area, the District requests that the contractor provide a 48-hour notice prior to beginning work on the roadway box cut from Sta. 114+00 to Sta. 117+00 to allow the District to arrange oversight needs.

In areas where proposed drainage pipes or catch basins are installed within close proximity to sewer mains or laterals, or profile changes result in reduced cover over shallow utilities, the contractor shall install 2" rigid insulation as required. Payment shall be made under item 653.22, 2-Inch Polystyrene Plastic Insulation.

The Sanford Sewerage District has plans to slip-line the sewer main that runs between the existing SMH at Sta. 101+50, Rt. and the SMH at Sta. 102+84, Lt. This work is not currently scheduled but may occur during the duration of the project. The Sanford Sewerage District plans to avoid completing the work while the Contractor is actively working in the area; therefore, estimated Working Days are not required. This is for informational purposes only.

The Sanford Sewerage District has completed work on Winter Street ahead of the RAISE Grant project in anticipation of the Winter Street Mill/Fill project that is being completed. Work included sealing three existing SMH structures along Winter Street and replacing approximately 72 feet of sewer main beginning at the SMH at Sta. 21+35, Lt. and extending east to the SMH at Sta. 20+62, Rt. This work was completed in 2026; therefore, estimated Working Days are not required. This is for informational purposes only.

The Sanford Sewerage District has completed work on Riverside Avenue ahead of the RAISE Grant project in anticipation of the Volume 3 (Riverside Avenue & William Oscar Emery Drive) work. From Winter Street to Maple Street, the District has removed all service laterals previously attached to the stormwater infrastructure on the east side of Riverside Avenue and extended them to the sewer main that runs down the center of the road. This work was completed in 2026; therefore, estimated Working Days are not required. This is for informational purposes only.

Sanford Water District

The Sanford Water District has approximately **24 water gate valves** to adjust to grade within the project limits. The District will self-perform service replacements, gate box replacements, hydrant relocations/improvements, and various other water-related work as required. The District has **3 hydrants** that will be relocated (Sta. 105+37.45, Lt., Sta. 108+59.93, Lt., and Sta. 112+12.24, Lt.).The Contractor shall lay out the proposed curb, back of sidewalk, esplanade, and right-of-way in the area of proposed hydrant relocations for the District. The District shall determine the final hydrant location. The Sanford Public Works Department should review the proposed locations to confirm they will not interfere with plowing operations. The District intends to lower its gate valves, as needed, prior to milling or excavating. The District intends to loosen and raise the gate valves prior to paving the surface. The District estimates **15 working days** to complete the adjustments and hydrant

relocations. **The Contractor will be responsible for making 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 installed a new 14" water main on William Oscar Emery Drive beginning at Front Street and extending diagonally, under Stump Pond to Sta. 219+00, Lt., where it extends north to River Street at an approximately 10' offset (Lt.) of the baseline. The District requests that the contractor provide 48 hours' notice before beginning work on the inlet side of the large culvert to allow the District to arrange oversight needs.

The District abandoned the existing 8" main that runs along the west side of William Oscar Emery Drive within the limits noted above, as well as the section of water main from Sta. 90+50, Lt. to the western edge of the existing roundabout.

In areas where proposed drainage pipes or catch basins are installed within close proximity to water mains or service laterals, the contractor shall install 2" rigid insulation between the utility and proposed drainage as required. Payment shall be made under item 653.22, 2-Inch Polystyrene Plastic Insulation.

Unitil Corp.
Unitil has a gas main (intermediate pressure) and gate valves located within the project limits. Unitil (via its authorized representative, Coastal Road Repair) will be relocating approximately 65' of their gas line along Riverside Avenue from approximately Sta. 101+00 to 101+65, Rt., as well as approximately 116' of their gas line along Riverside Avenue from Sta. 107+40 Rt. to Sta. 108+25 Lt. This work is set to be completed ahead of 2029, when Volume 3 (Riverside Avenue & William Oscar Emery Drive) will begin construction. If the Contractor intends to construct the Riverside Avenue drainage around Washington Street (shown under Volume 3) while they are working on Volume 1 (Downtown Improvements), they will be required to inform Unitil at the annual construction coordination meeting at the beginning of the year that the work will be completed. Unitil estimates **4 working days** to complete the two relocations noted above.

The Contractor shall contact Unitil to request additional information on the location of the gas main prior to beginning any excavation near the facilities.

Unitil (via its authorized representative, Coastal Road Repair) intends to lower its gate valves before milling/excavating, where needed, and raise them before paving the surface. **The Contractor will be responsible for making final grade adjustments in conjunction with the paving operations.** The contractor shall provide **two weeks notification** to Unitil for any and all work to be performed by Unitil. Unitil estimates **2 working days** to complete the gate adjustments. Unitil MUST be notified prior to any/all subsurface work in the vicinity of the Unitil main. **One-week initial notification and 48 hours' notification for subsequent work** is requested so they may have a representative present.

Unitil is looking to extend the existing gas main, which currently dead-ends on the north side of Winter Street, north to Pleasant Street. The proposed service would extend up Acorn Street and Pleasant Street to serve additional customers. This work is scheduled to be completed before 2029, when construction on Volume 3 (Riverside Avenue & William Oscar Emery Drive) begins. Unitil is aware of the proposed offsets and infrastructure (including profile cuts) along this section of Riverside Avenue and will construct their utility to avoid impacts to the project. No working days are anticipated, as the work will not coincide with this section of the RAISE Grant. This is for informational purposes only.

VOLUME 4 – EMERSON STREET PARKING FACILITY
(WIN 26306.00)

AERIAL

Summary:

Utility	Pole Set	Run New/ Trans. Wires/ Cables	Remove Poles	Estimated Working Days
Central Maine Power	-	-	-	-
Central Maine Power	Replace guywire on existing pole (with sidewalk guy)			1
Central Maine Power	Provide a metered connection for the lighting controller cabinet and energize the cabinet			2
			Total:	3

Utility Specific Issues:

Central Maine Power

There are no pole relocations associated with the proposed project. Central Maine Power has one (1) pole that requires the existing guy-wire to be replaced (with a sidewalk guy) as per the pole list included in this specification. The contractor shall notify CMP when excavations and gravel placement in the area are complete and stormwater features have been installed, before sidewalk concrete or HMA is placed, to allow CMP time to replace the guy wire ahead of the work. **CMP will require two (2) weeks to schedule their work after receiving notice that the prep work is complete. Once work is scheduled, CMP estimates one (1) working day to complete their work.**

There is a proposed lighting controller cabinet located at approximately Sta. 103+13, Rt. that will require a metered connection for the project. Power will be run from the unnumbered CMP pole at Sta. 103+05.94, Rt. to the controller cabinet. CMP will be required to install the meter on the cabinet (once the cabinet is installed) and to energize the system after all lighting work is completed. **CMP will require two (2) weeks to schedule their work after receiving notice that the prep work is complete. Once work is scheduled, CMP estimates two (2) working days (intermittent) to complete their work.**

Pole List:

Existing Pole #	Existing Station*	Left/Right		Existing Offset*	Proposed Station	Left/Right		Proposed Offset	Comments
		LT	RT			LT	RT		
EMERSON STREET									
	103+05.94		X	17.61'					Replace the existing guy wire with a new sidewalk guy for ADA compliance
Cumberland Farms Light Pole	104+33.81		X	155.73'					Light pole to remain
CMP 2 W/ Light	104+38.94		X	16.97'					Utility pole to remain
Cumberland Farms Light Pole	104+62.07		X	64.96'					Light pole to remain

*Measurements referenced above are to the face of the proposed utility pole nearest the Emerson Street baseline.

UNDERGROUND

Summary:

Utility	Summary of Work	Estimated Working Days
City of Sanford	Establish an account with CMP for the lighting cabinet	1
	Total:	1

Utility Specific Issues:

City of Sanford

City of Sanford will have a new lighting controller cabinet (located at approximately Sta. 103+13, Rt.) within the project limits.

In general, all 120/240-volt upgrade projects will require a new electric service order with Central Maine Power. The Contractor shall provide the following information with the new electric service order request:

- Electrician's name performing the work
- Voltage
- Amperage
- Pole number of the existing power supply
- Distance from the pole to the control box
- The 7-digit meter number of the closest meter to the pole associated with each traffic signal location

The contractor shall allow at least 4 weeks for the Municipality to establish the account.

Underground electric lines are to be installed by the Contractor as noted above and will be owned and maintained by the City of Sanford. Refer to the contract plans (Volume 4 – Emerson Street Parking Facility, Appendix A – Lighting Plans) for more information.

SPECIAL PROVISIONS
SECTION 104
Utilities

UTILITY COORDINATION

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

THE CONTRACTOR SHALL PLAN AND CONDUCT WORK ACCORDINGLY.

MEETING

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

GENERAL INFORMATION

These Special Provisions outline the arrangements that have been made by the Department for utility work 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.

The Contractor shall give all Utilities **ten (10) working days' notice** prior to beginning **ANY** work on this project.

Overview & Utility Contact Information:

Utility	Aerial	Subsurface	Contact Person	Contact Phone
Breezeline	**X**		**Jonathan Ramsdell**	**(603)507-9896**
Central Maine Power Company	**X**		**Greg Crosby**	**(207)459-4217**
Comcast	**X**		**Brad Mason**	**(978)758-0217**
Consolidated Communications	**X**	**X**	**Martin Pease**	**(207)272-7993**
Sanford Sewerage District		**X**	**Andre Brousseau**	**(207)467-0910**
Sanford Water District		**X**	**Keith Levasseur**	**(207)446-0410**
City of Sanford	**X**	**X**	**Matthew E. Hill**	**(207)272-8279**
Unitil		**X**	**Derick Giroux**	**(207)251-2533**

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.

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.

***** Specific information regarding the line voltage can be requested from* Central Maine Power Co.****

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

AERIAL

Aerial utility adjustments are **NOT** anticipated as part of this project. Utilities have been notified and if utility relocations, though unexpected, become necessary, they will be scheduled in compliance with Section 104 of the Standard Specifications and will be done by the utilities in conjunction with the work by the Contractor.

SUBSURFACE

Consolidated Communications

Consolidated Communications has approximately **3 telecommunications manholes** to adjust to grade. Not all telecommunications manholes are within the projects paving limits. Consolidated Communications intends to lower their telecommunications manholes prior to milling, where needed. Consolidated Communications intends to adjust their telecommunications manholes to grade prior to paving surface and estimates **1 working day to complete the adjustments**. The contractor shall provide **two weeks notification** to Consolidated Communications for any and all work to be performed by Consolidated Communications.

Telecommunications Manholes To Be Adjusted To Grade

Station	Side	Comment
12+77	LT	TMH
15+49	LT	TMH
16+89	LT	TMH

Sanford Sewerage District

Sanford Sewerage District (SSD) has approximately **6 sewer manholes** within the project limits to adjust to grade. SSD intends to lower their sewer manholes prior to milling, where needed. SSD intends to adjust their sewer manholes to grade prior to paving surface and estimates **2 working days to complete the adjustments**. The contractor shall provide **two weeks notification** to SSD for any and all work to be performed by Sanford Sewerage District.

Sewer Manholes To Be Adjusted To Grade

Station	Side	Comment
11+24	LT	SMH
13+74	LT	SMH
15+64	RT	SMH
15+73	RT	SMH
16+34	CTR	SMH
21+26	RT	SMH

Sanford Water District
Sanford Water District (SWD) has approximately **6 water gate valves** to adjust to grade. SWD intends to lower their water gate valves prior to milling, where needed. SWD intends to loosen and raise the gate valves prior to paving surface and estimates **1 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 SWD for any and all work to be performed by Sanford Water District.

City of Sanford
City of Sanford has approximately **2 electrical manholes** to adjust to grade. Not all electrical manholes are within the projects paving limits. City of Sanford intends to lower their electrical manholes prior to milling, where needed. City of Sanford intends to adjust their electrical manholes to grade prior to paving surface and estimates **1 working day to complete the adjustments**. The contractor shall provide **two weeks notification** to City of Sanford for any and all work to be performed by City of Sanford.

Unitil
Unitil has gas mains and approximately **2 gas gate valves** located within the project limits. Not all gas gate valves are within the projects paving limits. Unitil intends to lower their gas gate valves prior to milling. Unitil intends to loosen and raise their gas gate valves prior to paving surface and estimates **1 working day to complete the adjustments**. **Unitil will be responsible to make final grade adjustments in conjunction with the paving operations.** The contractor shall provide **two weeks notification** to Unitil for any and all work to be performed by Until. The Contractor shall notify Unitil for additional information on the location of the gas mains prior to beginning any excavation. Unitil MUST be notified prior to any/all subsurface work in the vicinity of their gas mains. One-week initial notification and 48 hours' notification for subsequent work is requested so they may have a representative present.

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 PROVISION 105
CONSTRUCTION AREA

Construction Areas located in the City of Sanford 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 York County:

***Project 022642.01** is located in the city of Sanford*
Volume 1 is located on Route 4A/109 (Main Street) from the Emery Street intersection to the Lebanon Street/Winter Street intersection, including improvements to Washington Street, River Street and School Street.
Volume 2 is located beginning 0.05 miles south of the intersection with River Street and extending 0.76 miles to the Compact Urban Line.
Volume 3 is located on Riverside Avenue and William Oscar Emery Drive beginning at Washington Street and extending 0.89 miles to River Street.
Volume 4 is located on Emerson Street, directly west of Cumberland Farms.
***Project 028342.00** is located on Route 202 in the city of Sanford beginning at Route 4A and extending north 0.23 of a mile , includes on ramp to Route 11.*

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 City of Sanford 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 city way will be 25 mph (40 km per hour) unless a higher legal limit is specifically agreed upon in writing by the Municipal Officers concerned.

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

I. 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:

A. This project is located along and adjacent to Section 106 Resources and Section 4(f) resources:

1. Individually Eligible or National Register-Listed properties and Districts:
   a) Station 106+25 to 112+00 Left: Twelve Apostles Historic District
   b) Station 115+00 to 118+75 Right and 118+75 to 122+50 Left: Holy Family Parish Historic District
   c) Station 123+75 to 125+00 Right: Woodbury Physicians Building
   d) Station 125+50 to 132+00 Right: H.D. Goodall Hospital

B. 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.

II. Wetlands are defined in the Standard Specifications (Section 101.2) and shown on the project plans. The following shall apply to this project:

A. Wetland impacts are authorized as No Pre-Construction Notification Required under the Nationwide Permit at the following location:

1. Station 131+80: 213 SF permanent wetland impact.

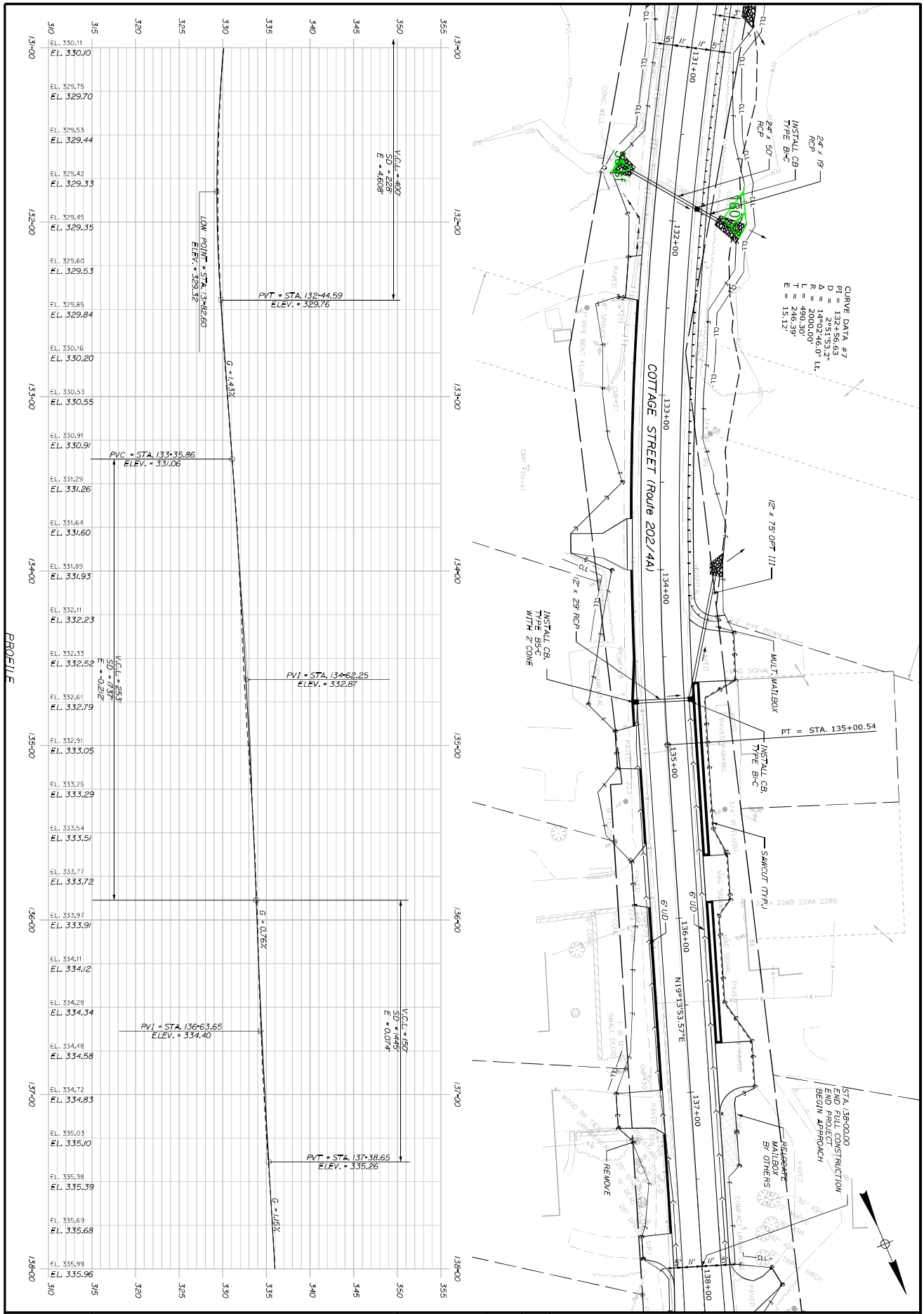
B. Any changes to the scope or location of impacts from what is shown on the plans may require review for additional permit approvals. General Conditions of the Nationwide Permit apply (see conditions in contract documents.

C. To minimize the spread of invasive species, straw mulch shall be utilized for soil stabilization in disturbed wetland areas (hay mulch may be used in other areas).

D. Approvals:

1. Soil Erosion and Water Pollution Control Plan (SEWPCP)

Filename: ...\HIGHWAY\MSTA\035_HDPLAN6.DGN Division: HIGHWAY Username: jamesdavis Date:2/5/2024



SHEET NUMBER 35 OF 149

SANFORD
ROUTE 202

PLAN AND PROFILE (6 OF 7)

PROJ. MANAGER	E. MARTIN	BY	DATE
DESIGN-DETAILED	EMD/BMR	EID	2/5/2024
CHECKED-REVIEWED	EGF	AG	2/5/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN 022642.00
HIGHWAY PLANS

Sanford
Route 202
Reconstruction
WIN 22642.00

GENERAL NOTE

A review of the Maine Department of Environmental Protection (MDEP) File Room Databases specific to Sanford, ME indicates documented petroleum product and hazardous material releases associated with historical activities of a property(s) (formerly Bud's Tire & Specialty Welding and currently Percy's Tire & Auto Repair – 102 Cottage Street) adjacent to the project alignment. Subsequent on-site subsurface exploration by the MaineDOT Environmental Office in the vicinity of these properties did not encounter soil and/or groundwater contamination within the area of concern. However, in consideration of the existing environmental data, the Contractor shall remain alert for evidence of petroleum product and/or hazardous material impacts in the approximate vicinity of Survey Station 113+00 through Survey Station 115+00 – left of centerline. In the event the Contractor encounters evidence of soil and/or groundwater contamination at any location within the project alignment, the Contractor shall immediately stop work in the impacted area, secure the excavation, and notify the Resident. In addition, the Contractor shall employ appropriate health and safety measures to protect its workers against hazards associated with working near petroleum / hazardous materials impacted soil and/or groundwater. The Resident shall contact the Senior Geologist in MaineDOT's Environmental Office at 207-624-3000, and the 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. 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:

A. This project is located along and adjacent to Section 106 Resources and Section 4(f) resources:

1. Individually Eligible or National Register-Listed properties and Districts:
   a) Station 18+50 to 22+15 Left and 21+50 to 27+00 Right Main Street Historic District
   b) Station 46+50 to 50+50 Left and Right: Sanford Mills Historic District
   c) Station 62+00 to 64+00 Right and 67+00 to 69+00 Right: Sanford Residential Historic District
   d) Station 4+50 to 6+50 Right: individually eligible property
   e) Station 5+50 to 7+00 Left: individually eligible property
   f) Station 9+50 to 13+00 Right: individually eligible property
   g) Station 13+00 to 16+00 Right: individually eligible property
   h) Station 27+00 Left: individually eligible property
   i) Station 64+00 to 66+00 Right: individually eligible property
   j) Station 19+00 to 21+00 Right: individually eligible park and contributing to Main Street Historic District

B. 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.

II. Approvals:

A. Soil Erosion and Water Pollution Control Plan (SEWPCP)

Sanford
Downtown Redesign
Highway Improvement
WIN 24395.01

GENERAL NOTE

A review of the Maine Department of Environmental Protection (MDEP) File Room Databases specific to Sanford, ME was conducted to identify known/documented sources of petroleum product and/or hazardous material use, storage, and releases within or adjacent to the proposed project alignment. MDEP records reviewed identified several properties/locations of concern. Properties include former and current retail gasoline facilities and former mill/manufacturing facilities. Subsequent on-site subsurface exploration at strategic locations relative to identified areas of concern did not encounter any specific subsurface contamination impacts. However, given both ongoing operations and the historic nature of the identified properties, encountering unidentified and unanticipated contamination is possible. In addition, as the project alignment is in an urban setting with diverse unknown historic uses, encountering subsurface impacts associated with unidentified historic storage and/or releases of petroleum products and/or hazardous substances, is also possible. Finally, given the urban setting, Urban Fill may be encountered at random locations. Urban Fill is defined as soil matrix with anthropogenic materials such as brick, concrete, wood, wood-ash, coal, coal ash, boiler ash, clinker, asphalt, glass, plastic, metal, and demolition debris. Urban Fill is considered as a Special Waste, and if encountered, considerations should be made for proper handling and management. The Contractor shall remain alert for evidence of petroleum product and/or hazardous material impacts. In the event the Contractor encounters evidence of soil or groundwater contamination, the Contractor shall immediately stop work in the impacted area, secure the excavation, and notify the Resident. In addition, the Contractor shall employ appropriate health and safety measures to protect its workers against hazards associated with working near petroleum/hazardous material impacted soil and/or groundwater. The Resident shall contact the Senior Geologist in MaineDOT's Environmental Office at 207-624-3000, and the 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. Publicly owned parks are protected by Section 4(f) the USDOT Act of 1960. The project intersects with 4 parks at the following locations and with the following special conditions:

A. Public Park locations:

1. Station 100+15 to 106+40 Right: Gateway Park
2. Station 116+40 to 233+00 Right and Station 341+00 to 342+50 Left: Number One Pond Recreation Area
3. Station 80+00 to 82+50 Right: Gowen Memorial Park
4. Station 229+75 to 232+10 Right: Sanford Dog Park

B. Public access to these parks shall be maintained throughout construction, and impacts to these parks shall not deviate from what is shown on the plans without approval from the Resident.

II. 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:

A. In-Stream Work applies to culvert LC-280659 located in Sanford on William Oscar Emery (WOE) Drive at GPS coordinates N 43.4470, W -70.9810.

B. In Stream Work shall not be allowed between the dates of October 1 and June 30, this is a time of year work restriction

1. In Stream Work shall be allowed July 1 – September 30.

C. Conditions for presence of standing or flowing water at the above identified In Stream culvert:

1. If standing or flowing water is present at the above-identified large culvert, In Stream Work shall be conducted within a cofferdam constructed in adherence with the Contractor's approved SEWPCP for this project.

2. All in-water excavation including excavation to place rip rap shall be conducted within a sealed cofferdam.

3. The contractor shall fully remove all cofferdams immediately following completion of In Stream work using techniques to minimize turbidity releases. The contractor shall restore all areas of temporary disturbance to their original contour and character upon completion of the project.

III. Wetlands are defined in the Standard Specifications. The following special conditions shall apply to this project:

A. To minimize the spread of invasive species, straw mulch shall be utilized for soil stabilization in disturbed wetland areas (hay mulch may be used in other areas). Wetland impact areas are shown in the permit documents

B. Conditions of the Maine Army Corps of Engineers Nationwide Permit 14 shall apply to this project (see permit and conditions in the contract documents).

IV. Approvals:

1. USACE Nationwide Permit 14: NAE-2026-00783 Authorized wetland fill:

	Permanent	**Temporary**
Stream (OWHM/RUS)	466 SF	268 SF

2. Soil Erosion and Water Pollution Control Plan (SEWPCP)

Sanford
William Oscar Emery Drive / Riverside Avenue
Reconstruction – Multiuse Connectivity
WIN 25335.00

GENERAL NOTE

A review of the Maine Department of Environmental Protection (MDEP) File Room Databases specific to Sanford, ME indicates documented petroleum product storage and use associated with a former retail gas station (C.N. Brown) property adjacent to the project alignment at the north end of the project. Specifically, the C.N. Brown retail gasoline facility was located at 109 River Street – on the eastern side of the intersection with William Oscar Emery Drive. The south end of the project alignment, at the intersection of River Street and Washington Avenue, is adjacent to a former automobile service station (currently Gateway Park). This area of Sanford also has a long history of various mill activity. Prior investigation by others adjacent to this portion of the subject project identified low concentrations of petroleum compounds and Polycyclic Aromatic Hydrocarbons (PAHs).

Subsequent on-site subsurface exploration by the MaineDOT Environmental Office at the north end (between Station 232+50 and Station 233+00 – right and left of centerline and Station 342+25 and Station 342+75 – right and left of centerline) and south end (Station 100+00 to Station 101+00 – right of centerline) of this project did not encounter soil and/or groundwater impacts at the locations investigated. However, in consideration of the existing environmental data, the Contractor shall remain alert for evidence of petroleum product and/or hazardous material impacts in the areas identified, in addition to all other areas of excavation within the project limits. In the event the Contractor encounters evidence of soil and/or groundwater contamination at any location within the project alignment, the Contractor shall immediately stop work in the impacted area, secure the excavation, and notify the Resident. In addition, the Contractor shall employ appropriate health and safety measures to protect its workers against hazards associated with working near petroleum / hazardous materials impacted soil and/or groundwater. The Resident shall contact the Senior Geologist in MaineDOT's Environmental Office at 207-624-3000, and the MDEP at 800-482-0777. Work may only continue with authorization from the Resident.

SPECIAL PROVISION
SECTION 105
CONTROL OF WORK
(Cooperation Between Contractors - Periodic Progress Coordination Meeting)

It is hereby brought to the Contractor's attention that the Department and/or the City of Sanford has awarded and/or plans to award other contracts near the limits of this contract, which may be in progress simultaneously.

The Contractor shall attend periodic meetings for the projects in the Sanford area. The projects in the Sanford area may include, but are not limited to, the following project(s):

Current Projects under Construction:

1) Winter Street Drainage and Utility Repairs (within the Winter Street Mill & Fill project limits): Substantial completion by August 1, 2026.

2) High Street Reconstruction – MPI Phase 1 (River Street to Brook Street): estimated completion date: December 31, 2026.

3) Central Park Apartments (located at 12 School Street): estimated completion date: December 31, 2026.

4) Number One Pond Dam Repairs: Substantial completion by December 31, 2026.

5) Route 202/Cottage Street Sewer Repairs: Substantial completion by December 31, 2026.

Proposed Projects without a Confirmed Schedule:

1) High Street Reconstruction – MPI Phase II (Brook Street to North Avenue): estimated start date: Spring/Summer of 2028 (roadway work to be completed once RAISE Grant drainage is completed).

2) City Hall Parking Lot Reconstruction: This project does not currently have an anticipated construction schedule.

3) Main Street Marketplace (formerly the Mid-Town Mall) Parking Lot Reconstruction: This project does not currently have an anticipated construction schedule.

4) Emerson Street Drainage: The City of Sanford will install the new drainage run along Emerson Street, which is noted in the Volume 4 (Emerson Street Parking

Facility) plan set. This project does not currently have an anticipated construction schedule, but it must be completed before construction of the proposed Parking Facility.

5) Stenton Mill Renovation (located at 13 River Street): Major renovations at the existing mill building concurrent with the RAISE grant. The schedule is unconfirmed at this time, but construction is anticipated to begin in 6-12 months.

6) Renovations to the building located at 4 Washington Street: The building owner is planning on renovating the building; however, the construction schedule is still to be determined. The building renovations will likely be completed concurrently with the construction of Volume 1 (Downtown Improvements) project.

7) International Woolen Mill Rehabilitation (located on Heritage Crossing): The Maine Land Bank is considering addressing the property in roughly 18 months. No official schedule has been released at this time.

Additional Comments:

In addition, there may be other projects such as those initiated by the MaineDOT Maintenance and Operations, the City of Sanford, private developments, and others. The periodic meetings will be scheduled and led by the MaineDOT and held in the Sanford area. The intent of these meetings is to ensure that traffic control measures for the different projects are well coordinated and that incidents are coordinated among the above-referenced projects in accordance with the incident management/emergency plan being developed for the projects.

During the bidding process, all questions shall be completed through the standard Maine DOT RFI process. For additional information regarding each project (or potential project) post-award and/or any time during the duration of the project, please reach out to Matthew Hill, P.E., Director of Public Works (contact information provided below):

Matthew E. Hill, P.E.
Director of Public Works
City Engineer

(207) 324-9135
156 School Street, Sanford, ME 04073

The Contractor shall cooperate with other Contractors at all times and provide project access as necessary and as directed by the Resident.

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

1. Only one paving operation will be allowed, excluding hand-placed paving and milling, unless otherwise approved by the Resident.

2. Absences must be requested at least 72 hours in advance and are subject to Department approval based on existing roadway conditions, paving deadlines, adherence to schedule, traffic restrictions, detours, etc. The Contractor must ensure that the roadway surface and signage are maintained for safe passage of the traveling public during any approved absences. The Contract Completion Date will not be modified due to approved absences.

SPECIAL PROVISION
SECTION 105
GENERAL SCOPE OF WORK
(NDAA Telecommunication Equipment)

The provisions of Section 105 of the Standard Specifications shall apply with the following additions:

105.11 Other Federal Requirements Add the following as final paragraphs:

To comply with the FY 2019 National Defense Authorization Act (NDAA), Section 889(b), in accordance with 2 CFR 200.216 and 2 CFR 200.471 regulations, as amended, the Contractor shall provide a written certification from the vendor/manufacturer/ producer and signed by the Contractor for all telecommunication and/or video surveillance equipment, services, or systems. Such certification shall include a statement that none of the equipment, parts, or systems of the identified telecommunication and/or video surveillance equipment, parts, services or systems provided by the Contractor have been produced by the following entities:

- Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities), and
- Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company or Dahua Technology Company (or any subsidiary or affiliate of such entities).

SPECIAL PROVISION
SECTION 105
General Scope of Work
(Traffic Control and Management)

1. The Contractor's Traffic Control Plan must be operationally effective, complete and in conformity with Federal requirements, Contract provisions, the current edition of the MUTCD and Department policy and procedures as determined by the Department prior to beginning work.

2. Volume 1 & 2: The Contractor shall maintain not less than one 12-foot-wide lane of alternating traffic and all lane closures shall be limited to 1,000 feet in length unless otherwise noted or shown in the plans.

3. Volume 3 & 4: The Contractor shall maintain not less than one 11-foot-wide lane of alternating traffic, and all lane closures shall be limited to 1,000 feet in length unless otherwise noted or shown in the plans.

4. During the construction of Volume 3 (Riverside Avenue & William Oscar Emery Drive), the Contractor, with sufficient notice (two weeks) to the Resident and the City of Sanford, may elect to pursue block-by-block closures with local traffic only. This request will be reviewed on a case-by-case basis and is not guaranteed for approval and/or may be stopped at any time if traffic is perceived as an issue by the Resident or the City of Sanford.

5. During the large culvert replacement on Volume 3 (Riverside Avenue & William Oscar Emery Drive), the Contractor may elect to close a portion of William Oscar Emery Drive from River Street to Gowen Park Drive (except for local traffic), i.e., the Sanford Armory, with access from River Street. The Contractor shall maintain safe pedestrian access through the work zone or provide a signed pedestrian detour.

6. When the Contractor begins operations on the project, the Contractor will be responsible for managing the traffic signal operations, including phasing and timing adjustments.

7. The Contractor will be responsible for maintaining safe pedestrian operations during construction. A section of the Contractor's Traffic Control Plan shall be dedicated to the safe movement of pedestrians through or around the work zone in compliance with the latest Maine DOT standards.

8. The Contractor is hereby notified that the City of Sanford has an existing access easement, from Cumberland Farms, that connects Emerson Street to the east side of the proposed parking facility (see right-of-way plans – Sheet 18, for defined limits). This easement does not include access to the existing signal at the intersection of Main Street/Emery Street/Cumberland Farms. The Contractor is not

permitted to utilize this signal to gain access to or from the site unless they obtain separate approval from Cumberland Farms. Proof of approval to utilize the signal to enter or leave the site shall be provided to the Resident. Unless otherwise approved, the site shall be accessed only via Emerson Street.

9. Daily variations in traffic control should be called in and called out to dispatch so emergency services can be rerouted accordingly.

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

105.11 Other Federal Requirements this section is replaced with the following:

105.11 Build America, Buy America Requirements

Unless expressly otherwise provided in the Bid Documents, the following provisions are hereby incorporated into the Contract.

This project is subject to the Buy America (23 CFR 635.410) and Build America, Buy America Act (BABA) included in the Infrastructure Investment and Jobs Act (IIJA), Public Law No. 117-58. Further guidance can be found at the FHWA Buy America Construction Program Guide linked here:

https://www.fhwa.dot.gov/construction/cqit/buyam.cfm

The Contractor shall certify compliance with Buy America and BABA in the following categories. An article, material or supply should only be classified into one of the following categories and is classified based on its state when it arrives at the project site.

1. **Iron and Steel:** All iron and steel permanently incorporated into the project must be produced in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing, and reduction of iron ore, which may occur in another country. This means all manufacturing processes, from the initial melting stage through the application of coatings, must occur in the United States. Any process that modifies the chemical content, the physical size and shape, or the final finish is considered a manufacturing process, including 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.

Existing De Minimis Use Exemption for Iron and Steel: The requirements of the law and regulations do not prevent a minimal use of foreign steel and iron materials if the total cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total construction contract price or $2,500.00, whichever is greater.

2. **Manufactured Products:** Articles, materials, or supplies that have been processed into a specific form and shape, or combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies. If a domestic product is taken out of the United States for any process, it becomes a foreign source material.

All Manufactured Products used in the project must be manufactured in the United States ("final assembly requirement"). "Component" means an article, material, or supply, whether manufactured or unmanufactured, incorporated directly into a manufactured product or, where applicable, an iron or steel product. If a manufactured product is

predominantly iron, steel, or a combination of both it must meet the above requirements for iron and steel products. Predominantly iron or steel or a combination of both means the total cost of the iron and steel content exceeds 50 percent of the total cost of all its components.

Precast concrete products classified as Manufactured Products must additionally have predominantly iron or steel components meet the above requirements for iron and steel. Cabinets or other enclosures of intelligent transportation systems (ITS) and other electronic hardware systems classified as Manufactured Products must also comply with the above requirements for iron and steel if the cabinet or enclosure is predominantly iron or steel.

3. **Construction Materials:** Items, articles, materials, or supplies that consist of only one of the items listed below:
    i. Non-ferrous metals.
    ii. Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables).
    iii. Glass (including optic glass);
    iv. Fiber optic cable.
    v. Optical fiber.
    vi. Lumber.
    vii. Engineered wood; and
    viii. Drywall.

Minor additions of articles, materials, supplies, or binding agents to a Construction Material do not change the categorization of the Construction Material.

All Construction Materials permanently incorporated into the project must be produced in the United States. For the Construction Material to be considered "produced in the United States," it must meet the following standards:

i. Non-ferrous metals. All manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.

ii. Plastic and polymer-based products. All manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.

iii. Glass. All manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.

iv. Fiber optic cable (including drop cable). All manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding, and jacketing, occurred in the United

States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic, and polymer-based products, or any others.

v. Optical fiber. All manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.

vi. Lumber. All manufacturing processes, from the initial debarking through treatment and planning, occurred in the United States.

vii. Drywall. All manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.

viii. Engineered wood. All manufacturing processes, from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

Construction Materials brought on site and combined with other materials are not considered Manufactured Products. Items that consist of two or more of the listed Construction Materials that have been combined off-site through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed through a manufacturing process should be treated as Manufactured Products rather than as Construction Materials.

Specifically Excluded Materials

Section 70917(c) of the Build America Buy America Act specifically excludes certain materials from being classified as either construction materials or manufactured products. These exclusions include cement and cementitious materials, aggregates (such as stone, sand, or gravel), and aggregate binding agents or additives.

Additionally, when these materials are combined as an unsettled mixture without a final form upon arriving at the work site, such as wet concrete or hot mix asphalt, the mixture is not considered a manufactured product. However, if these same materials are combined off-site to create a finished product, such as precast concrete, that finished product is considered a manufactured product.

Public Interest Waiver of BABA Requirements for De Minimis Costs

The US Department of Transportation issued a public interest Waiver of Buy America Requirements for De Minimis Costs. The Waiver for De Minimis Costs exempts Manufactured Products and Construction Materials produced outside the United States for which the total value of the non-compliant products is no more than the lesser of $1,000,000 or 5% of total applicable costs for the project.

The obligation to track costs throughout the life of the contract is the Contractor's responsibility. The term "total applicable costs" is defined as the total actual final material cost of the compliant and non-compliant iron and steel, Manufactured Products, and Construction Materials.

Certification

For iron and steel materials and for Manufactured Products produced predominantly of iron or steel or a combination of both*, the Contractor shall submit 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). A "Buy America" Certification is required from each manufacturer, fabricator, supplier, subcontractor that engages in "manufacturing" as defined above.

**Predominantly of iron or steel or a combination of both means that the cost of the iron and steel content exceeds 50% of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products, castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of the iron or steel components.*

In addition, upon completion of the project, the Contractor shall certify in writing as to the overall compliance with BABA and provide the total project delivered cost of all foreign Manufactured Products and Construction Materials. The Contractor shall also submit individual certifications from all subcontractors and suppliers that furnish applicable Construction Materials and Manufactured Products valued at $10,000 or more. Such individual certifications shall be submitted upon delivery of the Construction Material or Manufactured Products to the site.

Example certification:

I hereby certify that this project is in compliance with the Build America, Buy America Act (Public Law 117- 58) requirements for this project. All Iron and Steel, Manufactured Products produced predominantly of steel or iron, Manufactured Products and Construction Materials that are permanently incorporated into the work for this project were produced in the United States of America, with the only exceptions as noted below.

As required, we will maintain all records and documents pertinent to the Build America, Buy America Act requirements, at the address given above, for not less than 3 years from the date of Final Acceptance. These files will be available for inspection and verification by the Maine Department of Transportation and/or the Federal Highway Administration.

We further certify that the total value of foreign steel and iron for this project is $_____, said value being less than 0.1% of the total construction contract price or $2,500.00, whichever is greater.

We further certify that the total material cost of foreign Manufactured Products and Construction Materials for this project is $_____, said value being no more than the lesser of $1,000,000 or 5% of total applicable costs. The term “total applicable costs” is defined as the total actual final material cost of the compliant and non-compliant iron and steel, Manufactured Products, and Construction Materials.

Signed (*Contractor*)
(*President*) (*Contractor Firm*)

MaineDOT DBE Project Attainment Target (PAT)

for this Project is **0**%

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.

December 11, 2025

SPECIAL PROVISION
SECTION 106 - HOT MIX ASPHALT PAVEMENT

The following subsections of the most current version of Specification 100 – General Conditions have been revised and amended by the following:

106.7.3 Early Termination of Lots

In the event a Lot in progress is terminated prematurely before the Department is able to take the number of acceptance samples required by the test method specified in the Contract, the following will apply as applicable unless otherwise detailed in the specifications for the item:

1. For items under statistical acceptance where payfactors are generated
    a. If three or more samples have been taken, then payfactors will be generated using the available samples results for the lot.
    b. If the termination was requested by the Contractor and approved by the Department prior to three samples being taken, then each property's payfactor will be set to 0.80.
    c. If the termination was initiated by the Department prior to three samples being taken, then each property's payfactor will be set to 1.00 for each property.
2. For items not under statistical acceptance
    a. If initiated by the contractor and no random sample has been reached the entire lot shall be subject to a penalty of 20% of the item's price.
    b. If initiated by the contractor and only the most recent sample tonnage has not been reached only the tonnage for that sublot will be subject to a penalty of 20% of the items price.

An HMA mix design aim change request from the Contractor with open Lots in progress will constitute a contractor initiated lot termination. For methods A & C, the minimum samples required to generate a pay factor prior to termination will be three. If a minimum of three samples have not been obtained, then each property's payfactor will be set to 0.80. For methods B & D the minimum number of samples (sublots) required prior to an aim change will be the total tonnage of the lot, or a minimum of three, whichever is less. If the minimum number of samples have not been obtained then the pay adjustment for each of the sublot's properties will be set to 0.80.

SPECIAL PROVISION
SECTION 107
TIME
(Contract Time)

1. The Contractor shall be allowed to commence Work provided that the Contract has been awarded, all required plans/submittals have been received and determined to be acceptable by the Department, and a preconstruction meeting has been held.

2. The specified Contract Completion Date is **December 21, 2030**. The Contractor shall complete all work on or before this date.

3. Substantially Complete will be defined by the Department as the following:

    a. Volume 2 (Cottage Street Improvements):
        i. All paving, striping, signing, guardrail, and drainage work is complete
        ii. All lighting and signals are complete and operational
        iii. All disturbed slopes are seeded and mulched, and temporary erosion control mix and/or blanket and riprap are installed where necessary
        iv. No lane or shoulder closures are required, except for demobilization and striping (removal of construction signs, drums, and general clean-up)

    b. Volume 1 (Downtown Improvements):
        i. All paving, striping, signing, guardrail, and drainage work is complete
        ii. All lighting and signals are complete and operational
        iii. All bridge work is complete
        iv. All disturbed slopes are seeded and mulched, and temporary erosion control mix and/or blanket and riprap are installed where necessary
        v. No lane or shoulder closures are required, except for demobilization and striping (removal of construction signs, drums, and general clean-up)

    c. Volume 3 (Riverside Avenue and William Oscar Emery Drive):
        i. All paving, curbing, concrete work, retaining walls, striping, signing, and drainage work are complete.
        ii. The large culvert is complete and operational.
        iii. All lighting and rectangular flashing beacons are complete and operational.
        iv. The removal of the existing flashing beacon at the intersection of Riverside Avenue & Winter Street is complete, and the LED flashing stop signs are operational.
        v. Landscaping has been installed and is being cared for by the Contractor.
        vi. All disturbed slopes are seeded and mulched, and temporary erosion control mix and/or blanket and riprap are installed where necessary.
        vii. No lane or shoulder closures are required, except for demobilization and striping (removal of construction signs, drums, and general clean-up).

    d. Volume 4 (Emerson Street Parking Facility):
        i. All paving, curbing, concrete work (sidewalks and bus pad), striping, signing, guardrail, and drainage work is complete.

ii. Stormwater features such as the underdrain soil filter and the stormwater treatment system are complete, tested, and operational.
iii. All lighting is complete and operational.
iv. Landscaping has been installed and is being cared for by the Contractor.
v. All disturbed slopes are seeded and mulched, and temporary erosion control mix and/or blanket and riprap are installed where necessary.
vi. No lane or shoulder closures are required, except for demobilization and striping (removal of construction signs, drums, and general clean-up).

4. Winter Street: There is no specific timeline for this project, work shall be completed prior to the contract completion date noted above. Work shall be coordinated with Volume 3 (Riverside Avenue & William Oscar Emery Drive) to ensure curb cuts at the intersection of Winter Street/Riverside Avenue are completed prior to surface pavement being placed on Winter Street.

SPECIAL PROVISION
SECTION 107
Time
(Allowable Work Times)

1. The Contractor shall provide a work schedule and plan operations so that the Resident will have sufficient advance notification of at least 48 hours prior to a work day to provide the necessary inspection and oversight.

2. The Contractor shall provide the Resident with a 48-hour written notice before beginning night work. After receiving this notice, no work is allowed for 48 hours. Once work has been completed, the Contractor shall provide the same notice to return to day work.

3. The Contractor shall not schedule both day work and night work within the same 24-hour period without prior approval by the Resident and 48-hour notice.

4. The Contractor shall be notified at least two weeks prior to Sanford community events that will require the temporary suspension of work. Community events that require the temporary suspension of work will be analyzed in accordance with Section 109.5 Adjustments for Delay. Exact dates for City of Sanford events are not available at this time for the entire anticipated duration of the project. Below is a list of events the City of Sanford hosts throughout the year. Exact dates and times of these events will be coordinated with the Contractor at the beginning of construction for each volume of the project.

    a. Winterfest – 3rd week in February – Ice Fishing on Number One Pond.
    b. Mini Boat Races – Late June & early August on Number One Pond.
    c. Witches on the Water – Late October.
    d. Water Ski Shows – Every Thursday at 6:00 PM in July.
        i. Evening practices in June.
        ii. Evening practices Monday- Wednesday in July.
    e. 3rd of July Block Party 1:00 PM to 10:00 PM – Close WOED from Lincoln Street to River Street.
    f. Holly Daze Parade & Central Park Tree Lighting – First Friday of December, 4:00 PM to 8:00 PM.
    g. Goodall Park (on Roberts Street) hosts numerous baseball tournaments throughout the summer (May-August).
    h. Central Park: Farmers Market on Saturdays from 8:00 AM to 12:00 PM.
    i. St. Thomas School (69 North Avenue) Events:
        i. Mid to late September car show.
        ii. First Saturday in November – 5k race beginning and ending at Memorial Gym (678 Main Street).
        iii. First Sunday in May – Spring Fair at the Memorial Gym (678 Main Street).

5. Volume 2 (Cottage Street Improvements) Limitations:
    a. All work must be substantially completed by June 30, 2028.

6. Volume 1 (Downtown Improvements) Limitations:
    a. Work may not commence until March 17, 2028.
    b. Main Street from STA 3+40 to 15+00 shall be reopened to two-way traffic prior to September 1, 2028.
    c. All work must be substantially completed by September 28, 2029.

7. Volume 3 (Riverside Avenue and William Oscar Emery Drive) Limitations:
    a. Work may not commence until March 16, 2029.
    b. All work must be substantially completed by September 30, 2030.
    c. Proposed drainage extending from Washington Street to the outfall (shown under this project) may need to be completed while the Contractor is working on Volume 1 (Downtown Improvements). The Contractor shall coordinate this work with the Resident.
    d. The proposed large culvert shall be constructed within the in-stream work window (July 1 – Sept 30).

8. Volume 4 (Emerson Street Parking Facility) Limitations:
    a. Work may commence at any time on this project.
    b. All work must be substantially completed by November 15, 2030.

9. Winter Street (Mill & Fill) Limitations:
    a. Work will not be allowed while the Cottage Street detour is in place.
    b. Work should be coordinated with the proposed pedestrian and intersection improvement work associated with Volume 3 (Riverside Avenue & William Oscar Emery Drive).

SPECIAL PROVISION
SECTION 107
TIME
(Prosecution of Work – Initial Schedule)
(Prosecution of Work - Biweekly Updates)

Standard Specification 107 shall be amended as follows:

Add the following to Paragraph 107.4.4 Schedule Revisions:

The Contractor shall provide an updated construction schedule every two weeks to reflect the current progress of work and anticipated time for all portions of the work as indicated in Section 107.4.2.

Method of Measurement:

Prosecution of Work – Initial Schedule will be measured by the lump sum.

Prosecution of Work – Biweekly Updates will be measured by the lump sum.

Basis of Payment:

The accepted quantity of Prosecution of Work – Biweekly Updates will be paid at the contract unit price per lump sum upon completion of work. Interim payments will be made as a percent complete of the total lump sum, commensurate with the portion of the project completed, based upon contract time. Such payment will be full compensation for all work to respond to comments, revise, and submit the updated CPW schedule on a biweekly basis.

The accepted quantity of Prosecution of Work – Initial Schedule will be paid for at the contract unit price per lump sum at the completion of work.

Pay Item	Description	Pay Unit
107.51	Prosecution of Work – Initial Schedule	LS
107.531	Prosecution of Work – Bi-Weekly Updates	LS

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 $^{5}/_{16}$ 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 $^{1}/_{8}$ 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 ½ 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 $^{1}/_{8}$ 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

Depth (At Centerline)	Milling Conditions
Vertical Longitudinal Joint	
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.
12:1 Tapered Centerline Joint	
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 4th, 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 **21 days** 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

Contractor Quality Control The Contractor shall develop and submit a Quality Control Plan (QCP) that addresses the methods to be used, equipment to be used, work accomplished (quantity measurements and tracking) as well as methods of cleaning and protection of the work as it is completed. The Contractor shall control the work and operate in accordance with the approved QCP in order to complete work meeting the contract requirements. The Contractor shall not begin pavement removal operations until the Department approves the QCP in writing.

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 operation, 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 prime contractor or pavement removal subcontractor. The QCP Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the QCP. The QCP Administrator (or their designee in the QCP Administrator's absence) may not be required to be onsite during all work activities but shall be available to communicate with the Department as needed.

b. Onsite Representative - The Onsite Representative (OR) shall be onsite and work directly with the crew as needed. The OR shall perform quality control inspections or measurements at the job site to assure that layout, pavement removal depth, width, profile and final surface tolerance meet the requirements of the contract.

The QCP shall detail the coordination of the activities of the Plan Administrator, and the OR. The Superintendent shall be named in the QCP if different than the OR, and the responsibilities for successful implementation of the QCP within the companies' activities shall be outlined.

The QCP shall address any items that may impact the quality of pavement removal activities and final milled pavement surface including, but not limited to, the following:

a. General Requirements:

- Name of QCP Administrator
- Description of corrective action processes
- Remediation of defective work

b. Quality Control Plan requirements

- Name of Onsite Representative(s)
- Equipment make and model (including product sheet)
- Width of cutting drum
- Automation make, model and series (including product sheet)
- Describe automation set up, including methods to ensure pavement removal operations meet the requirements of the contract using control points, reference points, and cut points as well as any slope or cut depth transitions.
- Describe project layout, including centerline and any edge cut control, any off-set control layout to maintain or recreate centerline or edge cut control, cross slope transitions, or variable depth transitions required to perform the work
- Procedures to remove pavement surface to the required depth, width and profile
- Procedures to monitor pavement removal activities to ensure the final milled surfaces meet surface tolerance and texture requirements
- General cleaning operation activities including equipment to be used to sweep, vacuum and prepare surfaces for traffic use
- Procedures to ensure that traffic can transition from the milled to non-milled surfaces safely.
- Procedures to protect the milled surfaces from deterioration from construction activities, traffic or weather impacts

A summary of the day's results including a quantity report, equipment used, and environmental conditions will be recorded and signed by the OR and presented to the Department's representative by 1 PM the following working day.

Failure to adhere to the QCP, replace or repair defective or non-conforming equipment, or adjust material or installation procedures in an effort to produce work that meets the contract requirements will result in a notification of a quality control violation resulting in monetary penalties.

A letter describing the violation shall be provided to the Contractor which will result in a mandatory work suspension and a reduction in payment as shown in Table 106.4A below. The Contractor shall submit a letter to the Department that details the corrective action made to address the violation(s) in its Quality Control Plan. Work may resume when the Department is satisfied the corrective action will result in adherence to the Quality Control Plan.

Table 106.4 A - Quality Control Pay Reduction

Quality Control Plan Value*		Pay Reduction		
From More Than	To and Including	1st	2nd	3rd & Subsequent
$0	$500,000	$1,000	$2,000	$4,000
$500,000	$1,000,000	$2,000	$4,000	$8,000
$1,000,000	$3,000,000	$5,000	$10,000	$20,000
$3,000,000	and more	$10,000	$20,000	$40,000

* The Quality Control Plan Value is the total Bid value of all items covered by a Quality Control Plan, as detailed in the applicable specification or Special Provision.

Pay reductions for failure to comply with the approved QCP are cumulative, and the Department will deduct any pay reductions from amounts otherwise due the Contractor. These pay reductions are intended to encourage the Contractor to comply with its approved QCP, and are not necessarily related to the quality of the work provided.

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
202.2023 Removing Pavement Surface - Medium Cut Drum	S.Y.
202.20231 Removing Pavement Surface - Medium Cut Drum (Hourly)	Hour

SPECIAL PROVISION
SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS
(Remove Existing Flashing Beacon)

The provisions of Section 202 of the Standard Specifications shall apply with the following additions and modifications.

202.01 Description:
Description shall be in accordance with Maine DOT Standard Specifications Subsection 202.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of the full removal of the existing flashing beacon assembly, including the flashing beacons, concrete foundation, mast arm (arm and upright), structural hardware, and electrical hookups located at the intersection of Winter Street and Riverside Avenue.

The Contractor shall be aware that the intersection of Winter Street and Riverside Avenue is a high-crash location. The Contractor shall ensure that the intersection is adequately signed (for the safety of the traveling public) during the interim condition (if one is imposed) between the removal of the existing flashing beacon and the installation of the LED flashing stop signs. Temporary conditions may include installing sign W4-4 on existing stop signs on Riverside Ave, along with orange flags. The Contractor shall work with the Resident and the City of Sanford to find an acceptable solution for the interim condition of the intersection.

202.07 Method of Measurement:
Method of Measurement shall be in accordance with Maine DOT Standard Specifications Subsection 202.07. This subsection shall be amended by the addition of the following paragraphs:

Item 202.56, Remove Existing Flashing Beacon, will be measured by the Lump Sum, complete in place, and accepted.

202.08 Basis of Payment:
The Basis of Payment shall be in accordance with Maine DOT Standard Specifications Subsection 202.08. This subsection shall be amended by the addition of the following paragraphs:

The accepted quantity of Remove Existing Flashing Beacon will be paid for at the contract unit bid price, lump sum. This shall include the complete removal of the existing beacon assemblies, mast arm, mast arm upright, overhead power, meter, cabinet, electrical wiring, and concrete foundation. This item should include all labor, equipment, tools, and incidentals necessary to remove and dispose of the existing flashing beacon assembly.

Regarding the removal of the concrete foundation associated with this item. The Contractor shall remove the existing mast arm foundation to a minimum of 3 feet below the proposed grade, fill in the hole, and resurface to match the surrounding area.

Payment for any additional temporary signage or traffic control required due to the interim condition noted above will not be paid for separately but will be considered incidental to this item or the applicable 652 items within the contract.

Payment will be made under:

Pay Item	Description	Pay Unit
202.56	Remove Existing Flashing Beacon	Lump Sum

Sanford – SRTS Multiuse Connectivity
WIN 25335.00
Number One Pond – River Class C Waterbody
July 20, 2026

SPECIAL PROVISION
SECTION 203
EXCAVATION AND EMBANKMENT
(Dredge Materials)

Management and Disposal: Dredge Material (See MaineDOT Standard Specifications § 101.2 Definitions) is regulated as a Special Waste.

Work associated with the Sanford – SRTS Multiuse Connectivity initiative around Number One Pond Recreational Facility will require excavation of select Dredge Materials from Number One Pond (River Class C Waterbody). It is estimated that approximately 66 cubic yards (CY) of dredge will be excavated at the project location. There is onsite Beneficial Use for all Dredge Material.

It is acknowledged that excavation of Dredge for this work may include some boulders. The 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 as 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 Sanford – SRTS Multiuse Connectivity initiative around Number One Pond Recreational Facility project in areas adjacent to the dredged waterbody. No more than 500-cubic yards of Dredge Material may be excavated at the project location.

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.

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) using a single approved design for each item 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_{mm})**			**Voids in the Mineral Aggregate (VMA) (Minimum Percent)**					**Voids Filled with Binder (VFB) (Minimum %)**	**Fines/Eff. Binder Ratio**
				Nominal Maximum Aggregate Size (mm)						
	$N_{initial}$	**N_{design}**	**N_{max}**	**25.0**	**19.0**	**12.5**	**9.5**	**4.75**		
< 3.0	≤90.5	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	65-80*	0.6-1.2
3 to <10	≤89.0									
≥ 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

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		
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.
3. The minimum ambient air temperature for placement of HMA for curbs, driveways, sidewalks, islands, and other incidental work shall be 40°F, regardless of whether the mixture is produced using an approved WMA technology.

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. Unless approved by the Department, a single sensor "joint matcher" shall not be permitted.
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.
	Auger and tunnel extensions will be required as needed to complete the work. The distance between the auger/tunnel and the paver screed end-gate will be as specified by the manufacturer, but shall not exceed 24 inches.

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 Department, 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.

When covering portland cement concrete surfaces (concrete slabs, concrete backfill around utilities or as curb fill) the concrete shall be placed to a depth that allows for a minimum of 3 inches of a hot mix asphalt pavement over the concrete. The 3 inches of pavement may be conprised of base, shim and surface layer as may be specified in Special Provision 403. A triple application of tack coat, as a

minimum, shall be applied on concrete surfaces prior to any hot mix pavements being placed over the concrete.

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 In 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
Vertical Longitudinal Joint	
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. A maximum unmatched centerline joint of the project's 1 days' average production will be permitted over the weekend.
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.
Notched-Wedge Longitudinal Joint	
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 of the project's 1 days' average production 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.
Longitudinal Joints (<45 mph) *	
Greater than 2"	With use of a Notch-Wedge device, 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 of the project's 1 days' average production will be permitted over the weekend.

* Longitudinal joint allowances for segments under 45 mph will only be permitted if the segment length is continuous for one mile or greater or the total length of the project is one mile or less.

Constructed wedge joints that degrade or break off will not qualify for the open joint duration as described above. The impacted area shall be matched up within 48 hours of notification by the Department. Prior to matching, the Contractor shall trim off the impacted area and construct a vertical joint. Failure to comply will result in an automatic Traffic Control Violation as per section 652.8.

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 4th, 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.

When covering a portland cement concrete surface (concrete slabs, concrete backfill around utilities or as curb fill) a minimum of 3 inches of HMA pavement will be required over the concrete.

HMA shall be installed to match the surrounding pavement depth around utilities, structures, or when placing HMA as curb fill, up to 6 inches total unless otherwise directed in the project documents.

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 of bridge curbing and concrete bridge headers shall be completely sealed with hot-applied asphaltsealant material, meeting the requirements of Type 4 or mastic crack seal. Sealant 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, manhole and catch basin structures, 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.

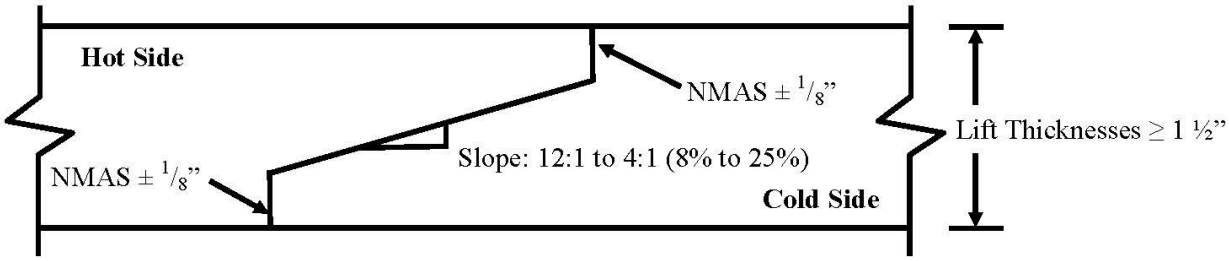


FIGURE 1: Notched Wedge Joint

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, Typicals, 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.
- 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.

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.

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 zoneduring placement.
- Mix TMD to be used for density gauge setting for method spec density work
- Procedures for avoiding paving in inclement weather.

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.

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

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 and Acceptance for Item 403.209 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size, (sidewalks, drives, islands & incidentals) and visual acceptance items Item 403.209 will be accepted under method D acceptance unless otherwise noted in the 403 special provision. 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) when accepted under either visual acceptance or under Method D acceptance unless otherwise specified in the 403 SP. 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 sublot 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 sublot 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 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 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 a 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 & 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 & C

Property	Percent Within Limits (PWL)	
	Method A	**Method C**
Percent Passing NMAS 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		
Voids at N_{design}		N/A
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 sublot 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 = (Voids @ N_d PF - 1.0)(Q)(P)x0.20 + (VMA @ N_d -1.0)(Q)(P)x0.20 + (PGAB Content PF- 1.0)(Q)(P)x0.10	PA = (density PF-1.0)(Q)(P)x0.50
Method C	PA = (% Passing Nom. Max PF-1.0)(Q)(P)x0.05+(% passing 2.36 mm PF-1.0)(Q)(P)x0.05+(%passing 0.30 mm PF-1.0)(Q)(P)x0.05+(%passing 0.075 mm PF-1.0)(Q)(P)x0.10+(PGAB Content PF-1.0)(Q)(P)x0.25	PA = (density PF-1.0)(Q)(P)x0.50

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 sublot 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 & 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 & D

Lot Size*	Entire mix quantity per item per contract per year
Maximum Sublot Size – Mix	250 ton (Max 4 Sublots)
Sublot Size – Density	125 ton (Max 5 Sublots)

*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 & 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 sublot 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 sublot density is less than 88.5 percent or greater than 99.0 percent of the sublot 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 sublot TMD, the sublot shall be removed and replaced at no cost to the Department; otherwise, the average of the three cores will be used to determine the sublot pay adjustment.

TABLE 17: PAY ADJUSTMENTS – METHOD B & 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 met or exceeded.

TABLE 18: DISPUTE RESOLUTION VARIANCE LIMITS

Property	Method A & B	Method C & D*	Variance Limits
PGAB Content	Yes	Yes	+/- 0.4%
G_{mb}	Yes	No	+/- 0.030
G_{mm}	Yes	Only if referenced to a Core	+/- 0.020
Voids at N_{design}	Only if G_{mb} or G_{mm} is not disputable	No	+/- 0.8%
VMA at N_{design}	Only if G_{mb} or G_{mm} 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 sublot 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:

Pay Item	Pay Unit
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:

Pay Item		Pay Unit
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

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, passing lanes, and any other areas considered mainline travelway for conventional density testing will be considered travel lanes for longitudinal joint density testing as 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 sublot on a statistically random basis, test, and evaluate in accordance with the following Acceptance Properties:

The Lot size will be the total length of eligible longitudinal joint(s) for the given HMA layer for the project, or equal Lots of a size agreed upon at the Pre-paving conference. The maximum sublot 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. For tracking purposes, the method of testing shall be "C".

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

TABLE 1: LONGITUDNAL 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:

PA = (joint density PF- 1.0)(Q)(P) x0.40

Where

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
SECTION 401 - HOT MIX ASPHALT PAVEMENT
(HMA Hamburg Wheel Tracker Specification)

401.03 Composition of Mixtures The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. HMA shall be designed and tested according to AASHTO R35 and the volumetric criteria in Table 1. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF). 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_{mm})			Voids in the Mineral Aggregate (VMA)(Minimum Percent) Nominal Maximum Aggregate Size (mm)					Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
	$N_{initial}$	N_{design}	N_{max}	25	19	12.5	9.5	4.75		
<3	≤90.5	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	65-80*	0.6-1.2
3 to <10	≤89.0									
≥ 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 for Department approval a JMF to the Pavement Materials Engineer for each mixture to be supplied including the PG binder grade/supplier and the intended test temperature for the HWT approval. The JMF will be approved by the Department in accordance with the MaineDOT HMA Policies and Procedures for HMA Sampling and Testing Manual. If the Contractor is submitting a new JMF, the Contractor shall identify and make available the stockpiles of all proposed aggregates at the plant site at the time of JMF submittal. 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 PG Binder 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. If the Contractor is submitting a new JMF the first day's production shall be monitored, and 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.

If submitting a new JMF, the Contractor shall provide the Department with eight boxes of plant produced HMA before the start of paving. The Contractor shall test its split of the sample and determine if the results meet the requirements of the Department's written policy for mix design verification (See MaineDOT Policies and Procedures for HMA Sampling and Testing). If the results are found to be acceptable, the Contractor will forward their results to the Department's Lab, which will test the Department's split of the sample. The results of the two split samples will be compared and shared between the Department and the Contractor. If the HMA meets the requirements for mix design verification, the mixture will be tested for rutting and moisture sensitivity in the Hamburg Wheel Tracker according to AASHTO T324, "Hamburg Wheel-Track Testing of Hot Mix Asphalt (HMA)." The Department will not test the mixture for HWT until the HMA meets the mix design verification requirements.

The sample will be required to meet the applicable requirements of Table 1A below for approval and will be dependent on the test temperature submitted by the Contractor. The minimum PG Binder grade required shall be as specified by the 403 Special Provision. The Contractor may submit a design with a binder grade exceeding the minimum specified to meet the HWT requirements of the 403. If the sample meets the requirements of Table 1A, an approved JMF listing the approved PG Binder Grade to meet the HWT requirements will be forwarded to the Contractor and paving may commence. The Department will have five business days from receipt of the sample at the Central Laboratory to process, test, and report the Hamburg Wheel Tracker sample. 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.

TABLE 1A: HAMBURG WHEEL TRACKER REQUIREMENTS

Specified PG Binder Grade	Test Temperature (°C)	Maximum Rut Depth (mm)	Minimum Number of Passes	Minimum Allowable SIP*
PG 64-28	45	12.5	20,000	15,000
PG 64E-28	48	12.5	20,000	15,000
PG 70E-28 (or greater)	50	12.5	20,000	15,000

* As calculated by the most recently published version of the MaineDOT HWT worksheet, which is available online at https://www.maine.gov/dot/doing-business/hma-resources

Should the Contractor choose to change their PG Binder source and/or modify the PG Binder grade after initial approval, the Department will take an additional verification sample and test the HMA to verify compliance with the Hamburg Wheel Tracker Requirements. If this sample fails to meet the criteria in Table 1A, the Contractor will be required cease production and submit a corrective action letter to the Department. HWT approval of the JMF will be suspended until the Department can verify that the submitted sample meets the requirements of Table 1A. Failure to notify the Department of a change in supplier will be treated as a second incident under 106.4.6 QCP Non-compliance.

401.19 Contractor Quality Control - Method A, B, C & D The following language has been added to Section 401.19:

The project specific QCP shall address the PG Binder source and grade, sampling, transport, and testing of Hamburg Wheel Tracker QC samples and what potential steps will be taken if QC samples do not meet the requirements in Table 1A. The project-specific QCP shall also contain a sample Hamburg Wheel Tracker test report for approval. The Contractor shall sample and test HMA Pavement in the Hamburg Wheel Tracker according to AASHTO T324 in accordance with the following minimum frequencies:

TABLE 2A: MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Hamburg Wheel Tracker	1 per 6,000 ton and at least once per Acceptance Lot	AASHTO T 324

If the Contractor is submitting a new JMF the Contractor shall sample the HMA on the first day of production and test the sample in the Hamburg Wheel Tracker according to AASHTO T324. This sample will not count towards the minimum quality control frequency specified in Table 2A.

The Contractor shall submit all Hamburg Wheel Tracker test reports in writing, signed by the appropriate technician and present them to the Department within ten working days of initial sampling, except when otherwise noted in the project specific QCP due to local restrictions. The Contractor shall make the raw Hamburg Wheel Tracker data from QC samples available to the Department upon request. If a QC sample fails to meet the criteria in Table 1A, the Contractor will be required to submit a corrective action letter to the Resident, Materials Engineer, Pavement Quality Manager, and Pavement Quality Engineer by the end of the following working day with the proposed changes to bring the mixture back into compliance. The Department will respond and either accept or reject the Contractor's proposed corrective action by the end of the following working day from when the letter was received.

401.20 & 401.21 Acceptance Method(s) A, B, C & D The following language has been added to Section(s) 401.20 & 401.21

First Day Production HWT Verification Sample for Acceptance The Department will sample the HMA on the first day of production. This sample will be considered a first day of production HWT verification sample and will not count towards the minimum HWT acceptance frequencies specified in Table 3A unless otherwise determined by the Department. This sample may be taken in conjunction with the first mix acceptance sample. The number of boxes required will be as specified in Table 3B.

If the first day of production HWT verification sample fails to meet the criteria in Table 1A or yields two consecutive inconclusive results, the Contractor shall cease paving operations and submit a verification sample to the Department. HWT approval of the JMF will be suspended until the Department can verify that the submitted sample meets the requirements of Table 1 and Table 1A.

A first day production sample will not be required for a previously approved JMF that has met HWT requirements listed in Table 1A if the following criteria have been met:

1. A minimum of one passing HWT Department issued acceptance results within the calendar year (Construction Season) of production.
2. A minimum of three consecutive passing HWT Department issued acceptance results within the past year of production (365 days). These results shall be the three most recent Department issued acceptance samples.
3. No changes in the source of the PG Binder and/or modifications to the PG Binder grade from the initial HWT approval have been made.

As part of the QCP, the Contractor shall provide in writing the request to waive the first day production sample and will include the necessary supporting documentation as specified above.

Acceptance Sampling The Department will sample at the HWT acceptance frequencies specified in Table 3A to verify the compliance with the Hamburg Wheel Tracker Requirements. The number of boxes required will be as specified in Table 3B, with two boxes reserved for retesting of inconclusive results. A mix acceptance sample within an acceptance lot will be selected at random by the Department for HWT acceptance sampling. Depending on daily production rates, the first day of production HWT verification sample and the first acceptance sample may be taken on the same day, but shall not be from the same acceptance sample unless otherwise determined by the Department.

If a HWT acceptance sample fails to meet the criteria in Table 1A and fails to exceed an average of 15,000 cycles, the Contractor shall cease paving operations and submit a verification sample to the Department. HWT approval of the JMF will be suspended until the Department can verify that the submitted sample meets the requirements of Table 1 and Table 1A. A pay factor will be determined using Table 4.

If a HWT acceptance sample fails to meet the criteria in Table 1A, but exceeds an average of 15,000 cycles, the Contractor shall cease paving operations and submit a Corrective Action to the Department. A pay factor for the failing sample will be determined using Table 4.

Inconclusive Results If a HWT acceptance sample indicates an “inconclusive result” the Department will immediately retest the sample using the additional retained 2 boxes. Should the second sample also yield an inconclusive result, the Contractor shall cease paving operations and submit a verification sample to the Department. HWT approval of the JMF will be suspended until the Department can verify that the submitted sample meets the requirements of Table 1 and Table 1A.

Informational Sampling At the Resident’s discretion, the Department may take additional informational samples and test the HMA to verify compliance with the Hamburg Wheel Tracker Requirements. If an informational sample fails to meet the criteria in Table 1 or Table 1A, the Contractor will be required to submit a corrective action letter to the Department.

TABLE 3A: MINIMUM HWT ACCEPTANCE FREQUENCIES

Test or Action	Frequency
Hamburg Wheel Tracker	1 per 6,000 ton or at least once per Acceptance Lot

TABLE 3B: MINIMUM NUMBER OF BOXES

Sample Type	Number of Boxes
First Day Production (Taken without Mix Acceptance)	8 (4 Additional)
First Day Production (Take w/ Mix Acceptance)	8 (4 Additional)
HWT Acceptance Sample	8 (4 Additional)

Cease For ALL occurrences of cease described in the sections above, the Contractor shall submit a corrective action letter to the Resident, Materials Engineer, Pavement Quality Manager, and Pavement Quality Engineer by the end of the following work day with the proposed changes to bring the mixture back into compliance. 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 that 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 & 401.211 Pay Adjustments Method(s) A, B, C & D The following language has been added to Section(s) 401.201 & 401.211

For items accepted under Method(s) A, B, C &D, if the mix is within the tolerances listed in Table 1A, the Department will pay the contract unit price, otherwise pay adjustments as shown in Table 4 shall be applied to the quantity of mix represented by the test. The average passes to failure will be used to determine the number of passes.

TABLE 4: HWT PAY ADJUSTMENT

Number of Passes	Pay Adjustment
< 20,000	-1.0% for every 1000 passes below target

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:

Pay Item:		Pay Unit:
403.40	Material Transfer Vehicle (MTV)	Ton

SUPPLEMENTAL SPECIAL PROVISION
SECTION 401
HOT MIX ASPHALT PAVEMENT
(Balanced Mix Design Test Section – 12.5mm Hot Mix Asphalt)

Description The contractor may elect to construct a portion of the project using a Balanced Mix Design (BMD) approach. If this option is selected, the Contractor shall furnish a uniformly blended, homogeneous mixture designed using a Balanced Mix Design approach and construct a test section of Hot Mix Asphalt Pavement (HMA) 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 test section quantity will be approximately **500 tons.** If mutually agreed at the pre-construction meeting, the Department may extend the test section quantity. Exact locations and tonnage to be applied will be cooperatively determined during project construction with locations and tonnage documented so comparative performance monitoring of the test section can occur. See Special Provision 400 - Balanced Mix Design Test Section – 12.5mm Hot Mix Asphalt and Special Provision 403 for more details.

Payment will be made under:

Pay Item		Pay Unit
403.2085	Hot Mix Asphalt - 12.5mm Balanced Mix Design (BMD)	Ton

SPECIAL PROVISION
SECTION 403
HOT MIX ASPHALT

Desc. Of Course	Grad Design.	Item Number	Total Thick	No. of Layer	Comp. Notes
6" HMA - Full Depth Reconstruction					
US Route 202 (Cottage Street & Winter Street) & River Street					
Travelway, Turn Lane, Parking/Shoulders (As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	1,4,7,22,23,24,25,28,40,42,44,53
Intermediate	12.5 mm	403.2131	2"	1	2,4,7,22,23,24,25,28,40,41,42,44,53
Base	12.5 mm	403.2131	2 ½"	1	2,4,7,23,27,24,41,42,44,53
5" HMA - Full Depth Reconstruction					
Main Street (Route 109), Washington Street, & River Street					
Travelway, Turn Lane, Parking/Shoulders(As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	1,4,7,22,23,24,25,28,40,42,43,44,53
Intermediate	12.5 mm	403.2131	1 ½"	1	2,4,7,22,23,24,25,28,40,41,42,43,44,53
Base	12.5 mm	403.2131	2"	1	2,4,7,23,24,27,41,42,43,44,53
5" HMA - Full Depth Reconstruction					
High Street					
Travelway, Turn Lane, Parking/Shoulders(As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	1,4,7,23,24,25,28,40,44,45,53
Intermediate	12.5 mm	403.2131	1 ½"	1	2,4,7,23,24,25,28,40,41,44,45,53
Base	12.5 mm	403.2131	2"	1	2,4,7,23,24,27,45
4" HMA - Full Depth Reconstruction					
School Street, Riverside Avenue & William Oscar Emery Drive					
Travelway, On-Street Parking/Shoulders(As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	1,4,7,22,23,24,25,28,40,42,44,53
Base	12.5 mm	403.2131	2 ½"	1	2,4,7,23,24,27,40,41,42,44,53
4" HMA - Full Depth Reconstruction					
Sideroads					
Travelway & Shoulders(As Indicated or Directed)					
Wearing	12.5 mm	403.2081	1 ½"	1	1,4,7,23,24,28,40,44,45,53
Base	12.5 mm	403.2131	2 ½"	1	2,4,7,23,24,40,41,44,45,53
Variable Depth Mill & 1 ½" Overlay w/ Variable Depth Shim					
Travelway & Shoulder/Parking (As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	1,4,7,22,23,24,25,28,40,42,53
Shim	9.5 mm	403.2111	varies	1/more	2,4,8,20,30,42,43,53
Bridge #1359 - 2" Mill & 1 ½" Overlay w/ Variable Depth Shim					
Travelway & Shoulders (As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	1,4,7,23,24,25,27,30,42
Shim	9.5 mm	403.2111	varies	1/more	2,4,8,20,30,42
Bridge #2961 - 1 ½" Mill & HMA Overlay					
Travelway & Shoulders (As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	1,4,7,23,24,25,27,30,42

SPECIAL PROVISION
SECTION 403
HOT MIX ASPHALT (Continued)

Desc. Of Course	Grad Design.	Item Number	Total Thick	No. Of Layer	Comp. Notes
4" HMA - Raised Intersection William Oscar Emery Drive Travelway & Shoulders (As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	1,4,8,23,24,25,42,44
Base	12.5 mm	403.2081	2 ½"	1	1,4,8,23,24,25,42,44
4" HMA - Drainage Installation & Sidewalk Improvements North Avenue & High Street Shoulders & On-Street Parking (As Indicated or Directed)					
Wearing	12.5 mm	403.2081	1 ½"	1	1,4,8,30,31,33,34,45
Base	12.5 mm	403.2131	2 ½"	1	2,4,8,30,31,33,34,45
4" HMA - Emerson Street Parking Facility Car Parking Lot w/ Bus Stop (As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	1,4,8,23,24,45,53
Base	12.5 mm	403.2131	2 ½"	1	2,4,8,23,24,41,45,53
Granite Curb, Catch Basins, & Structure Adjusts (Areas 2 Feet or Less in Width) Base Paving Only (2" or 4" as Indicated)					
Base	12.5 mm	403.2131	2" / 4"	2/more	2,4,8,30,31,32,53
Spot Shims (As Directed)					
Shim	9.5 mm	403.2111	varies	1/more	2,4,8,20,30
Drives, Sidewalks, ADA Ramps, Misc.					
Wearing	9.5 mm	403.209	2" - 3"	2/more	3,20,30,32

COMPLEMENTARY NOTES

1. The required PGAB shall be a storage-stable, homogeneous, polymer modified asphalt binder that meets or exceeds **PG 70E-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 or exceed the **PG 70E-28** requirements. The Contractor shall provide supporting test data showing the PGAB and anti-strip blend meet the required criteria.

2. The required PGAB shall be a storage-stable, homogeneous, polymer modified asphalt binder that meets or exceeds **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 or exceed 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**.
7. Section 106.6 Acceptance, (1) **Method A** as specified Section 401.20 - Quality Assurance Methods A and C. The Contractor may request a contract modification to change to testing method "B" prior to work starting on this item provided that the total tonnage for the paving mobilization is less than 1000 tons. If elected one sample will be taken per mix pay item per paving mobilization as a minimum.
8. Section 106.6 Acceptance, (2) **Method B** as specified Section 401.21 - Quality Assurance Methods B and D. One sample will be taken per mix pay item per paving mobilization as a minimum. The Contractor may request a contract modification to change to testing method "A" prior to work starting on this item provided that the total tonnage for the paving mobilization exceeds 1000 tons.
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.
23. The mixture shall meet the minimum requirements of Special Provision 401 - HMA Hamburg Wheel Tracker Specification.
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.
27. A notch wedge apparatus shall be required as per section 401.16 will be required on all joints between travel lanes. Longitudinal Joint Density incentive/disincentives will not apply, however the Department may require cores for informational purposes.
28. The Contractor may, at their option, construct a portion of the project using a **Balanced Mix Design (BMD) approach**. See Special Provision 401 – Balanced Mix Design Test Section – 12.5mm Hot Mix Asphalt.
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.

31. A dedicated Quality Control Technician (QCT) is **not** required during placement of HMA under this item. However, a daily paving report, summarizing the mixture type, mixture temperature, equipment used, environmental conditions, and number of roller passes, shall be recorded and signed by a **NETTCP Certified Paving Inspector acting as the Contractor's representative** and presented to the Department's representative by the **end of the working day.** If requested by the Contractor, the Department may allow the use of the **MaineDOT Competent Person Policy** in lieu of a NETTCP Certified Paving Inspector.
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.
33. Roadway HMA mixtures shall be placed with a track or rubber tire mounted, self-contained, self-propelled paver of sufficient size to place Hot Mix Asphalt Pavement in the shoulder or similar construction.
34. The Contractor shall saw cut at a consistent width to allow transverse rolling of the trench. Compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **3-5 ton** vibratory roller. The **minimum width of the trench shall be 5 feet** to accommodate a **3-5 ton** vibratory roller. An approved release agent is required to ensure the mixture does not adhere to hand tools, rollers, pavers, and truck bodies. The use of petroleum based fuel oils, or asphalt stripping solvents will not be permitted. Payment for additional milling or saw cutting required shall not be considered directly, but instead shall be considered incidental to the paving items.
40. On-Street Parking Areas and Bike Lanes shall be considered mainline travelway for **all** density testing purposes (includes Longitudinal Joint Density) according to the specified testing method.
41. The lower lifts of base and intermediate HMA pavement (consisting of 2½ inches in the 4-inch section, 3½ inches in the 5-inch section, and 4½ inches the 6-inch section) 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.
42. The Contractor shall plan its construction sequencing so that no longitudinal joints fall within the mainline travelway lanes (excluding center turn lanes)
43. The Department shall profile railroad and bridge approaches every 10 feet along the roadway center line and edge of travelways, out to a match point at a minimum of 75 feet from the structure, to determine the approach pavement taper, elevations, and pavement removal or shim requirements. This work shall be accomplished in cooperation with the Contractor by means of conventional surveying equipment or blocking and string lines as cooperatively determined by the Contractor and Department. At minimum, the survey work will be completed 10 days prior to milling and/or paving operations.
44. 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.

45. The Contractor shall be responsible to plan its construction sequencing so that longitudinal joints are parallel to the existing centerline and **do not** fall within the **vehicle wheel path**. Lanes shall be constructed in a manor so that no crown is created at the match points (straight graded) unless otherwise directed.
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 or RS-1h, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.030 gal/yd², and on milled pavement approximately 0.05 gal/yd² prior to placing a new course. A fog coat of emulsified asphalt shall be applied between shim /base courses and surface course as well as to any bridge membrane prior to the placement of HMA layers at a rate not to exceed 0.030 gal/yd². 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 in accordance with this specification, an approved Quality Control Plan (QCP), and manufacturers recommendations as applicable. 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 ºC, 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 [140ºF]	< 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 140ºF.

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 any change in materials.

QUALITY CONTROL REQUIREMENTS

Quality Control The Contractor shall develop and submit a Quality Control Plan (QCP) that addresses the materials to be used, equipment to be used, methods of material usage (quantity measurements and tracking) as well as installation methods and protection of the work as it is completed. The Contractor shall control the work and operate in accordance with the approved QCP in order to install product and complete work meeting the contract requirements. The Contractor shall not begin sealing operations until the Department approves the QCP in writing.

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 operation, 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 prime contractor or crack sealing subcontractor. The QCP Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the QCP. The QCP Administrator (or their designee in the QCP Administrator's absence) may not be required to be onsite during all work activities but shall be available to communicate with the Department as needed.

b. Onsite Representative - The Onsite Representative (OR) shall be onsite and work directly with the crew as needed. The OR shall perform quality control inspections or measurements at the job site to assure that materials or installations meet the requirements of the contract.

The QCP shall detail the coordination of the activities of the Plan Administrator, and the OR. The Superintendent shall be named in the QCP if different than the OR, and the responsibilities for successful implementation of the QCP within the companies' activities shall be outlined.

The QCP shall address any items that may impact the quality of the sealant installation including, but not limited to, the following:

a. General Requirements:

- Name of QCP Administrator
- Description of corrective action processes
- Remediation of defective work

b. Quality Control Plan requirements

- Name of Onsite Representative(s)
- Material type to be used (including product data sheet)
- Heating and installation temperatures
- Procedures to clean, dry and properly prepare all cracks for installation of crack sealants / fillers.
- General sealing operation activities including equipment to be used to install sealants
- Procedures to ensure that cracks are "flush filled" and any overband width does not exceed the contract requirements.
- Procedures to protect any installed sealant from damage from traffic or construction activities.

A summary of the day's results including a quantity report, equipment used, and environmental conditions will be recorded and signed by the OR and presented to the Department's representative by 1 PM the following working day.

Failure to adhere to the QCP, replace or repair defective or non-conforming equipment, or adjust material or installation procedures in an effort to produce work that meets the contract

requirements will result in a notification of a quality control violation resulting in monetary penalties.

A letter describing the violation shall be provided to the Contractor which will result in a mandatory work suspension and a reduction in payment as shown in Table 106.4A below. The Contractor shall submit a letter to the Department that details the corrective action made to address the violation(s) in its Quality Control Plan. Work may resume when the Department is satisfied the corrective action will result in adherence to the Quality Control Plan.

Table 106.4 A - Quality Control Pay Reduction

Quality Control Plan Value*		Pay Reduction		
From More Than	To and Including	1st	2nd	3rd & Subsequent
$0	$500,000	$1,000	$2,000	$4,000
$500,000	$1,000,000	$2,000	$4,000	$8,000
$1,000,000	$3,000,000	$5,000	$10,000	$20,000
$3,000,000	and more	$10,000	$20,000	$40,000

* The Quality Control Plan Value is the total Bid value of all items covered by a Quality Control Plan, as detailed in the applicable specification or Special Provision.

Pay reductions for failure to comply with the approved QCP are cumulative, and the Department will deduct any pay reductions from amounts otherwise due the Contractor. These pay reductions are intended to encourage the Contractor to comply with its approved QCP, and are not necessarily related to the quality of the work provided.

EQUIPMENT

Equipment Equipment used in the performance of the work shall be listed in the approved QCP, and subject to Department or authorized Department representative's approval. Equipment 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 ½ -inch or ¾-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.

The Contractor shall inspect all equipment utilized in the crack seal operations, including the crack cleaning, crack heating, and crack drying operations as well as the crack sealant heating, mixing, crack filling and crack finishing equipment to assure the final product meets the requirements of the contract. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one OR is required. The QCP shall include the criteria utilized by the QCT to correct or reject unsatisfactory materials.

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. The applicator shoe width shall be a maximum of 2 inches and produce a sealer width range from 1 inch – 1.5 inch. Overall width of the sealant may vary from the range specified depending on the width and severity of the cracks with approval from the Department.

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. The applicator shoe width shall be a maximum of 2 inches and produce a sealer overband range from 1 inch – 1.5 inch. Overbanding width may vary from the range specified depending on the width and severity of the cracks with approval from the Department.

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 Glenzoil, 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 º 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 60º 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 60º 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:

Parameter	
Color	Black
Pourability @ 400F (PTM1)*	1000-1400 gm
Stability @ 158F (PTM2)	.6in. max
Flexibility @ Low Temperature (PTM3)	Pass @ -20F
Adhesion @77F (PTM4)	15psi min.
Specific Gravity (ASTM D792)	1.35max.
Skid Resistance, BPN (ASTM E303)	40 min.
Minimum Application Temperature	375°F
Maximum Application Temperature	410°F

QUALITY CONTROL REQUIREMENTS

Quality Control The Contractor shall develop and submit a Quality Control Plan (QCP) that addresses the materials to be used, equipment to be used, methods of material usage (quantity measurements and tracking) as well as installation methods and protection of the work as it is completed. The Contractor shall control the work and operate in accordance with the approved QCP in order to install product and complete work meeting the contract requirements. The Contractor shall not begin sealing operations until the Department approves the QCP in writing.

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 operation, 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 prime contractor or crack sealing subcontractor. The QCP Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the QCP. The QCP Administrator (or their designee in the QCP Administrator's absence) may not be required to be onsite during all work activities but shall be available to communicate with the Department as needed.

b. Onsite Representative - The Onsite Representative (OR) shall be onsite and work directly with the crew as needed. The OR shall perform quality control inspections or measurements at the job site to assure that materials or installations meet the requirements of the contract.

The QCP shall detail the coordination of the activities of the Plan Administrator, and the OR. The Superintendent shall be named in the QCP if different than the OR, and the responsibilities for successful implementation of the QCP within the companies' activities shall be outlined.

The QCP shall address any items that may impact the quality of the sealant installation including, but not limited to, the following:

a. General Requirements:

- Name of QCP Administrator
- Description of corrective action processes
- Remediation of defective work

b. Quality Control Plan requirements

- Name of Onsite Representative(s)
- Material type to be used (including product data sheet)
- Heating and installation temperatures

- Procedures to clean, dry and properly prepare all cracks for installation of crack sealants / fillers.
- General sealing operation activities including equipment to be used to install sealants
- Procedures to ensure that cracks are “flush filled” and any overband width does not exceed the contract requirements.
- Procedures to protect any installed sealant from damage from traffic or construction activities.

A summary of the day’s results including a quantity report, equipment used, and environmental conditions will be recorded and signed by the OR and presented to the Department’s representative by 1 PM the following working day.

Failure to adhere to the QCP, replace or repair defective or non-conforming equipment, or adjust material or installation procedures in an effort to produce work that meets the contract requirements will result in a notification of a quality control violation resulting in monetary penalties.

A letter describing the violation shall be provided to the Contractor which will result in a mandatory work suspension and a reduction in payment as shown in Table 106.4A below. The Contractor shall submit a letter to the Department that details the corrective action made to address the violation(s) in its Quality Control Plan. Work may resume when the Department is satisfied the corrective action will result in adherence to the Quality Control Plan.

Table 106.4 A - Quality Control Pay Reduction

Quality Control Plan Value*		Pay Reduction		
From More Than	To and Including	1st	2nd	3rd & Subsequent
$0	$500,000	$1,000	$2,000	$4,000
$500,000	$1,000,000	$2,000	$4,000	$8,000
$1,000,000	$3,000,000	$5,000	$10,000	$20,000
$3,000,000	and more	$10,000	$20,000	$40,000

* The Quality Control Plan Value is the total Bid value of all items covered by a Quality Control Plan, as detailed in the applicable specification or Special Provision.

Pay reductions for failure to comply with the approved QCP are cumulative, and the Department will deduct any pay reductions from amounts otherwise due the Contractor. These pay reductions are intended to encourage the Contractor to comply with its approved QCP, and are not necessarily related to the quality of the work provided.

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 ½ - inch or ¾-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 Glenzoil, 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 º 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 60º 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 60º 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 with a minimum of 6% and a maximum of 8% fiber (weight to weight) to 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 minimum of 6%, and 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.

QUALITY CONTROL REQUIREMENTS

Quality Control The Contractor shall develop and submit a Quality Control Plan (QCP) that addresses the materials to be used, equipment to be used, methods of material usage (quantity measurements and tracking) as well as installation methods and protection of the work as it is completed. The Contractor shall control the work and operate in accordance with the approved QCP in order to install product and complete work meeting the contract requirements. The Contractor shall not begin sealing operations until the Department approves the QCP in writing.

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 operation, 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 prime contractor or crack sealing subcontractor. The QCP Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the QCP. The QCP Administrator (or their designee in the QCP Administrator's absence) may not be required to be onsite during all work activities but shall be available to communicate with the Department as needed.

b. Onsite Representative - The Onsite Representative (OR) shall be onsite and work directly with the crew as needed. The OR shall perform quality control inspections or measurements at the job site to assure that materials or installations meet the requirements of the contract.

The QCP shall detail the coordination of the activities of the Plan Administrator, and the OR. The Superintendent shall be named in the QCP if different than the OR, and the responsibilities for successful implementation of the QCP within the companies' activities shall be outlined.

The QCP shall address any items that may impact the quality of the sealant installation including, but not limited to, the following:

a. General Requirements:

- Name of QCP Administrator
- Description of corrective action processes
- Remediation of defective work

b. Quality Control Plan requirements

- Name of Onsite Representative(s)
- Material type to be used (including product data sheet)
- Heating and installation temperatures
- Procedures to clean, dry and properly prepare all cracks for installation of crack sealants / fillers.
- General sealing operation activities including equipment to be used to install sealants
- Procedures to ensure that cracks are "flush filled" and any overband width does not exceed the contract requirements.
- Procedures to protect any installed sealant from damage from traffic or construction activities.

A summary of the day's results including a quantity report, equipment used, and environmental conditions will be recorded and signed by the OR and presented to the Department's representative by 1 PM the following working day.

Failure to adhere to the QCP, replace or repair defective or non-conforming equipment, or adjust material or installation procedures in an effort to produce work that meets the contract requirements will result in a notification of a quality control violation resulting in monetary penalties.

A letter describing the violation shall be provided to the Contractor which will result in a mandatory work suspension and a reduction in payment as shown in Table 106.4A below. The Contractor shall submit a letter to the Department that details the corrective action made to address the violation(s) in its Quality Control Plan. Work may resume when the Department is satisfied the corrective action will result in adherence to the Quality Control Plan.

Table 106.4 A - Quality Control Pay Reduction

Quality Control Plan Value*		Pay Reduction		
From More Than	To and Including	1st	2nd	3rd & Subsequent
$0	$500,000	$1,000	$2,000	$4,000
$500,000	$1,000,000	$2,000	$4,000	$8,000
$1,000,000	$3,000,000	$5,000	$10,000	$20,000
$3,000,000	and more	$10,000	$20,000	$40,000

* The Quality Control Plan Value is the total Bid value of all items covered by a Quality Control Plan, as detailed in the applicable specification or Special Provision.

Pay reductions for failure to comply with the approved QCP are cumulative, and the Department will deduct any pay reductions from amounts otherwise due the Contractor. These pay reductions are intended to encourage the Contractor to comply with its approved QCP, and are not necessarily related to the quality of the work provided.

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 ½ -inch or ¾-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. 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) Melter: The unit used to melt or maintain the modified asphalt crack sealant compound shall have an approximate capacity of 1,000 gallons and be equipped to maintain the sealant compound at the recommended application temperature. The unit shall be of the indirect fired type, 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 melter shall be equipped with a satisfactory means of 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 melter. The melter must be equipped with a thermostatic control calibrated between 200°F and 550°F and must be capable of pumping a 6 - 8% fiber content blend.

7) 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.

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 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. The applicator shoe width shall be a maximum of 2 inch internal disc dimension and produce a sealer width range from 1 inch – 1.5 inch. Overall width of the sealant may vary from the range specified depending on the width and severity of the cracks with approval from the Department.

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. The applicator shoe width shall be a maximum of 2 inch internal dimension and produce a sealer overband range from 1 inch – 1.5 inch. Overbanding width may vary from the range specified depending on the width and severity of the cracks with approval from the Department.

Generally, 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 Glenzoil, 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 º 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 60º 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 60º 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:

Parameter	
Color	Black
Pourability @ 400F (PTM1)*	1000-1400 gm
Stability @ 158F (PTM2)	.6in. max
Flexibility @ Low Temperature (PTM3)	Pass @ -20F
Adhesion @77F (PTM4)	15psi min.
Specific Gravity (ASTM D792)	1.35max.
Skid Resistance, BPN (ASTM E303)	40 min.
Minimum Application Temperature	375°F
Maximum Application Temperature	410°F

QUALITY CONTROL REQUIREMENTS

Quality Control The Contractor shall develop and submit a Quality Control Plan (QCP) that addresses the materials to be used, equipment to be used, methods of material usage (quantity measurements and tracking) as well as installation methods and protection of the work as it is completed. The Contractor shall control the work and operate in accordance with the approved QCP in order to install product and complete work meeting the contract requirements. The Contractor shall not begin sealing operations until the Department approves the QCP in writing.

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 operation, 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 prime contractor or crack sealing subcontractor. The QCP Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the QCP. The QCP Administrator (or their designee in the QCP Administrator's absence) may not be required to be onsite during all work activities but shall be available to communicate with the Department as needed.

b. Onsite Representative - The Onsite Representative (OR) shall be onsite and work directly with the crew as needed. The OR shall perform quality control inspections or measurements at the job site to assure that materials or installations meet the requirements of the contract.

The QCP shall detail the coordination of the activities of the Plan Administrator, and the OR. The Superintendent shall be named in the QCP if different than the OR, and the responsibilities for successful implementation of the QCP within the companies' activities shall be outlined.

The QCP shall address any items that may impact the quality of the sealant installation including, but not limited to, the following:

a. General Requirements:

- Name of QCP Administrator
- Description of corrective action processes
- Remediation of defective work

b. Quality Control Plan requirements

- Name of Onsite Representative(s)
- Material type to be used (including product data sheet)
- Heating and installation temperatures
- Procedures to clean, dry and properly prepare all cracks for installation of crack sealants / fillers.
- General sealing operation activities including equipment to be used to install sealants
- Procedures to ensure that cracks are "flush filled" and any overband width does not exceed the contract requirements.
- Procedures to protect any installed sealant from damage from traffic or construction activities.

A summary of the day's results including a quantity report, equipment used, and environmental conditions will be recorded and signed by the OR and presented to the Department's representative by 1 PM the following working day.

Failure to adhere to the QCP, replace or repair defective or non-conforming equipment, or adjust material or installation procedures in an effort to produce work that meets the contract requirements will result in a notification of a quality control violation resulting in monetary penalties.

A letter describing the violation shall be provided to the Contractor which will result in a mandatory work suspension and a reduction in payment as shown in Table 106.4A below. The Contractor shall submit a letter to the Department that details the corrective action made to address the violation(s) in its Quality Control Plan. Work may resume when the Department is satisfied the corrective action will result in adherence to the Quality Control Plan.

Table 106.4 A - Quality Control Pay Reduction

Quality Control Plan Value*		Pay Reduction		
From More Than	To and Including	1st	2nd	3rd & Subsequent
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$500,000	$1,000,000	$2,000	$4,000	$8,000
$1,000,000	$3,000,000	$5,000	$10,000	$20,000
$3,000,000	and more	$10,000	$20,000	$40,000

* The Quality Control Plan Value is the total Bid value of all items covered by a Quality Control Plan, as detailed in the applicable specification or Special Provision.

Pay reductions for failure to comply with the approved QCP are cumulative, and the Department will deduct any pay reductions from amounts otherwise due the Contractor. These pay reductions are intended to encourage the Contractor to comply with its approved QCP, and are not necessarily related to the quality of the work provided.

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^3 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.

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 º 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 contaminates 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:

Pay Item	Pay Unit
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 60º 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	0.8789	464	0.8661		
345	0.9040	385	0.8912	425	0.8784	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 60º F.

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

CLASS OF CONCRETE	ITEM NUMBER	DESCRIPTION	P	METHOD
A	502.219	Structural Concrete, Abutments & Retaining Walls	$400	A
A	502.261	Structural Concrete Roadway and Sidewalk Slab on Concrete Bridges	$400	A
A	502.3414	Structural Concrete Bus Shelter Foundation	$0	C
A	502.461	Structural Concrete, Replace Concrete Slab	$0	C
A	531.511	All Class A Concrete in Superstructure	$400	A
A	526.323	Texas Classic Rail	$0	C
A	607.461	Solid White Vinyl Fence – 8’ (Posts in Concrete)	$0	C
A	608.08	Reinforced Concrete Sidewalk	$0	C
A	608.14	Cobblestone Surface (Concrete Slab under Cobblestone)	$0	C
A	608.26	Curb Ramp Detectable Warning Field	$0	C
A	609.21	Concrete Slipform Curb	$0	C
A	609.219	Concrete Slipform Curb - Terminal End	$0	C
A	626.221	Non-Metallic Conduit, Concrete Encased	$0	C
LP	626.38	Ground Mounted Cabinet Foundation	$0	C
LP	626.421	24-Inch Diameter Foundation	$0	C
A	642.17	Cast-in-Place Concrete Steps	$0	C

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

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

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Structural Concrete Bus Shelter Foundation)

The provisions of Section 502 of the Standard Specifications shall apply with the following additions and modifications.

502.01 Description:
Description shall be in accordance with Maine DOT Standard Specifications Subsection 502.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of installing a Structural Concrete Bus Shelter Foundation with anchoring shoes, as shown on the plans and details.

The base for the concrete shall be prepared in accordance with the general notes, special details, drawings, and with the applicable requirements of Section 304 of the Standard Specifications.

Concrete shall be Class A. Pay reductions for compressive strength will not apply.

Contractor shall be responsible for the design of the concrete slab and reinforcing. Contractor shall submit signed and stamped shop drawings to the Resident for approval. The concrete slab must be designed and sealed by a Professional Engineer, registered in accordance with the laws of the State of Maine.

502.18 Method of Measurement:
Method of Measurement shall be in accordance with Maine DOT Standard Specifications Subsection 502.18. This subsection shall be amended by the addition of the following paragraphs:

Item 502.3414, Structural Concrete Bus Shelter Foundation will be measured by the cubic yard, complete in place, and accepted.

502.19 Basis of Payment:
The Basis of Payment shall be in accordance with Maine DOT Standard Specifications Subsection 502.19. This subsection shall be amended by the addition of the following paragraphs:

The accepted quantity of Structural Concrete Bus Shelter Foundation shall be paid for per cubic yard placed within the limits shown on the plans and accepted. Payment shall be full compensation for furnishing and placing Portland cement concrete and for all other incidentals necessary to complete the work as outlined above. Placing, compacting, and fine grading of the required subbase gravels will be paid separately under the applicable 304 items.

Payment will be made under:

Pay Item	Description	Pay Unit
502.3414	Structural Concrete Bus Shelter Foundation	Cubic Yard

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Structural Concrete, Replace Concrete Slab)

The provisions of Section 502 of the Standard Specifications shall apply with the following additions and modifications.

502.01 Description:
Description shall be in accordance with Maine DOT Standard Specifications Subsection 502.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of installing a structural concrete replacement slab for driveways affected by construction, as noted on the plans.

The base for the concrete slab shall be prepared in accordance with the general notes, special details, drawings, and with the applicable requirements of Section 304 of the Standard Specifications.

Concrete shall be Class A. Pay reductions for compressive strength will not apply. Construction joints shall be provided at intervals no greater than 20 feet, and expansion joints shall be provided at intervals no greater than 10 feet unless approved by the Resident. Coordinate joint locations with existing conditions and with the Resident.

Adjoining concrete surfaces shall be thoroughly cleaned before placing the new slab.

Concrete shall be reinforced with fiber and not steel rebar or woven wire fabric.

502.18 Method of Measurement:
Method of Measurement shall be in accordance with Maine DOT Standard Specifications Subsection 502.18. This subsection shall be amended by the addition of the following paragraphs:

Item 502.461, Structural Concrete, Replace Concrete Slab will be measured by the Cubic Yard, complete in place, and accepted.

502.19 Basis of Payment:
The Basis of Payment shall be in accordance with Maine DOT Standard Specifications Subsection 502.19. This subsection shall be amended by the addition of the following paragraphs:

The accepted quantity of Structural Concrete, Replace Concrete Slab, will be paid for at the contract unit bid price for the number of cubic yards placed within the limits, shown on the plans and accepted. Payment shall be full compensation for the removal of the existing concrete slab, fiber reinforcing, connections to existing slab reinforcement, furnishing and placing Portland Cement Concrete, and for all other incidentals necessary to complete the work. Placing, compacting, and fine grading of the required subbase gravels will be paid separately under the applicable 304 items.

Payment will be made under:

Pay Item	Description	Pay Unit
502.461	Structural Concrete, Replace Concrete Slab	Cubic Yard

SPECIAL PROVISION
SECTION 507
RAILINGS
(Steel Hand Rail - Remove and Reset)

507.01 Description: This work shall consist of carefully removing existing steel hand rail, storing, protecting, rehabilitating as necessary, and resetting the hand rail at its original or proposed location, complete and accepted, in accordance with the Plans and as directed by the Resident.

This work shall also include all work necessary to rehabilitate, reconstruct, patch, modify, or bring to grade the existing concrete foundations, curb, pedestal, parapet, or other concrete support below or associated with the hand rail, including removal of unsound concrete, cleaning and supplementing reinforcing steel where required, furnishing and placing repair materials, reforming, finishing, curing, anchor bolt and anchorage adjustments, drilling and grouting reinforcing steel into stone wall substrate or sound concrete foundations, and protective coating of repaired concrete surfaces where exposed to view.

Work shall include all labor, materials, equipment, hardware, fittings, anchors, shims, preformed pads, fasteners, coating repair, concrete repair, excavation, disposal, and incidentals necessary to complete the work.

507.02 Materials: Materials shall meet the requirements of the following Sections of Division 700 and other referenced Sections:

- Pipe for Steel Pipe Hand Railing: ASTM A53, Grade A or B.
- Structural Steel: Section 713.01.
- Preformed Pads: Section 713.03.
- Concrete repair materials and concrete: Sections 502 and 518, as applicable. Concrete shall conform to Class A1, f'c = 4000 psi.
- Reinforcing steel: Section 503 and Section 709.01, as applicable.
- Protective coating for repaired concrete surfaces: Section 515.
- Drilling and grouting reinforcing steel anchors: Grout per MaineDOT Approved Products List and Drilling per grout manufacturer's recommendations.

Any new rail components required to replace components damaged by the Contractor or determined by the Resident to be unsuitable for reuse shall match the existing section, size, shape, and finish unless otherwise shown on the Plans or directed by the Resident.

507.03 Drawings: The Contractor shall prepare shop detail, erection, and other necessary Working Drawings in accordance with Section 105.7, Working Drawings, when required by the Resident or when replacement parts, revised anchorages, or foundation rehabilitation details are necessary to complete the work.

507.04 General:

Removal and Storage

The Contractor shall carefully remove and store the existing hand rail designated for resetting. Hand rail damaged or destroyed because of the Contractor's operations, or because of failure to store and protect it in a manner that would prevent loss or damage, shall be repaired or replaced with material of equal quality at the Contractor's expense.

All components shall be cleaned and protected during storage. Salvaged components shall be kept in matched groups to facilitate re-erection.

Construction:
Installation shall conform to the applicable requirements of Section 507.04. Anchor bolts or anchor bolt sleeves shall be set with a template and shall be securely placed in their final position prior to placement of embedding concrete, unless otherwise approved by the Resident. No field drilling for anchor bolts will be allowed without approval of the Resident.

Post bearing areas shall be dressed smooth and true to grade. Prior to resetting the hand rail, each post location shall be finished to the theoretical elevation determined from profile grade, cross slope, and curb or support elevation, and will not be acceptable until within 3/16 inch of theoretical elevation, as measured at the top of concrete. Preformed pads shall be used to adjust rail posts for height and alignment where required.

After erection, the Contractor shall clean the whole assembly to present a neat and uniform appearance.

Steel Fabrication and Coating
Existing steel hand rail to be reset shall be straightened, repaired, and refabricated as required to provide a completed installation conforming to the original alignment and profile. New or replacement steel rail components shall be fabricated in accordance with Section 504, Structural Steel. When called for on the Plans, or when existing galvanized or coated rail is damaged during removal or resetting, coating repair or recoating shall conform to Section 506, Shop Applied Protective Coating – Steel, to the satisfaction of the Resident.

Concrete Foundation Rehabilitation
Concrete foundation rehabilitation shall conform to the applicable requirements of Sections 502, 503, and 518.

Concrete foundation rehabilitation shall include, as required:

- Removal of loose, unsound, cracked, spalled, or delaminated concrete.
- Cleaning of exposed reinforcing steel.
- Supplementing reinforcing steel where existing reinforcement has section loss or damage requiring replacement or supplementation, as directed by the Resident.
- Drilling and anchoring reinforcing steel into existing stone wall substrate or existing sound concrete where required for repairs.
- Reconstructing bearing surfaces, pedestals, or anchor bolt seats to proper grade and alignment.
- Furnishing and placing concrete or approved repair material to restore the foundation to

the required dimensions and support conditions.
- Finishing exposed repaired concrete surfaces with a neat appearance.
- Curing repaired concrete in accordance with Section 502 or manufacturer's recommendations for approved repair materials.
- Applying protective coating to exposed repaired concrete surfaces in accordance with Section 515 when directed by the Resident or when the repaired surface is exposed to view.

Where removal or modification of a concrete foundation is required to complete the reset work, debris resulting from the modification or removal shall be removed from the project, and the area shall be brought to grade as directed by the Resident.

507.08 Method of Measurement:
Steel Hand Rail - Remove and Reset will be measured by the linear foot along the grade and line of the top rail, complete in place and accepted.

Measurement shall include the full installed length from end to end of rail reset, including all posts, rails, fittings, and associated concrete foundation rehabilitation required for the completed installation.

No separate measurement will be made for concrete foundation rehabilitation, concrete removal, concrete repair materials, reinforcing steel, anchor bolts, excavation, disposal, coating repair, shimming, or hardware.

507.09 Basis of Payment:
The accepted quantity of Steel Hand Rail - Remove and Reset will be paid for at the Contract unit price per linear foot.

Payment shall be full compensation for:

- Removing, storing, protecting, and resetting the hand rail.
- Repairing, straightening, replacing, and recoating hand rail components as required.
- Furnishing and placing all new hardware, fittings, anchors, and pads required for a complete installation.
- All excavation, disposal, concrete removal, concrete rehabilitation, reinforcing, anchorage work, concrete finishing, curing, and protective coating associated with the concrete foundation below or associated with the hand rail.
- All labor, materials, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
507.08511	Steel Hand Rail – Remove and Reset	Linear Foot

SPECIAL PROVISION
SECTION 508
WATERPROOFING MEMBRANE

508.08 Method of Measurement Basis of Payment: Waterproofing Membrane will be paid for at the contract unit price per square foot complete in place and accepted.

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

Payment will be made under:

Pay Item		Pay Unit
508.141	High Performance Waterproofing Membrane	Square Foot

SPECIAL PROVISION
SECTION 524
TEMPORARY STRUCTURAL SUPPORTS
(Roadway Support During Construction)

The following is added to Standard Specification Section 524:

524.01 Description

This work shall consist of designing, fabricating, erecting, maintaining, and dismantling temporary structural support wall(s) for the purpose of supporting the partially excavated sidewalk, retaining wall, and stone masonry abutment during construction of the abutment extension wall. Temporary Structural Support shall include support, bracing, or otherwise stabilizing any adjacent structures disturbed or partially removed as part of the Work.

524.03 Design

The temporary structure and approaches shall achieve acceptable minimum factors of safety. Minimum factors of safety for slope stability are 1.3 for approach embankment slopes and 1.5 for embankment slopes that contain or support structures. The minimum factor of safety for sliding and overturning is 1.3.

The design for the Temporary Structural Support shall be submitted to the Resident at least 3 weeks prior to the start of Work.

524.05 Method of Measurement

Temporary Structural Supports for Roadway support during construction will be measured as one lump sum satisfactorily designed, installed, maintained, dismantled, and removed for the entire project. Installation and reinstallation of Temporary Structural Supports between construction phases, if required, will not be measured separately, but will be considered incidental to the Temporary Structural Support Pay Item. Any work associated with support, bracing, or otherwise stabilizing any structures disturbed or partially removed as part of the Work or with removal and reinstallation of existing highway appurtenances (e.g. guardrails, sign supports, etc.) to facilitate the erection of Temporary Structural Supports will not be measured for payment, but will be considered incidental to the Temporary Structural Support Pay Item.

524.06 Basis of Payment

Temporary Structural Support for Roadway support will be paid for at the Contract lump sum price, which shall be full compensation for all materials, equipment, labor, and incidentals necessary for the design, installation, maintenance, dismantling, and removal of such supports in accordance with the Standard Specifications and as specified herein.

Payments will be made under:

Pay Item		Pay Unit
524.301	Temporary Structural Support	Lump Sum

SPECIAL PROVISION
SECTION 534
PRECAST STRUCTURAL CONCRETE
(Precast Concrete Box Culvert – 6'x13'x114')

The provisions of Section 534 of the Standard Specifications shall apply with the following additions and modifications.

534.01 Description:
Description shall be in accordance with Maine DOT Standard Specifications Subsection 534.01. This subsection shall be amended by the addition of the following paragraphs:

All in-stream work shall be completed between July 15 and September 30 of the given year.

This work shall consist of the following:

- Remove and dispose of existing 60-inch multi-plate corrugated metal culvert arch.
- Install new 13-foot (span) x 6-foot (rise) x 114-foot (length) precast concrete box culvert clamshell style with head walls, toe walls, and mitered ends.
- Embed the proposed culvert 1 foot with existing streambed material as shown on the culvert section.
    - The contractor shall stockpile excavated streambed material during the removal of the existing culvert and the excavation of the new culvert for reuse within the new culvert.
    - Reuse of existing culvert backfill material to supplement existing streambed material within the new culvert may be allowed if soil conditions are reviewed and approved by the Resident. The contractor may use common borrow within the new culvert if the existing culvert backfill material is deemed inadequate.
    - The contractor shall ensure the embedment material does not transport excess fines.
- All excavation, embankment grading, backfilling, compacting, and any other work associated with installing the new culvert. The culvert shall be installed per the manufacturer's specifications.
- Establish work zone dewatering and temporary stream bypass suitable for maintaining aquatic organism passage in accordance with U.S. Army Corps of Engineers Preconstruction Notification Permit requirements.

534.02 Materials:
Materials shall be in accordance with Maine DOT Standard Specifications Subsection 534.02. This subsection shall be amended by the addition of the following paragraphs:

Void-filled riprap (VFRR) shall conform to the following requirements:

Plain Riprap - shall be stone meeting the requirements of Section 703.26 - Plain and Hand Laid Riprap.

5-inch crushed stone – 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, or Type D aggregate for subbase gravel.

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 VFRR mixture with the approval of the Resident.

a. Mix proportions: VFRR shall be pre-mixed in the proportions listed in the following table:

Stone:	**Void-fill material:**	
Plain Riprap	5-inch crushed stone	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.

Construction Requirements

1. Place VFRR to form features with the shape and thickness as shown on the plans or as directed by the Resident. Banklines shall extend upstream and downstream from the culvert and match into the existing streambanks as directed.

2. Thoroughly pre-mix and place VRRR in a manner that minimizes segregation.

3. Place VFRR in one well-mixed layer. After initial placement, areas that consist primarily of void-fill material shall be remixed with the larger stone as necessary.

4. All stones shall be securely interlocked and tamped into place such that contact between the stones is maintained, with void-fill material between and below 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.

5. VFRR shall be thoroughly washed-in with water immediately after placement of each layer. After initial washing-in, place and spread additional void-fill material on the surface and wash-in until the remaining voids are filled prior to placing the next layer. The Contractor shall allow sufficient time for the Resident to review each layer prior to placing subsequent layers of VFRR.

6. After settlement and washing-in, the minimum thickness and height of the VFRR 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.

7. Prior to cofferdam removal and exposure to natural flow conditions the VFRR shall be at the specified height and thickness, thoroughly wetted with voids filled, and reviewed and approved by the Resident.

534.03 Drawings:
Drawings shall be in accordance with Maine DOT Standard Specifications Subsection 534.03. This subsection shall be amended by the addition of the following paragraphs:

The Contractor shall provide stamped shop drawings to the Resident for review and approval.

534.045 Construction Requirements:
Construction Requirements shall be in accordance with Maine DOT Standard Specifications Subsection 534.045. This subsection shall be amended by the addition of the following paragraphs:

Materials used for Precast Concrete Box Culvert (Clamshell) shall meet Maine DOT Specifications, 2020 Edition, Section 534 – Precast Structural Concrete.

Verify that the trench cut is ready to receive work and that excavations, dimensions, and elevations are as indicated on the layout drawings.

Install box culvert, fittings, and accessories in accordance with the manufacturer's instructions; seal watertight.

Lay box culvert to slope gradients noted on layout drawings, with a maximum variation from true slope of 1/8 inch in 10 feet

Grout lifting holes after installation with non-shrink grout.

Protect the box culvert and bedding cover from damage or displacement until the backfilling operation begins.

Divert, pump, or otherwise contain stream flow during box culvert installation. The contractor shall provide a stream bypass method that complies with the traffic control requirements described in the specifications. The stream bypass method must maintain passage for aquatic organisms. The stream bypass method shall be sized to convey, at a minimum, the 7-day, 10-year low-flow volume of 0.134 cfs provided by the United States Geological Survey StreamStats program. The contractor should be cautioned that during rainfall events, stream flow volumes may be greatly increased from the low

flow volume. Any unanticipated weather events will need to be accommodated. A Stream Bypass Plan shall be submitted and approved by the Resident prior to the commencement of any work.

Dewatering of the work zone will be required to allow excavation for the culvert installation. Sediment-laden water pumped from the work zone shall be filtered through a dirt bag or approved equivalent before being discharged to the watercourse. The drainage course downstream of the dirt bag shall be monitored for erosion. The drainage course shall be repaired and reinforced immediately if erosion is observed.

The Contractor shall submit a Dewatering Plan for the Resident's approval before commencing any work. The Dewatering Plan, at a minimum, shall include:

1. Material, description, and location of cofferdams.
2. Description, locations, and plans for the dewatering pump and associated piping.
3. Dewatering discharge location and outfall stabilization.

534.21 Method of Measurement:
Method of Measurement shall be in accordance with Maine DOT Standard Specifications Subsection 534.21. This subsection shall be amended by the addition of the following paragraphs:

Item 534.71, Precast Concrete Box Culvert (6'x13'x114') will be measured by the lump sum, complete in place, and accepted.

534.22 Basis of Payment:
The Basis of Payment shall be in accordance with Maine DOT Standard Specifications Subsection 534.22. This subsection shall be amended by the addition of the following paragraphs:

Payment for Precast Concrete Box Culvert (6'x13'x114') shall be paid for at the contract unit price per lump sum. Work shall include stream dewatering, bypass pumping, erosion control, culvert design (stamped by a professional engineer), removal of existing culverts, excavation, over excavation (if required), structural earth excavation, backfill material, granular borrow, common borrow, void-filled riprap, plain riprap, cofferdams, special fill, streambed material, filter fabric, replacement of any existing utilities damaged during construction of the box culvert, and all labor, equipment, or material required to complete the work.

Based on the construction needing to occur during the in-stream work window, the following stipulations shall apply to work on the culvert. Common excavation (to the bottom of the roadway or sidewalk subbase), subbase gravels, and roadway/sidewalk pavement, if completed to the proposed depths and grades noted on the plans, shall be paid for separately under the applicable 203, 304, and 403 items. Temporary common excavation, subbase gravels, and pavement that will need to be replaced or redone at a later time to complete the roadway reconstruction shall be considered incidental to item 534.71.

Payment will be made under:

Pay Item	Description	Pay Unit
534.71	Precast Concrete Box Culvert (6'x13'x114')	Lump Sum

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:

Payment will be made under:

Pay Item		Pay Unit
603.05	6” PVC Pipe	Linear Foot
603.1311	8” PVC Pipe	Linear Foot
603.149	10” PVC Pipe	Linear Foot
603.157	12” PVC Pipe	Linear Foot

SPECIAL PROVISION
SECTION 603
PIPE CULVERTS AND STORM DRAINS
(Reinforced Concrete Pipe)

The provisions of Section 603 of the Standard Specifications shall apply with the following additions and modifications.

603.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 603.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of furnishing and installing Class III and IV Reinforced Concrete Pipe at the locations and sizes shown on the plans or as directed by the Resident. These pipes shall meet the requirements of Subsection 706.02.

603.11 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 603.11. This subsection shall be amended by the addition of the following paragraphs:

Item 603.155, 12 Inch Reinforced Conc. Pipe Class III will be measured by the length in Linear Feet along the invert, laid as directed, complete in place, and accepted.

Item 603.1552, 12 Inch Reinforced Conc. Pipe Class IV will be measured by the length in Linear Feet along the invert, laid as directed, complete in place, and accepted.

Item 603.165, 15 Inch Reinforced Conc. Pipe Class III will be measured by the length in Linear Feet along the invert, laid as directed, complete in place, and accepted.

Item 603.1652, 15 Inch Reinforced Conc. Pipe Class IV will be measured by the length in Linear Feet along the invert, laid as directed, complete in place, and accepted.

Item 603.175, 18 Inch Reinforced Conc. Pipe Class III will be measured by the length in Linear Feet along the invert, laid as directed, complete in place, and accepted.

Item 603.195, 24 Inch Reinforced Conc. Pipe Class III will be measured by the length in Linear Feet along the invert, laid as directed, complete in place, and accepted.

Item 603.205, 30 Inch Reinforced Conc. Pipe Class III will be measured by the length in Linear Feet along the invert, laid as directed, complete in place, and accepted.

Item 603.215, 36 Inch Reinforced Conc. Pipe Class III will be measured by the length in Linear Feet along the invert, laid as directed, complete in place, and accepted.

Item 603.225, 42 Inch Reinforced Conc. Pipe Class III will be measured by the length in Linear Feet along the invert, laid as directed, complete in place, and accepted.

603.12 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 603.12. This subsection shall be amended by the addition of the following paragraphs:

Payment will be made under:

Pay Item	Description	Pay Unit
603.155	12 Inch Reinforced Conc. Pipe Class III	Linear Foot
603.1552	12 Inch Reinforced Conc. Pipe Class IV	Linear Foot
603.165	15 Inch Reinforced Conc. Pipe Class III	Linear Foot
603.1652	15 Inch Reinforced Conc. Pipe Class IV	Linear Foot
603.175	18 Inch Reinforced Conc. Pipe Class III	Linear Foot
603.195	24 Inch Reinforced Conc. Pipe Class III	Linear Foot
603.205	30 Inch Reinforced Conc. Pipe Class III	Linear Foot
603.215	36 Inch Reinforced Conc. Pipe Class III	Linear Foot
603.225	42 Inch Reinforced Conc. Pipe Class III	Linear Foot

SPECIAL PROVISION
SECTION 603
PIPE CULVERTS AND STORMDRAINS
(Stormwater Treatment System)

The provisions of Section 603 of the Standard Specifications shall apply with the following additions and modifications.

603.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 603.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of constructing a stormwater treatment system, Focal Point or approved equal, to provide stormwater quality treatment. The stormwater treatment system is located adjacent to the northwest corner of the parking lot. A pay limit has been identified on the plans; all work within the proposed pay limit shall generally be considered part of the Stormwater Treatment System pay item. The layout, grading, drainage, planting, and related details for the Stormwater Treatment System are indicated on the Contract Drawings.

603.02 Materials:
Materials shall be in accordance with the Maine DOT Standard Specifications Subsection 603.02. This subsection shall be amended by the addition of the following paragraphs:

The Contractor shall furnish and install a Focal Point (or approved equal) filter in accordance with the details and specifications noted within the contract documents, as well as the manufacturer's recommendations as noted on the plans. For specific details and testing requirements, refer to the Special Details – Stormwater Filter.

615.021 Installation & Testing:
This subsection shall be added:

The Focal Point System (or approved equal) shall be installed under the supervision of a manufacturer's representative.

All proposed plant materials and any substitutions shall be approved by the manufacturer's representative. Plantings shall be spaced 24" on-center.

All Focal Point (or approved equal) material shall be provided by the manufacturer. Plant Material shall be supplied by the Contractor.

The system shall be installed per the manufacturer's Specifications.

Upon completion, the Contractor shall flood the chamber to the elevation of water quality volume, 291.19, with the outlet valve closed, and then open the outlet valve to achieve a 24-48 hour release rate. This information shall be provided to the Resident.

603.11 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 603.11. This subsection shall be amended by the addition of the following paragraphs:

Item 603.9704, Stormwater Treatment System, will be measured as a lump-sum, complete-in-place, and accepted.

603.12 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 603.12. This subsection shall be amended by the addition of the following paragraphs:

Stormwater Treatment System will be paid for at the contract unit price per lump sum, complete-in-place, and accepted. All construction materials, labor, and incidentals required for the construction of berms, sediment forebays, and riprap spillway are included as part of the Stormwater Treatment System lump sum.

Payment shall be full compensation for furnishing the Focal Point System (or approved equal) and placing all PVC pipe, underdrain, elbows, wyes & fittings, cleanouts, outlet valve, outlet control structures, R-Tanks treatment rows, observation ports, domed overflow filter risers, underdrain backfill, soil filter media, plantings (associated with the Focal Point or approved equal), impervious liner, loam, seeding, special riprap, erosion control geotextile, erosion control blanket, and all equipment and labor, and all other incidentals to complete the work.

Excavation, common or granular borrow, and all grading to establish the final grade of the Stormwater Treatment System embankments and floor elevation will be considered incidental.
The pay limit for the Stormwater Treatment System covers a rectangular section at the northwest corner of the parking lot. A pay limit line is shown on the Contract Drawings to indicate where items required both inside and outside of the Stormwater Treatment System will be separately measured for payment.

The following items will be measured for payment separately in accordance with the applicable specifications: Clearing (Section 201), Subbase Gravels (Section 304), Base & Surface Pavement (Section 403), Drainage items East of Outlet Control Structure #2 (Sections 603 & 604), Landscaping (Section 621), Lighting items (Section 634), and Signage (Section 645).

Payment will be made under:

Pay Item	Description	Pay Unit
603.9704	Stormwater Treatment System	Lump Sum

SPECIAL PROVISION
SECTION 604
MANHOLES, INLETS, AND CATCH BASINS
(Large Catch Basins)

The provisions of Section 604 of the Standard Specifications shall apply with the following additions and modifications.

604.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 604.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of furnishing and installing 60", 72", and 96" diameter catch basins with covers and offset cones or flat tops in accordance with the plans and specifications. See the Drainage Schedule for additional information.

604.02 Materials:
Materials shall be in accordance with the Maine DOT Standard Specifications Subsection 604.02. This subsection shall be amended by the addition of the following paragraphs:

The Contractor shall submit shop drawings to the Resident for approval prior to purchasing any materials.

604.05 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 604.05. This subsection shall be amended by the addition of the following paragraphs:

Item 604.076, 60" Catch Basin Type A1-C, will be measured by Each, complete-in-place, and accepted.

Item 604.077, 72" Catch Basin Type A1-C, will be measured by Each, complete-in-place, and accepted.

Item 604.093, 60" Catch Basin Type B1, will be measured by Each, complete-in-place, and accepted.

Item 604.094, 72" Catch Basin Type B1, will be measured by Each, complete-in-place, and accepted.

Item 604.0957, 96" Catch Basin Type B1-C, will be measured by Each, complete-in-place, and accepted.

Item 604.2521, 60" Catch Basin Type A5-C, will be measured by Each, complete-in-place, and accepted.

Item 604.2621, 60” Catch Basin Type B5-C, will be measured by Each, complete-in-place, and accepted.

Item 604.2622, 72” Catch Basin Type B5-C, will be measured by Each, complete-in-place, and accepted.

604.06 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 604.06. This subsection shall be amended by the addition of the following paragraphs:

Payment will be made under:

Pay Item	Description	Pay Unit
604.076	60” Catch Basin Type A1-C	Each
604.077	72” Catch Basin Type A1-C	Each
604.093	60” Catch Basin Type B1	Each
604.094	72” Catch Basin Type B1	Each
604.0957	96” Catch Basin Type B1-C	Each
604.2521	60” Catch Basin Type A5-C	Each
604.2621	60” Catch Basin Type B5-C	Each
604.2622	72” Catch Basin Type B5-C	Each

SPECIAL PROVISION
SECTION 607
FENCES
(Remove and Reset Stone Wall)

607.01 Description

This work shall consist of carefully dismantling, stockpiling, protecting, transporting as necessary, and resetting an existing stone landscape planter wall in a new configuration, complete in place, in accordance with these Specifications, the Plans, and as directed by the Resident. The completed wall shall include salvaged wall stones, foundation preparation, crushed stone leveling pad, drainage stone, drainage geotextile, backfill, and all incidentals necessary to construct the wall to the lines, grades, and dimensions shown on the Plans.

This item is intended to represent removal and reset of an existing landscape planter wall, not construction of a new dry laid retaining wall from entirely new stone. The Contractor shall preserve, to the maximum extent practical, the existing stones for reuse. Any stones damaged by the Contractor's operations or missing due to the Contractor's negligence shall be replaced with stones of similar color, texture, shape, and size, acceptable to the Resident.

607.02 Materials

Materials shall meet the requirements of the following Sections of Division 700:

- Crushed Stone ¾-Inch – 703.13
- Gravel Borrow – 703.20
- Drainage Geotextile – 722.02

Existing wall stones to be reset shall be cleaned of soil, mulch, mortar residue, vegetation, and other debris prior to reuse. Replacement stones, when required, shall be hard, durable, and similar in appearance to the salvaged stones.

Backfill material placed behind or within the wall system shall meet the requirements of Section 703.20, except that backfill shall contain only particles passing the 3-inch square mesh sieve.

Drainage geotextile shall be placed between the stone wall/drainage stone and adjacent backfill or native soil where shown on the Plans or directed by the Resident. Geotextile placement shall conform to Section 620.

607.03 General

Construction Requirements: The Contractor shall dismantle the existing wall in a manner that preserves the individual stones for reuse. Stones shall be sorted and stockpiled in a neat, stable manner to facilitate reconstruction. The Contractor shall protect salvaged stones from contamination and damage during storage and handling.

The reset wall shall be constructed in reasonably close conformity with the alignment, elevations, dimensions, and details shown on the Plans. The top of the reset wall shall be at or above the top elevations shown on the Plans.

Excavation and Foundation Preparation: Excavation and use or disposal of excavated material shall conform to Section 203, Excavation and Embankment. The area upon which the reset stone wall is to be placed shall be graded

to the required lines and elevations and compacted to provide a firm, stable foundation. Frozen and unsuitable soil shall be removed and replaced with approved material as directed by the Resident.

Crushed Stone Leveling Pad: The wall shall be founded on an 8-inch thick crushed stone leveling pad unless otherwise shown on the Plans. The crushed stone leveling pad shall be proof rolled with multiple passes of a static roller or compacted by approved means to achieve a firm and stable surface. The leveling pad shall extend at least 3 inches beyond the wall stones in all directions. Steps in the leveling pad shall have a minimum overlap of 8 inches. Elevation tolerances from design elevations shall be +0.01 foot and -0.02 foot.

Wall Construction: The wall shall be reconstructed of salvaged stones, supplemented with matching new stones when required, and hand fitted to produce a compact, stable, and uniform appearance. Joints shall be generally level and horizontal. Only short vertical joints will be permitted, and no more than two vertical joints shall be stacked above one another. Stones shall be placed so diagonal joints are minimized. Visible joint width shall be minimized and shall not exceed 1.5 inches unless otherwise accepted by the Resident due to the character of the salvaged material.

The wall shall be built to the dimensions shown on the Plans. Unless otherwise detailed, the top of the wall shall be not less than 12 inches wide. Where capstones are shown or can be formed from salvaged material, the top course shall consist of stable, hand fitted stones of similar size and thickness. Shims may be used as necessary for leveling but shall not provide primary support and shall not be visible on the exposed face.

Drainage Stone and Geotextile: Where shown on the Plans or directed by the Resident, a crushed stone drainage layer shall be constructed directly behind the wall. The drainage layer shall be 12 inches in thickness unless otherwise shown on the Plans. Placement of drainage stone and drainage geotextile shall closely follow erection of the wall. Geotextile seams shall overlap a minimum of 6 inches.

Backfill: Backfill placement shall closely follow erection of the wall and drainage layer. Backfill shall be placed in lifts not exceeding 8 inches loose and compacted with lightweight hand operated compaction equipment adjacent to the wall. Backfill beyond 3 feet from the back of the drainage layer shall be compacted to 95 percent of maximum density as determined by AASHTO T-180, Method C or D. Sheepsfoot rollers shall not be allowed. Full size ride-on compaction equipment shall not be allowed within 5 feet of the back of the wall. The moisture content of the backfill prior to and during compaction shall be uniformly distributed and shall be within 2 percentage points dry of optimum.

Protection: At the end of each day’s operation, the Contractor shall shape the backfill and surrounding areas to direct runoff away from the wall face. The Contractor shall protect completed portions of the wall from damage caused by subsequent operations.

607.06 Method of Measurement

Remove and Reset Stone Wall will be measured by the Linear Foot of wall, complete in place and accepted.

607.07 Basis of Payment

The accepted quantity of Remove and Reset Stone Wall will be paid for at the contract unit price per Linear Foot, complete in place. Payment shall be full compensation for dismantling the existing wall, salvaging, cleaning, sorting, stockpiling, transporting, furnishing new or replacement stones as necessary, excavation, disposal of

unsuitable material, foundation preparation, crushed stone leveling pad, drainage stone, geotextile, backfill, compaction, reconstruction of the wall, and all labor, equipment, materials, and incidentals necessary to complete the work.

There will be no separate payment for excavation and backfilling beyond the limits shown on the Plans, except for excavation required to remove unsuitable material in preparation for the foundation, which will be paid as Common Excavation in accordance with Section 203 if a pay item for such work exists in the Contract.

Payment will be made under:

Pay Item		Pay Unit
607.291	Remove and Reset Stone Wall	Linear Foot

SPECIAL PROVISION
SECTION 608
SIDEWALKS
(Precast Concrete Pavers, Reset Concrete Pavers & Granite Cobbles with Bituminous Base)

The provisions of Section 608 of the Standard Specifications shall apply with the following additions and modifications.

608.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 608.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of furnishing and installing granite cobbles with bituminous base (within the median islands) on a 1"-2" deep sand cement setting bed, 6" fiber reinforced concrete bed, and compacted subbase gravels as detailed on the plans (see Appendix B), as well as in accordance with the manufacturer's instructions and requirements.

This work shall consist of removing existing decorative concrete pavers, regrading, compacting, and fine grading the existing gravel, and reinstalling the concrete pavers as detailed on the plans. The Contractor shall replace any broken or damaged blocks resulting from the removal process. The pavers shall be installed on a sand bed per the manufacturer's recommendations and match the existing color scheme and paver pattern of the existing walkway.

This work shall consist of furnishing and installing precast concrete pavers on a 1" depth sand setting bed and compacted subbase gravels as detailed on the plans, as well as in accordance with the manufacturer's instructions and requirements.

Concrete for the 6" fiber reinforced concrete bed under the proposed granite cobbles with bituminous base shall be Class A.

608.02 Materials, General:
Materials, General shall be in accordance with the Maine DOT Standard Specifications Subsection 608.02. This subsection shall be amended by the addition of the following paragraphs:

Replacement concrete pavers (if required) shall be the same color and dimensions as the existing walkway. The Contractor shall take care to match the existing pattern and provide a smooth transition from the existing path to the section of path set to be reconstructed.

5" thick cobblestones shall be laid perpendicular to the roadway within the proposed curbed median islands. Joints shall be staggered between rows. Dry sand-cement shall be six (6) parts washed mortar sand to one (1) part Portland Cement and shall be placed and swept into the joints to within ¼" to ½" of the paver surface. All surplus material shall be swept from the cobblestone surface.

Excavation shall be to the required depth and width, and the subbase shall be shaped and compacted to a firm, even surface, conforming to the section shown in the Contract Documents. All soft and yielding materials shall be removed and replaced with acceptable material.

Precast concrete pavers to be installed under item 608.241 shall be shale grey Squadra Pavers from Techo-Bloc, or an approved equal, with a linear laying pattern. The Contractor shall submit shop drawings to the Resident for approval prior to purchasing any materials.

608.05 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 608.05. This subsection shall be amended by the addition of the following paragraphs:

Item 608.241, Precast Concrete Pavers, will be measured by the Square Yard of finished surface, complete in place, and accepted.

Item 608.261, Reset Concrete Pavers, will be measured by the Square Yard of finished surface, complete in place, and accepted.

Item 608.272, Granite Cobbles with Bituminous Base, will be measured by the Square Yard of finished surface, complete in place, and accepted.

608.06 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 608.06. This subsection shall be amended by the addition of the following paragraphs:

The accepted quantity of Precast Concrete Pavers, Granite Cobbles with Bituminous Base, and Reset Concrete Pavers will be paid for at the contract unit price per square yard of finished surface, complete-in-place. Excavation will be paid for under Section 203, Excavation and Embankment, and any subbase gravels, not including the bedding sand, will be paid for under Section 304, Aggregate Base and Subbase Course. Payment shall be full compensation for expansion joint material, joint filler, concrete bedding slabs, bedding sand, cutting of stones/blocks, removing and resetting existing pavers, and for all labor, tools, equipment, and any other incidentals necessary to complete the work.

Placing, compacting, and fine grading of the required subbase gravels will be paid separately under the applicable 304 items.

The 4” concrete slab for subsurface mounting of proposed bike racks, as noted on the plans, shall be installed in coordination with the precast concrete pavers.

Payment will be made under:

Pay Item	Description	Pay Unit
608.241	Precast Concrete Pavers	Square Yard
608.261	Reset Concrete Pavers	Square Yard
608.272	Granite Cobbles with Bituminous Base	Square Yard

SPECIAL PROVISION
SECTION 608
SIDEWALKS
(Cobblestone Surface & Precast Concrete Pavers & Reset Concrete Pavers)

The provisions of Section 608 of the Standard Specifications shall apply with the following additions and modifications.

608.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 608.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of furnishing and installing a cobblestone surface (within the median islands) on a 1"-2" deep sand cement setting bed, 6" fiber reinforced concrete bed, and compacted subbase gravels as detailed on the plans (see Appendix B), as well as in accordance with the manufacturer's instructions and requirements.

This work shall consist of removing existing decorative concrete pavers, regrading, compacting, and fine grading the existing gravel, and reinstalling the concrete pavers as detailed on the plans. The Contractor shall replace any broken or damaged blocks resulting from the removal process. The pavers shall be installed on a sand bed per the manufacturer's recommendations and match the existing color scheme and paver pattern of the existing walkway.

This work shall consist of furnishing and installing precast concrete pavers on a 1" depth sand setting bed and compacted subbase gravels as detailed on the plans, as well as in accordance with the manufacturer's instructions and requirements.

Concrete for the 6" fiber reinforced concrete bed under the proposed cobblestone surface shall be Class A.

608.02 Materials, General:
Materials, General shall be in accordance with the Maine DOT Standard Specifications Subsection 608.02. This subsection shall be amended by the addition of the following paragraphs:

Replacement concrete pavers (if required) shall be the same color and dimensions as the existing walkway. The Contractor shall take care to match the existing pattern and provide a smooth transition from the existing path to the section of path set to be reconstructed.

5" thick cobblestones shall be laid perpendicular to the roadway within the proposed curbed median islands. Joints shall be staggered between rows. Dry sand-cement shall be six (6) parts washed mortar sand to one (1) part Portland Cement and shall be placed and swept into the joints to within ¼" to ½" of the paver surface. All surplus material shall be swept from the cobblestone surface.

Excavation shall be to the required depth and width, and the subbase shall be shaped and compacted to a firm, even surface, conforming to the section shown in the Contract Documents. All soft and yielding materials shall be removed and replaced with acceptable material.

Precast concrete pavers to be installed under item 608.241 shall be shale grey Squadra Pavers from Techo-Bloc, or an approved equal, with a linear laying pattern. The Contractor shall submit shop drawings to the Resident for approval prior to purchasing any materials.

608.05 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 608.05. This subsection shall be amended by the addition of the following paragraphs:

Item 608.14, Cobblestone Surface, will be measured by the Square Yard of finished surface, complete in place, and accepted.

Item 608.241, Precast Concrete Pavers, will be measured by the Square Yard of finished surface, complete in place, and accepted.

Item 608.261, Reset Concrete Pavers, will be measured by the Square Yard of finished surface, complete in place, and accepted.

608.06 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 608.06. This subsection shall be amended by the addition of the following paragraphs:

The accepted quantity of Precast Concrete Pavers, Cobblestone Surface, and Reset Concrete Pavers will be paid for at the contract unit price per square yard of finished surface, complete-in-place. Excavation will be paid for under Section 203, Excavation and Embankment, and any subbase gravels, not including the bedding sand, will be paid for under Section 304, Aggregate Base and Subbase Course. Payment shall be full compensation for expansion joint material, joint filler, concrete bedding slabs, bedding sand, cutting of stones/blocks, removing and resetting existing pavers, and for all labor, tools, equipment, and any other incidentals necessary to complete the work.

Placing, compacting, and fine grading of the required subbase gravels will be paid separately under the applicable 304 items.

The 4” concrete slab for subsurface mounting of proposed bike racks, as noted on the plans, shall be installed in coordination with the precast concrete pavers.

Payment will be made under:

Pay Item	Description	Pay Unit
608.14	Cobblestone Surface	Square Yard
608.241	Precast Concrete Pavers	Square Yard
608.261	Reset Concrete Pavers	Square Yard

SPECIAL PROVISION
SECTION 609
CURB
(Terminal Curb)

The provisions of Section 609 of the Standard Specifications shall apply with the following additions and modifications.

609.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 609.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of furnishing and installing Type 1 and Type 5 terminal curb sections.

609.09 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 609.09. This subsection shall be amended by the addition of the following paragraphs:

Item 609.221, Terminal Curb Type 1, will be measured by the linear foot along the front face of the curb at the elevation of the finished pavement.

Item 609.222, Terminal Curb Type 1 – Circular, will be measured by the Linear Foot along the front face of the curb at the elevation of the finished pavement.

Item 609.3401, Terminal Curb Type 5, will be measured by the Linear Foot along the front face of the curb at the elevation of the finished pavement.

609.10 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 609.10. This subsection shall be amended by the addition of the following paragraphs:

The accepted quantity of Terminal Curb (both Type 1 and Type 5, straight or circular) will be paid for at the contract unit price per linear foot for each kind and type of curbing, complete-in-place.

Payment will be made under:

Pay Item	Description	Pay Unit
609.221	Terminal Curb Type 1	Linear Foot
609.222	Terminal Curb Type 1 – Circular	Linear Foot
609.3401	Terminal Curb Type 5	Linear Foot

SPECIAL PROVISION
SECTION 615
LOAM
(Loam - Planting Beds)

The provisions of Section 615 of the Standard Specifications shall apply with the following additions and modifications.

615.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 615.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of furnishing and placing planting soil for proposed landscaping (planting beds, shrubs, and trees), in reasonably close conformity with the thicknesses identified within this spec.

Provide 18" depth planting soil (sandy loam soil product) within the planting beds as detailed on the plans under Appendix B – Landscaping Plans, for all shrubs and perennials.

Provide 36" depth planting soil (sandy loam soil product) centered around each proposed tree in a circle that is a minimum of two times the root ball diameter, as detailed on the plans under Appendix B – Landscaping Plans, for all trees.

615.02 Materials:
Materials shall be in accordance with the Maine DOT Standard Specifications Subsection 615.02. This subsection shall be amended by the addition of the following paragraphs:

Sandy Loam Soil Product

Soil Texture: Sandy loam, as classified by the USDA soil texture triangle (60-70% sand, 15-25% silt, and 5-10% clay). Organic Matter: 3-5% by weight, as determined by loss on ignition. pH Range: 6.0 to 7. Nutrient Levels: Adequate levels of nitrogen, phosphorus, and potassium for specified plant species.

Drainage: Permeability rate of 1-2 inches per hour, ensuring proper drainage while retaining sufficient moisture.

Additives:
- Compost: Well-aged and screened organic compost, free of contaminants and pathogens.
- Fertilizer: Slow-release, balanced fertilizers as required by soil testing results.
- Other Amendments: Gypsum or lime for pH adjustment, as necessary.

615.04 Placement of Loam:
Placement of Loam shall be in accordance with the Maine DOT Standard Specifications Subsection 615.04. This subsection shall be amended by the addition of the following paragraphs:

Site Grading:	Grade the site to the proper elevation and slope to ensure adequate drainage.
Depth of Installation:	Spread sandy loam soil to a depth of 6 inches for seeded and sodded areas, and a depth of 18" for all planting beds, and 36" minimum depth for trees.
Layering:	Place soil in lifts not exceeding 6 inches, compacting lightly to avoid air pockets but ensuring permeability.
Grading & Finishing:	Grade soil to achieve final elevations, ensuring smooth, uniform surfaces. Adjust slopes for proper drainage.

The Resident shall obtain a sample of the sandy loam soil product identified by the Contractor. Samples will be submitted to the Department testing facility.

615.05 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 615.05. This subsection shall be amended by the addition of the following paragraphs:

Item 615.073, Loam (Planting Beds), will be measured by the Cubic Yard complete-in-place after finishing to the required depths as shown on the plans or as directed. Lateral measurements will be parallel to the slope of the ground.

615.06 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 615.06. This subsection shall be amended by the addition of the following paragraphs:

The accepted quantity of Loam (Planting Beds) will be paid for at the contract unit price per cubic yard, complete-in-place. Excavation will be paid for under Section 203, Excavation and Embankment. Payment shall be full compensation for furnishing, layering, and grading the material, as well as all incidentals required to complete the work in reasonably close conformity to the plans.

Payment will be made under:

Pay Item	Description	Pay Unit
615.073	Loam (Planting Beds)	Cubic Yard

SPECIAL PROVISION
SECTION 615
LOAM
(Underdrain Soil Filter)

The provisions of Section 615 of the Standard Specifications shall apply with the following additions and modifications.

615.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 615.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of constructing an Underdrain Soil Filter to provide stormwater quality treatment. The location of the Underdrain soil filter is adjacent to the southwest edge of the parking lot. A pay limit has been identified on the plans; all work southwest of the proposed pay limit shall generally be considered part of the Underdrain Soil Filter pay item. The layout, grading, drainage, seeding, and related details for the Underdrain Soil Filters are indicated on the Contract Drawings.

615.02 Materials
Materials shall be in accordance with the Maine DOT Standard Specifications Subsection 615.02. This subsection shall be amended by the addition of the following paragraphs:

Loam	615.02
Seeding (Method Number 2)	618.14
Fine Aggregate for Concrete	703.01
Granular Borrow	703.19
Underdrain Backfill Material – Type B	703.22
PVC Pipe	706.08
PVC Perforated Pipe	706.09
Erosion Control Blanket	717.061
Erosion Control Geotextile	722.02
Soil Filter Media	See Below
Impervious Liner	See Below
Outlet Valve	See Below
Special Riprap	See Below

Seeding – The Underdrain Soil Filter side slopes and bottom shall be seeded according to Section 618 Seeding with the following seed mix.

Seed	Rate
Creeping Red Fescue	20 lbs./acre
Tall Fescue	20 lbs./acre

The Underdrain Soil Filter top of berm and exterior side slopes (leading away from the soil filter) shall be seeded in accordance with Section 618 Seeding with a New England Erosion Control/Restoration Seed Mix for Detention Basins & Moist Sites. For additional information regarding the seed mix, see Appendix B – Landscaping Plans.

The seeding shall be completed between April 1st and June 15th or between August 15th and September 15th to ensure adequate time for the grass to become established.

Granular Borrow – Modified to have 100% passing the 6" sieve.

Soil Filter Media – See Special Details – Soil Filter (Soil Specifications) for specific information regarding the proposed soil filter media.

Impervious Liner – Impervious Liner shall consist of linear low-density polyethylene (LLDP) or PVC with a minimum thickness of 30 mil.

Outlet Valve – Outlet valve shall be installed as shown on the Contract Drawings. Valve wrench and handle extension shall be provided to MaineDOT and/or the City upon completion of the pond.

Special Riprap – Special Riprap shall be furnished and installed where indicated on the Contract Drawings. Special Riprap shall consist of sound, durable rock that will not disintegrate by exposure to water or weather. Fieldstone, rough quarry stone, blasted ledge rock or tailings may be used. The rock shall be graded within the following limits or as otherwise approved.

Sieve Designation	Percent by Weight Passing Square Mesh Sieves
12 inch	100
6 inch	84-100
3 inch	68-83
1 inch	42-55
No.4	8-12

615.021 Construction Requirements:
The Underdrain Soil Filter shall be constructed according to the location, layout, grading, drainage, and seeding indicated on the Contract Drawings. The Contractor shall have a preconstruction site walk with the Resident, the Engineer of Record, and a representative from the MaineDOT Environmental Office Surface Water Resources Unit to review the proposed locations and to answer questions regarding layout and construction. Any modifications to the elevation, location, and components of the Underdrain Soil Filters shall be at the direction of and approved by the Resident.

The footprint for embankment shall be cleared of trash/debris and any rocks greater than 6 inches, be free of any standing water, be graded to be no steeper than 1:1, be scarified prior to embankment

fill placement, and be inspected and approved by the Resident before fill placement. Compact fill to 95% of Modified Proctor.

The contributing drainage area to the Underdrain Soil Filter shall be paved, have 90% vegetative cover, or all runoff diverted from the basin before the following components are installed.

The following sequence shall be followed to construct the Underdrain Soil Filter from bottom up:

The Impervious Liner and Drainage Geotextile shall be installed on all sides and bottom as shown in the Contract Drawings. Punctures in the Impervious Liner shall be repaired in accordance with the manufacturer's specifications and approved by the Resident. The Impervious Liner shall not be placed during the presence of excessive winds as directed by the Resident. The Impervious Liner shall be anchored to the sidewalls of the excavation using a method approved by the Resident.

The Underdrain Backfill Material – Type B (703.22) and PVC pipes (706.08 and 706.09) shall be installed as indicated on the Contract Drawings. A PVC underdrain cleanout shall be located at the upstream end of each underdrain segment. Install the Soil Filter Media in 6-inch lifts to prevent pockets of loose media. The Underdrain Backfill Material and Soil Filter Media shall be compacted to between 90 and 92% standard proctor (AASHTO T180). Over-compaction of the Soil Filter Media shall be avoided.

Upon completion of installing the Soil Filter Media and establishing a 90% catch of grass over the Filter Media, the Contractor shall flood the vegetated underdrain with clean water to the channel protection elevation indicated on the Contract Drawings and adjust the Outlet Valve to obtain a 24-hour to 48-hour release time. The flow from the underdrain should be approximately 0.02 cfs.

Loam shall be placed around the Underdrain Soil Filter pond as indicated on the Contract Drawings. The interior side slopes and the floor of the basin shall be seeded in accordance with Section 618 Seeding, using the seed mix specified above. The top of the berm and exterior side slopes shall be seeded in accordance with Section 618 Seeding with a New England Erosion Control/Restoration Seed Mix for Detention Basins & Moist Sites. The seeding shall be completed between April 1st and June 15th or between August 15th and September 15th. Loam and seed to be placed south/west of the pay limit for item 615.27 (as noted on the plans) shall be included in Item 615.27. Areas where loam and seed are required to the north and east of the pay limit line for Item 615.27 will be measured for payment separately. The Erosion Control Blanket shall be installed over all seeded areas prior to the end of each Working Day. Special Riprap shall be installed as shown on the Contract Drawings.

615.041 General: Inspection of the Underdrain Soil Filters shall be provided for each phase of construction by the Resident with required reporting to the MaineDOT Environmental Office Surface Water Resources Unit.

615.042 Submittals: The following submittals are required:

- The Contractor shall identify the location of the source of each component of the Underdrain Soil Filters and provide documentation to the Resident. The Contractor shall submit samples of each material to be blended for the Soil Filter Media, the resulting Soil Filter Media, and Underdrain Backfill Material – Type B to a material testing firm at least 30 working days prior to delivery to the site. Representative samples shall be a composite of three different locations (grabs) from the stockpile or pit face. The sample size required will be determined by the material testing firm. All laboratory test results (see below) shall be submitted to the Resident at least 10 working days prior to the delivery of material to the site. The cost of material testing shall be considered incidental to the Pay Item.
- Certification of the source of the Super Humus or Superhumus™ or equivalent.
- Submittals in accordance with individual material requirements set forth within the Standard Specifications.
- Method for anchoring the impervious liner to the excavation walls.
- Perform one compaction density test on the in-place soil filter for every 2,000 square feet of filter surface area. Test shall conform to ASTM D 2922 – Standard Test Methods for density of soil and soil-aggregate in place by nuclear methods (shallow depth): 1996. Submit results to the Resident.
- Perform a hydrometer test to determine clay content.

615.043 Testing:

- Laboratory Testing - The Contractor's material testing firm shall conduct a sieve analysis conforming to AASHTO T88 on each of the Soil Filter Media components, the resulting Soil Filter Media, and Underdrain Bedding Stone. The material testing laboratory shall test the organic content of the resulting Soil Filter Media and its components; the testing shall conform to AASHTO T267. The resulting engineered soil mix shall meet the soil specifications noted on the plans.

- Permeability Testing – The Contractor's material testing firm shall perform a permeability test by constant-head method on the Soil Filter Media conforming to AASHTO T215. One test is required for the underdrain soil filter.

615.05 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 615.05. This subsection shall be amended by the addition of the following paragraphs:

Item 615.27, Underdrain Soil Filter, will be measured by the lump sum complete-in-place and accepted.

615.06 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 615.06. This subsection shall be amended by the addition of the following paragraphs:

Underdrain Soil Filter will be paid for at the contract unit price per lump sum, complete-in-place, and accepted. All construction materials, labor, and incidentals required for the construction of berms, sediment forebays, and riprap spillway are included as part of the Underdrain Soil Filter lump sum.

Payment shall be full compensation for furnishing and placing all PVC pipe, underdrain, elbows, wyes & fittings, cleanouts, outlet valve, outlet control structures, underdrain backfill, soil filter media, impervious liner, loam, seeding, special riprap, erosion control geotextile, erosion control blanket, and all equipment and labor, and all other incidentals to complete the work.

Excavation, common or granular borrow, and all grading to establish the final grade of the Underdrain Soil Filter embankments and floor elevation will be considered incidental.

The pay limit for the Underdrain Soil Filter generally extends to the southwesterly limit of the parking lot. A pay limit line is shown on the Contract Drawings to indicate where items required both inside and outside of the Underdrain Soil Filter will be separately measured for payment.

The following items will be measured for payment separately in accordance with the applicable specifications: Clearing (Section 201), Drainage items East of outlet Control Structure #1 (Sections 603 & 604), Guardrail (Section 606), Fencing & Gates (Section 607), Landscaping (Section 621), Lighting items (Section 634), and Signage (Section 645).

Payment will be made under:

Pay Item	Description	Pay Unit
615.27	Underdrain Soil Filter	Lump Sum

SPECIAL PROVISION
SECTION 621
LANDSCAPING
(Plantings)

The provisions of Section 621 of the Standard Specifications shall apply with the following additions and modifications.

621.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 621.01.

621.36 Maintenance Period:
Maintenance Period shall be in accordance with the Maine DOT Standard Specifications Subsection 621.36. This subsection shall be amended by the addition of the following paragraphs:

This applies to watering and the establishment of all plantings. It is recommended that Treegator Slow-Release Watering Bags (or approved equal) be added to all trees for establishment. Bags must be monitored and filled as needed during the first year of planting to ensure successful establishment.

621.37 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 621.37. This subsection shall be amended by the addition of the following paragraphs:

Item 621.046, Evergreen Tr (8'-10') GP A, will be measured by each individual plant furnished and planted as required and accepted, excluding replacements.

Item 621.2011, Md Decid Tr (2.5"-3" Cal) GP A, will be measured by Each individual plant furnished and planted as required and accepted, excluding replacements.

Item 621.279, Lg Decid Tr (2.5"-3" Cal) GP A, will be measured by Each individual plant furnished and planted as required and accepted, excluding replacements.

Item 621.54, Decid Shrubs (18"-24") GP A, will be measured by each individual plant furnished and planted as required and accepted, excluding replacements.

Item 621.71, Herbaceous Perennials GP A, will be measured by Each individual plant furnished and planted as required and accepted, excluding replacements.

Item 621.80, Establishment Period, will be measured by the Lump Sum for the period noted under Section 621.36, Maintenance Period.

621.38 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 621.38. This subsection shall be amended by the addition of the following paragraphs:

Each item of "Planting" will be paid for at the contract unit price for each accepted plant furnished and planted. Payment shall constitute full compensation for; furnishing and placing plants, digging, delivering, rodent protection, preparing plant pits, beds and drains; planting, watering, fertilizing, mulching, pruning, and the cleanup of planting areas; for all, fertilizer, mulch and other necessary materials; all labor, equipment, tools, Replacement and Bonding and any other incidentals necessary to complete the work.

The Establishment Period shall be paid for at the contract unit price per lump sum. Payments shall be made by the Resident in four installments (every 6 months) until the 2-year establishment period is completed. Work under this item includes all items noted under Section 621.36, Maintenance Period, as well as any additional maintenance items noted previously and/or within the plans and details.

Payment will be made under:

Pay Item	Description	Pay Unit
621.046	Evergreen Tr (8’-10’) GP A	Each
621.2011	Md Decid Tr (2.5”-3” Cal) GP A	Each
621.279	Lg Decid Tr (2.5”-3” Cal) GP A	Each
621.54	Decid Shrubs (18”-24”) GP A	Each
621.71	Herbaceous Perennials GP A	Each
621.80	Establishment Period	Lump Sum

SPECIAL PROVISION
SECTION 626
FOUNDATIONS, CONDUIT, AND JUNCTION BOXES FOR HIGHWAY SIGNING, LIGHTING, AND SIGNALS

The provisions of Section 626 of the Standard Specifications shall apply with the following additions and modifications.

626.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 626.01. This subsection shall be amended by the addition of the following paragraphs:

The conduit for the proposed lighting system, as shown in Appendix A of the plans, shall be 1" non-metallic conduit, schedule 80.

626.034 Concrete Foundations:
Concrete Foundations shall be in accordance with the Maine DOT Standard Specifications Subsection 626.034. This subsection shall be amended by the addition of the following paragraphs:

The reveal of each light pole foundation shall be 18" as shown on the plans. If required, approved backfill material shall be added to grade the slopes as specified. There will be no additional compensation for furnishing, placing, and compacting material flush around the foundation. In all cases, the surface area around the foundations shall be graded to drain away from the foundation and loamed and seeded (or landscaped) in accordance with the requirements of this project.

626.04 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 626.04.

626.05 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 626.05.

Highway Lighting Quality Control Checklist

Subsection 634.09 Field Testing

Project Pin # _____

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

Grounding Electrode Resistance at service _____

Number of Circuits _____

Hand-Off-Auto Switch? _____

Circuit #1

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

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

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

Operating Voltage at last pole _____

Circuit #2

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

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

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

Operating Voltage at last pole _____

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

(YEAR)

Electrician's Signature _____

Electrician's License # _____

Highway Lighting Quality Control Checklist

Subsection 634.09 Field Testing

Project Pin # _____

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

Grounding Electrode Resistance at service _____

Number of Circuits _____

Hand-Off-Auto Switch? _____

Circuit #3

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

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

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

Operating Voltage at last pole _____

Circuit #4

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

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

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

Operating Voltage at last pole _____

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

(YEAR)

Electrician's Signature _____

Electrician's License # _____

Traffic Signal Quality Control Checklist

Subsection 643.14 Field Testing

Project Pin # _____

Grounding Electrode Resistance at service _____

ID tags on loop amps / detector cards? _____

Location _____

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

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

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

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

(YEAR)

Electrician's Signature _____

Electricain's License # _____

SPECIAL PROVISION
SECTION 634
HIGHWAY LIGHTING

The provisions of Section 634 of the Standard Specifications shall apply with the following additions and modifications:

634.01 DESCRIPTION

Description shall be in accordance with MaineDOT Standard Specifications Subsection 634.01. This subsection shall be amended by the addition of the following paragraph:

This work shall consist of furnishing and installing a roadway lighting system in accordance with these specifications and in reasonably close conformity with the plans.

The wiring of the luminaire shall also include the installation of wiring and the integral light standard receptacle, to be provided as specified in the Contract Documents.

634.02 GENERAL

General shall be in accordance with MaineDOT Standard Specifications Subsection 634.02. This subsection shall be amended by the addition of the following paragraph:

Lighting poles shall be provided as detailed on the Contract Drawings. Power connection for new lighting poles shall be obtained by a new metered service contracted with the Central Maine Power Company. Installation of new poles shall be in full accordance with the details shown on the Contract Drawings. Luminaires shall be “Era” style decorative luminaires as manufactured by Kim Lighting, rated to operate 42.2-watt LED lamps.

634.021 MATERIALS

Materials shall be in accordance with MaineDOT Standard Specifications Subsection 634.021. This subsection shall be amended by the addition of the following paragraph:

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

Secondary Wiring	715.07
Luminaires, Lamps, and Ballasts	715.08
Photo-Electric Control	715.10
Aluminum Mast Arm and Bracket Arm	720.02
Anchor Bolts	720.07
Lighting Control Box	715.11

634.024 LIGHT STANDARDS

Light Standards shall be in accordance with MaineDOT Standard Specifications Subsection 634.024. This subsection shall be amended by the addition of the following paragraph:

For the purposes of establishing the design weight and projected area of luminaires, the manufacturer's actual data for the specified luminaires shall be used. Light standards shall be "Era Stepped Aluminum" style poles as furnished by Kim Lighting and shall be 15-feet tall, round aluminum, with polyester powder coat black paint finish.

Light Pole Spec:	HSAS16-534188-1SA
Light Pole Mounting Arm:	HA11S

634.04 CABLE INSTALLATION

Cable Installation shall be in accordance with MaineDOT Standard Specifications Subsection 634.04. This subsection shall be amended by the addition of the following paragraph:

All cable servicing lighting poles shall be furnished and installed under this contract. The Contractor shall furnish and install cable and shall make connections at the base of poles to underground service cables.

634.05 ERECTING LIGHT STANDARD

Erecting Light Standard shall be in accordance with MaineDOT Standard Specifications Subsection 634.05. This subsection shall be amended by the addition of the following paragraph:

Provide in-line fuse block and fuse for circuit wiring.

634.06 LUMINAIRES

Luminaires shall be in accordance with MaineDOT Standard Specifications Subsection 634.06. This subsection shall be amended by the addition of the following paragraph:

Luminaires as furnished by Kim Lighting and shall include TGIC powder coat black gloss smooth paint finish. Luminaires shall be model RA172-36L-350-3K7-4W-CLR, with 3000K LED lamps and driver. Luminaires shall provide an IESNA "Type IV Wide" optical distribution with field adjustable output connections. Backlighting control shall be furnished where directed on the Contract Drawings.

Light Fixture Spec:	RA17A2-36L-3K7-4W-BLS-CLR

634.08 SERVICE

Service shall be in accordance with MaineDOT Standard Specifications Subsection 634.08. This subsection shall be amended by the addition of the following paragraph:

The utility service will be 120/240 volt, single phase, 3-wire.

Lighting Control Box: A 30-inch wide by 36-inch tall by 8-inch deep 304 stainless steel NEMA 4X enclosure with a hinged, lockable handle shall be provided and installed as shown on the plan. It shall be furnished with a Utility meter on the exterior to Central Maine Power Standards. The enclosure shall be as manufactured by APX, Hoffman or approved equal. The enclosure shall include the following:

- A lighting photocell to be installed on the top of the enclosure. The photocell shall be wired to control two lighting contactors, and shall be a receptacle type as manufactured by NSI Industries.
- An open type multipole lighting contactor with two 30-ampere two poles and a 120-volt coil, connected to control the street lighting circuits. The contactor shall include an HOA control switch which shall be Type L as manufactured by Schneider Electric.
  Hand Operation: By-pass the photocell control and energize the lighting circuits.
  Auto Operation: Lighting circuits to operate according to the photocell.
  Off Operation: Contactor to be de-energized.
- Panel P1: 120/240 volt, 100 ampere panelboard with four 20-ampere/2-pole circuit breakers; four 20-ampere/1pole circuit breakers; and termination into a 100A main circuit breaker. The lighting panelboard shall be as manufactured by Schneider Electric, model NQOD.

634.081 BONDING AND GROUNDING

Bonding and Grounding shall be in accordance with MaineDOT Standard Specifications Subsection 634.081. This subsection shall be amended by the addition of the following paragraph:

A separate, green insulated ground conductor shall be provided to extend from the luminaires to a ground lug at the inside base of each pole. Provide grounding of new Panel P1 per NFPA 70 Article 250.

634.092 METHOD OF MEASUREMENT

Method of Measurement shall be in accordance with MaineDOT Standard Specifications Subsection 634.092. This subsection shall be amended by the addition of the following paragraph:
New light standards will be measured by the single unit, complete in place and accepted, including luminaires, lamps, poles, internal wiring, and anchor bolts.
New electrical service boxes shall be measured as a single quantity, complete and accepted, including all interior components and grounding.

634.093 BASIS OF PAYMENT

Basis of Payment shall be in accordance with MaineDOT Standard Specifications Subsection 634.093. This subsection shall be amended by the addition of the following paragraph:

The accepted quantity of light standards will be paid for at the contract unit price each for the number of standards by each type. Payment shall be full compensation for the light poles, pole bracket arms, pole wiring, luminaires including drivers and lamps, and all incidentals necessary to complete the work.

The lighting controller cabinets required under this contract shall not be paid for separately but shall be considered incidental to Item 634.160 of this contract. The lump-sum item shall include the complete lighting systems stemming from lighting control boxes #1 and #2 under one lump sum.

Payment will be made for the service boxes as a lump sum. Payment shall be full compensation for the service wire, panelboards, lighting contactors, photocells, service meters, grounding, and all incidentals necessary to complete the work.

Payment will be made for the total number of linear feet of each type of wiring cables furnished, installed and accepted at the contract unit price per unit price. This price shall include the cost of furnishing and installing wiring conductors, terminations, labor, equipment, and incidentals necessary to complete the work.

The new concrete foundations will be paid for separately under the applicable 626 items within the contract.

Payment will be made under:

Pay Item	Description	Pay Unit
634.16	Highway Lighting (Downtown Improvements)	Lump Sum
634.16	Highway Lighting (Cottage Street)	Lump Sum

SPECIAL PROVISION
SECTION 634
HIGHWAY LIGHTING
(Highway Lighting – Park & Ride)

The provisions of Section 634 of the Standard Specifications shall apply with the following additions and modifications.

634.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 634.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of furnishing and installing a parking lot lighting system, including the design of Light Standards, in accordance with these specifications and in reasonably close conformity with the plans.

634.02 General:
General shall be in accordance with the Maine DOT Standard Specifications Subsection 634.02. This subsection shall be amended by the addition of the following paragraphs:

Lighting poles shall be provided as detailed on the Contract Drawings. Power connection for new lighting poles shall be obtained by a new metered service contracted with the *Central Maine Power Company*. Installation of new poles shall be in full accordance with the details shown on the Contract Drawings. Luminaires shall be Viper-style luminaires, as manufactured by *Beacon Lighting*.

634.024 Light Standards:
Light Standards shall be in accordance with the Maine DOT Standard Specifications Subsection 634.024. This subsection shall be amended by the addition of the following paragraphs:

- Light Standards shall be compatible with the specified Viper Luminaires as furnished by *Beacon Lighting* and shall be 15-foot tall, 4” square steel poles, with powder-coated black finish.

634.06 Luminaires:
Luminaires shall be in accordance with the Maine DOT Standard Specifications Subsection 634.06. This subsection shall be amended by the addition of the following paragraphs:

Luminaries shall be furnished by *Beacon Lighting* with 3000k lamps and lighting distributions as noted on the plans. Backlighting control shall be furnished where directed on the plans and details. Luminaires shall be furnished with a powder-coated black finish to meet the standards. Model numbers are noted below:

- VP ST 1 36L 39 3K7 4 HSS 90 B
- VP ST 1 36L 55 3K7 4W

634.08 Service:
Service shall be in accordance with the Maine DOT Standard Specifications Subsection 634.08. This subsection shall be amended by the addition of the following paragraphs:

The intent is to furnish a new 120/240V utility service, panelboard, and 120V control circuit.

Lighting Control Box #1: A 25-inch-wide by 51-inch-tall by 16-inch-deep 304 stainless steel NEMA 4X enclosure with a hinged, lockable handle shall be provided and installed as shown on the plan. It shall be furnished with a utility meter on the exterior to Central Maine Power Standards. The enclosure shall be as manufactured by *APX*, *Hoffman*, or an approved equal. The enclosure shall include the following:

- A lighting photocell shall be installed on the top of the enclosure. The photocell shall be wired to control two lighting contactors and shall be a receptacle-type manufactured by *NSI Industries*.

- An open-type multipole lighting contactor with two 30-ampere circuits and a 120-volt coil, connected to control the parking lot lighting circuit. The contactor shall include an HOA control switch, Type L, manufactured by *Schneider Electric.*

  Hand Operation: By-pass the photocell control and energize the lighting circuits.

  Auto Operation: Lighting circuits to operate according to the photocell.

  Off Operation: Contactor to be de-energized.

- Panel P1: 120/240 volt, 100-ampere panelboard with eight 20-ampere/1-pole circuit breakers and termination into a 100A main circuit breaker. The lighting panelboard shall be as manufactured by *Schneider Electric*, model NQOD.

634.092 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 634.092.

634.093 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 634.093. This subsection shall be amended by the addition of the following paragraph:

Payment will be made under:

Pay Item	Description	Pay Unit
634.16	Highway Lighting (Park & Ride)	Lump Sum

SPECIAL PROVISION
SECTION 634
HIGHWAY LIGHTING
(Highway Lighting – Riverside Avenue & William Oscar Emery Drive)

The provisions of Section 634 of the Standard Specifications shall apply with the following additions and modifications.

634.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 634.01. This subsection shall be amended by the addition of the following paragraphs:

This work shall consist of furnishing and installing a roadway lighting system, including the design of Light Standards, in accordance with these specifications and in reasonably close conformity with the plans.

The wiring of the luminaire shall also include the installation of wiring and the integral light standard receptacle, to be provided as specified in the Contract Documents.

Two pole heights are proposed for this project (18-foot and 15-foot). See Appendix A for specific locations. The 18-foot light poles shall include a banner arm as specified in Appendix A of the contract documents.

This work shall consist of removing and resetting an existing light pole on a new concrete foundation and removing the existing concrete foundation. The new foundation shall include additional conduit to extend the park lighting design (lighting cabinet in the northeast corner of the park) from Gateway Park north to Winter Street (as noted in Appendix A of the plans). Prior to removing the existing foundation, the Contractor shall confirm that no spare conduits are available to support the proposed design without requiring replacement of the existing foundation and/or resetting the light pole.

634.02 General:
General shall be in accordance with the Maine DOT Standard Specifications Subsection 634.02. This subsection shall be amended by the addition of the following paragraphs:

Lighting poles shall be provided as detailed on the Contract Drawings. Power connection for new lighting poles shall be obtained by a new metered service contracted with the *Central Maine Power Company*. Installation of new poles shall be in full accordance with the details shown on the Contract Drawings. Luminaires shall be “Era”- style decorative luminaires with post top and swept-cast arm, as manufactured by *Kim Lighting*, rated to operate 42.2-watt LED lamps.

634.024 Light Standards:
Light Standards shall be in accordance with the Maine DOT Standard Specifications Subsection 634.024. This subsection shall be amended by the addition of the following paragraphs:

Light standards shall be "Era Stepped Aluminum" style poles with post top swept cast arm, as furnished by *Kim Lighting*, and shall be 15 or 18 feet tall (see Appendix A for specific pole heights and locations), round aluminum, with a polyester powder-coat black paint finish. Receptacles shall be mounted on each pole at a height of 10 feet. Banner arms shall be mounted on each of the 18-foot poles.

634.04 Cable Installation:
Cable Installation shall be in accordance with the Maine DOT Standard Specifications Subsection 634.04. This subsection shall be amended by the addition of the following paragraphs:

All cables servicing lighting poles and associated receptacles shall be furnished and installed under this contract. The Contractor shall furnish and install cable and shall make connections at the base of poles to underground service cables.

634.06 Luminaires:
Luminaires shall be in accordance with the Maine DOT Standard Specifications Subsection 634.06. This subsection shall be amended by the addition of the following paragraphs:

Luminaries shall be furnished by *Kim Lighting* (model numbers noted above and within Appendix A of the plans) with 3000k lamps and adjustable output connections. Backlighting control shall be furnished where directed on the plans and details. Luminaires shall be furnished with a black finish to match the light standards.

Model numbers (15-foot poles) are noted below:
- RA172-36L-350-3K7-2-CLR
- RA172-36L-350-3K7-2-CLR-BC
- RA172-36L-350-4W-CLR
- RA172-36L 350-3K7-3-CLR-BC

Model numbers (18-foot poles) are noted below:
- RA172-36L-350-3K7-4W-CLR
- RA172-36L-350-3K7-2-CLR

The wiring of the luminaire shall also include the installation of wiring and the integral light standard receptacle, to be provided as specified in the Contract Documents.

634.08 Services:
Services shall be in accordance with the Maine DOT Standard Specifications Subsection 634.08. This subsection shall be amended by the addition of the following paragraphs:

The intent is to furnish new 120/240V utility services for sections of roadway lighting as directed on the Contract Documents and shall include, but not be limited to, panelboard, transformer, and 120V control circuit.

Lighting Control Box #1 & #2: A 25-inch-wide by 51-inch-tall by 16-inch-deep 304 stainless steel NEMA 4X enclosure with a hinged, lockable handle shall be provided and installed as shown on the plan. It shall be furnished with a utility meter on the exterior to Central Maine Power Standards. The enclosure shall be as manufactured by *APX*, *Hoffman*, or an approved equal. The enclosure shall include the following:

- A lighting photocell shall be installed on the top of the enclosure. The photocell shall be wired to control two lighting contactors and shall be a receptacle-type manufactured by *NSI Industries*.

- An open-type multipole lighting contactor with two 30-ampere circuits and a 120-volt coil, connected to control the roadway lighting circuit. The contactor shall include an HOA control switch, Type L, manufactured by *Schneider Electric.*

  Hand Operation: By-pass the photocell control and energize the lighting circuits.

  Auto Operation: Lighting circuits to operate according to the photocell.

  Off Operation: Contactor to be de-energized.

- Panel P1: 120/240 volt, 100-ampere panelboard with eight 20-ampere/1-pole circuit breakers and termination into a 100A main circuit breaker. The lighting panelboard shall be as manufactured by *Schneider Electric*, model NQOD.

634.092 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 634.092. This subsection shall be amended by the addition of the following paragraph:

Item 634.2223, Remove and Reset Light Standard with Luminaire, shall be measured by Each light pole removed and reset, complete in place and accepted.

634.093 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 634.093. This subsection shall be amended by the addition of the following paragraph:

The installation of a standard-mounted receptacle (at 10 feet) on each of the proposed light poles shall not be paid for separately but shall be considered as incidental to item 634.160 of this contract. This shall include all materials, wiring, grounding, labor, equipment, and incidentals

necessary to complete the work. Conduit shall be paid for separately under the applicable 626 items within the contract.

The installation of banner arms on all of the 18-foot light poles, as noted in Appendix A of the plans, shall not be paid for separately but shall be considered as incidental to item 634.210, Conventional Light Standard (18-foot pole).

The lighting controller cabinets required under this contract (2) shall not be paid for separately but shall be considered incidental to Item 634.160 of this contract. The lump-sum item shall include the complete lighting systems stemming from lighting control boxes #1 and #2 under one (1) lump sum.

The accepted quantity for Remove and Reset Light Standard with Luminaire will be paid for at the contract unit price for each light pole removed and reset. Payment shall be full compensation for removing and storing the existing light pole and luminaire, checking the existing foundation for spare conduit runs, removing the existing concrete foundation (completely) if no spare conduit runs are found, mounting the existing light pole and luminaire on a new concrete foundation, and all wiring and connections required to have a complete and functional light. In addition, this work shall include all labor, equipment, tools, hardware, replacement parts, and incidentals required to complete the work and have a functional light pole. Any damage to the existing light pole that occurs during this process shall be fixed by the Contractor, or a new light pole and luminaire shall be purchased and installed at no cost to the project.

The new concrete foundation will be paid for separately under the applicable 626 items within the contract.

Payment will be made under:

Pay Item	Description	Pay Unit
634.16	Highway Lighting (Riverside Ave & William Oscar Emery Dr)	Lump Sum
634.2223	Remove and Reset Light Standard with Luminaire	Each

SPECIAL PROVISION
SECTION 641
REST AREA FACILITIES
(Benches & Trash Receptacles)

The provisions of Section 641 (outlined below) shall be added to the Standard Specifications.

641.01 Description:

This work consists of purchasing and installing benches and trash receptacles in accordance with the plans and details, as well as the manufacturer's instructions and requirements.

641.02 Construction:

The benches shall be Street Life Drifter Benches, 118" x 24" x 19" with back rest and arm supports (three arm rests per bench) or approved equal. The benches shall be FSC hardwood (bench top) and galvanized steel. The Contractor shall submit shop drawings to the Resident for approval prior to purchasing any materials.

The trash receptacles shall be Street Life Box Bins Extra Slim (Product #BB-S40-CT) or approved equal. The trash receptacles shall have a weathering steel rain cover (stainless steel). The Contractor shall submit shop drawings to the Resident for approval prior to purchasing any materials.

The benches and trash receptacles shall be surface-mounted to a 4" concrete slab with a 12" subbase gravel pad as noted in the details of this plan. The concrete pad and subbase materials will be paid for separately under item 608.08, Reinforced Concrete Sidewalk, and applicable 304 items.

Concrete for the slab shall be Class A. Pay reductions for compressive strength will not apply.

641.03 Method of Measurement:

Item 641.12, Bench, shall be measured by Each, complete-in-place, and accepted.

Item 641.34, Trash Receptacle, shall be measured by Each, complete-in-place, and accepted.

641.04 Basis of Payment:

The accepted quantity for Benches and Trash Receptacles will be paid for at the contract unit price for each unit, complete-in-place and accepted. Such payment will be full compensation for furnishing and installing each bench and/or trash receptacle, including all labor, tools, tamper-proof hardware, and other incidentals necessary to complete the work.

Installation of the concrete foundation and/or its gravel subbase will be paid for separately under the applicable 608 and 304 items within the contract.

Payment will be made under:

Pay Item	Description	Pay Unit
641.12	Bench	Each
641.34	Trash Receptacle	Each

SPECIAL PROVISION
SECTION 643
TRAFFIC SIGNALS
(Non-Invasive Detection – Stop Bar)

Description. This item shall consist of furnishing and installing a non-invasive stop bar vehicle detection including all necessary fittings and mounting hardware at the locations shown on the plans or as indicated by the Maine Department of Transportation (MaineDOT).

Materials. The Contractor shall furnish and install a Stop Bar Vehicle Detection (SBVD) system that detect vehicles on a roadway by processing images sent from an IP based sensor to an interface board with detector outputs that can be received by the traffic signal controller. The SBVD shall include equipment meeting the following requirements as defined under Special Provision 718, Section 718.13. These IP based traffic sensors shall be installed at the locations shown on the plans and in accordance with these specifications. All remote communications for the Non-Invasive – SBVD shall be routed electronically, and IP based to the Field Monitoring Unit (FMU) or the Fiber Ethernet Switch; the use of a separate cellular modem/data connection shall not be allowed. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to satisfy the requirements as defined in these specifications. All Non-Invasive SBVD units supplied by the Contractor as part of this project shall be from the same manufacturer and be the identical make/model and firmware revision. The SBVD shall have a documented history of meeting the following requirements within the State of Maine at similar conditions to the project location, such as systems supplied by Currux, Gridsmart/Cubic, Miovision, or approved equals.

The SBVD system shall be non-intrusive (i.e. above ground) and shall consist of:

a. Mounting brackets.
b. IP based Traffic sensor and detection module (radar shall provide IP cabinet interface device), including at least two (2) 360-degree traffic sensors or at least one directional sensor per approach.
c. Communications cable.

The SBVD system, at a minimum, shall:

- Collect and store volume, of all vehicle types as well as bicycles and pedestrians;
- Provide stop bar detection;
- Be ATC 5201 v06 compatible;
- Provide Turning Movement counts through either manufactures software or as inputs into the MaineDOT Central Management Software (CMS);
- Provide remote access to digital video stream;
- Support remote configuration;
- Shall be connected to FMU switchable power outlet.

The SBVD system shall be connected, via Ethernet, to the Field Monitoring Unit (FMU) in

each control cabinet and to the cloud-based video management server over the cellular modem.

Components of the SBVD system shall all be the same make and model. As a minimum, the SBVD system shall be supplied and installed with the following functionality:

- Shall have the capability of remotely displaying live video streams and/or live radar telemetry from all IP video/radar detection units installed at the intersections. The setup of detection zones shall be available via remote access. The system shall log which user made any changes to the detection zone configurations.
- Shall support communication of Telemetry Data, Video Data, Alert Data, and Vehicle Identification Data to the Server via the Communication Service.
- Shall be connected to the Ethernet Switch and/or the FMU in each control cabinet.
- Shall acquire and record phase, channel, detector, pedestrian detector, pre-emption, alarm and overlap statuses at a frequency of no less than 10 times per second including whether a phase is next or has a call for service on it.
- Shall consist of an SBVD system at all project intersections, as shown in the Plans.
- Video detection shall consist of an IP based camera assembly and a digital video detection system. Analog cameras with separate video encoders shall not be allowed.
- Radar detection shall consist of a radar sensor and IP cabinet interface device.
- Every vehicular approach at every project intersection shall be included in the vehicle detection system, as shown in the Plans.
- Shall be capable of automatically collecting and storing signal performance data, including at a minimum classification of vehicles and turning movement counts, with 95% accuracy.
- Shall allow for the retrieval of signal performance data through an Ethernet based connection to the detection module or cabinet interface device at no additional costs to MaineDOT for the life of the product.
- Shall be connected to the in-cabinet high speed communications bus (SIU) within the controller cabinet.
- Shall transmit detector data to the controller unit via the in-cabinet high speed communications bus (SIU) within the controller cabinet.
- Shall be installed in the control cabinet such that SBVD is electrically powered via one of the switchable duplex outlets provided on the FMU. This configuration shall allow MaineDOT to power cycle and reset the SBVD, via remote FMU control (outlet power), in the event that the detection unit locks up.

Construction Requirements. The Contractor shall be responsible for furnishing all training, labor, materials, cables, connectors, tools, equipment, shipping and incidental items necessary to complete the installation and make the non-invasive stop bar vehicle detection system fully operational.

Installation of the non-invasive stop bar vehicle detection system shall include the installation of any and all associated equipment including, but not limited to, the following:

a. Detector Assembly with integrated machine vision processor. The Contractor shall furnish one assembly per applicable approach and/or a signal device for all approaches, the minimum needed to provide detection for all vehicle approaches

b. Detector Communications Interface Panel. The Contractor shall furnish one detector communications interface panel per cabinet.

c. Detector Cable. The Contractor shall furnish the specified cable type, all connectors, sealing tape and incidental work necessary to complete the installation of the connector cable between the detector assembly and the interface panel.

d. Mounting Brackets and Ancillary Equipment and Labor. The Contractor shall furnish detector mounting brackets and all associated equipment labor, materials and incidental work necessary to attach the detector assemblies to a mast arm or extension bracket, complete the installation and make the non-invasive stop bar vehicle detection system fully operational.

The Contractor shall install the SBVD system software on any number of computers/systems as required by MaineDOT to allow visual confirmation of the detection zones as shown on the plans. All equipment shall be installed and wired in a neat and orderly manner in conformance with the manufacturer's instructions. The detector assembly(s) shall be affixed to the support structure in accordance with the manufacturer's instructions to provide the optimal field of detection.

The non-invasive stop bar vehicle detection locations shown on the Plans are for illustrative purposes only. Final locations shall be located in the field and shall be approved by MaineDOT and/or the Engineer. The Contractor may be required to adjust and readjust the location of existing and proposed vehicle detection zones in the presence of the Engineer, at no additional cost, to properly set the detection areas.

Installation will be considered complete when the Contractor shows the system successfully and consistently places a request to the controller to call and extend the appropriate phase based on a vehicle detected in the detection zone; and remote access to the SBVD via MaineDOT control and or the cloud based CMS.

Method of Measurement. The non-invasive stop bar vehicle detection system will be measured for payment as a lump sum system fully installed and operational. All items, equipment, labor and incidentals required to create a fully functional system will be considered incidental to the cost of this item. Units shall be pre-approved or unconditionally warranted for at least 3 years from factory purchase and certified to comply with the

product's published specification by an independent laboratory.

Basis of Payment. Payment will be full compensation for furnishing, transporting, handling, installing and testing the materials and equipment specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Pay Item		Pay Unit
643.21	Non-Invasive Detection - Stop Bar: Washington Street/River Street at High Street	Lump Sum

SPECIAL PROVISION
SECTION 643
TRAFFIC SIGNALS

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

643.01 Description The project will result in the modernization of the traffic control signal at the intersection of Cottage Street/Winter Street at River Street in the City of Sanford. Equipment includes, but is not limited to mast arm poles, strain poles, pedestal poles, vehicular and pedestrian signal heads with countdown timers, new light-emitting diode (LED) indications, retroreflective backplates on vehicle signal heads, traffic signal blankout sign, wiring, signal cable, overhead span wire mounted signs, reset non-invasive stop bar vehicle detection, reset existing emergency vehicle preemption, reset existing Road-Side Unit (RSU) and all appurtenances and incidentals required for complete functioning installation. The project will maintain the intersection's connection to the MaineDOT Central Management System primarily by means of cellular communications through an in-cabinet Field Monitoring Unit (FMU). In addition:

Pedestrian equipment is to be installed under the guidelines of the Americans with Disabilities Act (ADA) having work integrated with curb ramp and detectable warning field improvements also being provided with this project.

Backplates will be provided for all new vehicle signal heads. The backplates shall be a minimum of 5-inches with 3-inch fluorescent yellow retroreflective strips. New backplates shall provide louvers for one-way, three- and four-section 12-inch signal heads.

All traffic signal controller timing parameters shall be programmed to provide free and coordinated operations. Modifications to existing coordination patterns shall be provided by the Engineer after contract award.

643.025 Traffic Signal Blankout Sign The LED traffic signal blankout signs shall be contained within an aluminum housing with a black powder coat finish. The housing shall be weatherproof conforming to NEMA 3R. Message shall be MUTCD R10-11a (No Turn on Red Ball) sign and MUTCD R10-15R (Right Turning Vehicles Yield to Pedestrians) as shown in the Plans. Message legend and symbols shall be made up of discrete LEDs with a maximum pitch of 20 mm to cover the stroke width of the letters or symbol that simulate the static sign legend per the MUTCD. LED colors shall substantially conform to the color of the legend and symbols of the standard MUTCD sign. The LEDs shall be dimmable to adjust the LED brightness in accordance with ambient light conditions.

643.026 Installation of Traffic Signal Blankout Sign Traffic signal blankout signs shall be designed for overhead/pole mounting. Signs shall be actuated in sequence from control logic provided at the traffic signal controller. For the dual message blankout signs actuations shall turn the sign to MUTCD R10-11a; absence of actuation shall turn the sign to MUTD R10-15R.

All exposed wiring shall be in accordance with section 715.11. All wiring shall be in accordance with section 718.01-c.

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

Pedestrian Crossing System	718.13

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

Vehicular Signal Heads – **black** housing with black doors.
Pedestrian Signal Heads – all parts **black.**
Accessible Pedestrian Signals (APS) – **black.**
Signal Backplates – **black** and louvered w/ fluorescent yellow retroreflective strip.
Controller Cabinet – **black** aluminum.
Mast Arms, Uprights, and Bases – **black** / galvanized steel.
Pedestal Post and Base – **black** / aluminum.

643.18 Method of Measurement Add to end of section: Traffic signal blankout signs will be measured by each unit sign complete in place and accepted.

643.19 Basis of Payment

The flashing beacon modifications (Item 643.60) will be paid for at the contract lump sum price for the intersection, which payment will be full compensation for furnishing and installing all materials, including, but not limited to beacon controller and cabinet, strain poles, vehicular signal heads, new light-emitting diode (LED) indications, wirings, signal cable, span wire and all appurtenances and incidentals required for a complete functioning installation and for furnishing all tools and labor necessary for completing the installations.

The traffic signal modifications (Item 643.71) will be paid for at the contract lump sum price for the intersection, which payment will be full compensation for resetting or furnishing and installing all materials, including, but not limited to risers, vehicular signal heads, retroreflective backplates, mast arm mounted signs, aerial disconnects, signal cable, light emitting diode (LED) lamps, LED overhead lighting, emergency vehicle preemption, and all appurtenances and incidentals required for complete functioning installations and for furnishing all tools and labor necessary for completing the installations.

The on-street, light-based emergency vehicle pre-emption system (see Special Provision 718.15 of Division 700 – Materials for more information) will be paid for under pay items 643.71, which price will be full compensation for resetting and installing all materials, appurtenances, and incidentals required for a complete functioning installation and for furnishing all tools and labor necessary for completing the installation.

The removal of existing traffic control (flasher) equipment, signage and pole(s) shall be incidental to pay item 643.71.

Traffic Signal Blankout Sign (Item 643.88) will be paid for at the contract unit price each which payment shall be full compensation for furnishing and installing all materials, tools and labor necessary to erect and install the sign.

Mast Arms (Item 643.91) will be paid for at the contract unit price each which payment shall be full compensation for furnishing and installing all mast arms, uprights, bases, anchor bolts to be supplied by the manufacturer of the mast arm poles, ancillary materials, tools and labor necessary to erect and install the structures.

Pedestal pole (Item 643.92) will be paid for at the contract unit price each which payment shall be full compensation for furnishing and installing all pedestal post, bases, anchor bolts, ancillary materials, tools and labor necessary to erect and install the structure.

The Remove and Reset Pedestal Pole (Item 643.922), which price will be full compensation for resetting and installing all materials, appurtenances, and incidentals required for a complete functioning installation and for furnishing all tools and labor necessary for completing the installation.

Strain Poles (Item 643.93) will be paid for at the contract unit price each which payment shall be full compensation for furnishing and installing all strain poles, bases, anchor bolts to be supplied by the manufacturer of the strain poles, ancillary materials, tools and labor necessary to erect and install the structures.

Payment will be made under the following:

Pay Item	Pay Unit
643.60 Flashing Beacon Modification: Cottage St and Brook St	Lump Sum
643.71 Traffic Signal Modifications: River Street at Cottage Street/Winter Street	Lump Sum
643.88 Traffic Signal Blankout Sign	Each
643.91 Mast Arm Pole, w/26’ Arm	Each
643.91 Mast Arm Pole, w/45’ Arm	Each
643.92 Pedestal Pole	Each
643.922 Remove and Reset Pedestal Pole	Each
643.93 Strain Pole	Each

SPECIAL PROVISION
SECTION 643
TRAFFIC SIGNALS
(Rectangular Rapid Flashing Beacon Assembly)

Amend Standard Specification Section 643 – Traffic Signals as follows:

Add the following to the end of Section 643.01, Description:

This work shall consist of furnishing and installing Rectangular Rapid Flashing Beacons (RRFBs), signage, and associated equipment and appurtenances, in accordance with these specifications and in conformity with the lines, grades, and dimensions shown on the Plans or established herein.

Add the following Section 643.025 Assembly:

RRFBs and signs for each crosswalk shall meet the latest version of the Manual on Uniform Traffic Control Devices (MUTCD) Chapter 4L – Rectangular Rapid-Flashing Beacons.

The following are also required in addition to:

1. Each RRFB Assembly shall include equipment visible for each direction of vehicular traffic unless otherwise shown on the plans. Said equipment shall include two S1-1 or W11-2 (varies by project Volume) signs (one to be a mirrored image for the left side of the road), two W16.7P signs, and two RRFB units.
2. A small light directed at and visible to pedestrians in the crosswalk shall be installed as an integral part of the RRFB to give confirmation that the RRFB is in operation.
3. RRFB must operate between the temperatures of -40°F to +176°F.
4. S1-1, W11-2, and W16-7P signs shall be MUTCD compliant and fluorescent yellow-green
    a. Signs shall be sheet aluminum and meet the requirements of Section 645 for Type II regulatory, warning, and route marker assembly signage.
5. Pedestrian activated pushbuttons shall be used.
6. Communication between the devices shall be Spread Spectrum Wireless or direct wire as shown on plans.
7. Each assembly shall have two LED lights mounted to each pole for pedestrian vertical illuminance. One light shall be aimed at the detectable warning field and the other toward the center of the travel lane. Additional requirements for the pedestrian lights are as follows:
    a. They shall activate in conjunction with the RRFB.
    b. They shall activate when less than 10 lux of ambient light is present and shall not illuminate when the ambient light is equal to or greater than 10 lux.
    c. They shall provide vertical illuminance of 20 lux across the entire crosswalk, measured at a height of 5 feet from the road surface.

d. They shall be housed in their own IP66 minimum rated enclosures.
e. They shall be adjustable for 120 degrees horizontally and vertically.

8. Each pole shall be outfitted with an 85-watt solar panel, a NEMA 4X aluminum pole mount cabinet, and a 105 Amp-hour absorbent glass mat lead acid battery.
9. The pole shall be a 4-inch inner diameter ASTM A53 Schedule 40 galvanized steel. A cap to make the pole watertight shall be provided at the top of the pole.
10. Each support pole shall be installed with a square aluminum pedestal base with a grounding lug.
11. The pole and pedestal base shall conform to the latest edition of "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals" and National Cooperative Highway Research Program Report 350.
12. All equipment shall be securely attached to the pole with sufficient banding or fasteners.
13. All wiring shall be located inside the pole to the maximum extent possible.

Add the following to the end of Section 643.18 method of Measurement:

Rectangular Rapid Flashing Beacon Assembly will be measured for payment by each installation complete in place.

Add the following to the end of Section 643.19, Basis of Payment:

Rectangular Rapid Flashing Beacon Assembly will be paid for at the Contract unit price by each. Payment will be full compensation for furnishing all materials, including, but not limited to, the RRFB LED-arrays, LED vertical illuminance, controller cabinet, pole and breakaway device, wiring fasteners, pedestrian push button, signs, solar panel, battery, wireless spread spectrum communication, and all appurtenances and incidentals required for a complete and functioning system. Wiring, grounding, and associated electrical work and materials shall be incidental. Foundations shall be paid for under applicable Section 626 pay items.

Payment will be made under:

Pay Item	Description	Pay Unit
643.621	Rectangular Rapid Flashing Beacon Assembly	Each

SPECIAL PROVISION
SECTION 643
TRAFFIC SIGNALS
(Rectangular Rapid Flashing Beacon Assembly)

Amend Standard Specification Section 643 – Traffic Signals as follows:

Add the following to the end of Section 643.01, Description:

This work shall consist of relocating existing Rectangular Rapid Flashing Beacons (RRFBs), signage, and associated equipment and appurtenances, in accordance with these specifications and in conformity with the lines, grades, and dimensions shown on the Plans or established herein.

Add the following Section 643.025 Assembly:

RRFBs and signs for each crosswalk shall meet the latest version of the Manual on Unifor Traffic Control Devices (MUTCD) Chapter 4L – Rectangular Rapid-Flashing Beacons.

The following are also required in addition to:

1. Existing RRFB assembly on the east side of Main Street shall be relocated.
2. Existing pedestrian button shall be relocated to the side of the pole that is nearest the curb landing. Older holes on the far side of the pole shall be filled.
3. Existing RRFB assembly on the west side of Main Street shall be relocated. Button to remain in existing orientation.

Add the following to the end of Section 643.18 method of Measurement:

Rectangular Rapid Flashing Beacon Assembly will be measured for payment by each installation removed and reset complete in place.

Add the following to the end of Section 643.19, Basis of Payment:

Rectangular Rapid Flashing Beacon - Remove and Reset will be paid for at the Contract unit price by each. Payment will be full compensation for relocating all materials including, but not limited to, the RRFB LED-arrays, LED vertical illuminance, controller cabinet, pole and breakaway device, wiring fasteners, pedestrian push button, signs, solar panel, battery, wireless spread spectrum communication, and all appurtenances and incidentals required for a complete and function system. Wiring, grounding, and associated electrical work and materials shall be incidental. Foundations shall be paid for under applicable Section 626 pay items.

Payment will be made under:

Pay Item		Pay Unit
643.631	Rectangular Rapid Flashing Beacon – Remove and Reset	Each

SPECIAL PROVISION
SECTION 643
TRAFFIC SIGNALS

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

643.01 Description The project will result in the modernization of traffic control signals at three intersections in the City of Sanford; Main Street at Emery Street, Main Street at Washington Street and Washington Street/River Street at High Street. Equipment includes, but is not limited to Advanced Transportation Controller Cabinet (ATCC) on a new ground mount foundation with rack mounted Advanced Transportation Controllers (ATC), mast arm poles, pedestal poles, vehicular and pedestrian signal heads with countdown timers, new light-emitting diode (LED) indications, retroreflective backplates on vehicle signal heads, wiring, signal cable, overhead mounted signs, non-invasive stop bar vehicle detection (see Non-Invasive Special Provision 643), emergency vehicle preemption, and all appurtenances and incidentals required for complete functioning installation. In addition, the project will connect the Washington Street/River Street at High Street traffic signal to the MaineDOT Central Management System primarily by means of cellular communications through an in-cabinet Field Monitoring Unit (FMU) while maintaining the connection of the other two intersections. In addition:

Pedestrian equipment is to be installed under the guidelines of the Americans with Disabilities Act (ADA) having work integrated with curb ramp and detectable warning field improvements also being provided with this project

Backplates will be provided for all new vehicle signal heads. The backplates shall be a minimum of 5-inches with 3-inch fluorescent yellow retroreflective strips. New backplates shall provide louvers for one-way, three- and four-section 12-inch signal heads.

This project will also provide dual mode Dedicated Short Range Communications (DSRC)/4GLTE-5G Road-Side Unit (RSU) providing select Connected Vehicle (CV) applications integrated into the ATCC for the Washington Street/River Street/High Street intersection. See Special Provision 654 for RSU specification.

All traffic signal controller timing parameters shall be programmed to provide free and coordinated operations.

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

Traffic Control System	718.13
Field Monitoring Unit	718.14
Emergency Vehicle Preemption System	718.15
Pedestrian Crossing System	718.16

643.9 Service Connection Add the following:

A total of 4, 10’ service ground rods shall be installed and properly connected together in the cabinet foundation.

The Contractor shall be responsible for grounding the system to 5 ohms or less tested without an electrical connection to the utility neutral or ground conductor. The grounding shall be performed using a ground meter with reference grounds. In the event that a 5-ohm reading is not achieved, the Contractor shall install a chem-rod grounding electrode in close proximity to the cabinet. The chem-rod shall be properly connected to the four rod, grounding system in the cabinet. The chem-rod shall consist of a 10’ copper rod (vertical or horizontal orientation) filled with common salt and desiccant, back filled with natural earth bentonite clay ground enhancement material. The chem-rod shall be installed per manufacturer’s instructions. The location and orientation for the chem-rod installation shall be approved by the Resident. All testing shall be done in the presence of the Resident.

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

Vehicular Signal Heads – **black** housing with black doors.
Pedestrian Signal Heads – all parts **black.**
Accessible Pedestrian Signals (APS) – **black.**
Signal Backplates – **black** and louvered w/ fluorescent yellow retroreflective strip.
Controller Cabinet – **black** aluminum.
Mast Arms, Uprights, and Bases – **black** / galvanized steel.
Pedestal Post and Base – **black** / aluminum.

643.19 Basis of Payment The traffic signal modifications (Item 643.71) will be paid for at the contract lump sum price for the intersection, which payment will be full compensation for furnishing and installing all materials, including, but not limited to ATCC complete with rack mount ATC controllers, FMU, generator transfer switch, risers, vehicular signal heads, retroreflective backplates, mast arm mounted signs, aerial disconnects, signal cable, light emitting diode (LED) lamps, LED overhead lighting, emergency vehicle preemption, and all appurtenances and incidentals required for complete functioning installations and for furnishing all tools and labor necessary for completing the installations.

The on-street, light-based emergency vehicle pre-emption system (see Special Provision 718.15 of Division 700 – Materials for more information) will be paid for under pay items 643.71, which price will be full compensation for furnishing and installing all materials, appurtenances, and incidentals required for a complete functioning installation and for furnishing all tools and labor necessary for completing the installation.

The removal of existing traffic control (flasher) equipment, signage and pole(s) shall be incidental to pay item 643.71.

The traffic signal control system (Item 643.81) will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, including, but not limited to 10-year licensing of Centracs Mobility to the intersection with cloud-based CMS integration of CV/SPM system and all appurtenances and incidentals required for a complete functioning installation with secure VPN remote access. Payment for signal system start-up, system loading and acceptance testing shall be considered incidental to the traffic signal control system.

Mast Arms (Item 643.91) will be paid for at the contract unit price each which payment shall be full compensation for furnishing and installing all mast arms, uprights, bases, anchor bolts to be supplied by the manufacturer of the mast arm poles, ancillary materials, tools and labor necessary to erect and install the structures.

Pedestal pole (Item 643.92) will be paid for at the contract unit price each which payment shall be full compensation for furnishing and installing all pedestal post, bases, anchor bolts, ancillary materials, tools and labor necessary to erect and install the structure.

The Remove and Reset Pedestal Pole (Item 643.922), which price will be full compensation for resetting and installing all materials, appurtenances, and incidentals required for a complete functioning installation and for furnishing all tools and labor necessary for completing the installation.

Payment will be made under the following:

Pay Item	Pay Unit
643.71 Traffic Signal Modifications: Main Street at Emery Street	Lump Sum
643.71 Traffic Signal Modifications: Main Street at Washington Street	Lump Sum
643.71 Traffic Signal Modifications: Washington Street / River Street at High Street	Lump Sum
643.81 Traffic Control System	Lump Sum
643.91 Mast Arm Pole, w/30’ Arm	Each
643.91 Mast Arm Pole, w/22’ Arm & 50’ Arm	Each
643.91 Mast Arm Pole, w/30’ Arm & 45’ Arm	Each
643.92 Pedestal Pole	Each
643.922 Remove and Reset Pedestal Pole	Each

SPECIAL PROVISION
SECTION 645
HIGHWAY SIGNING
(Special Signing)

The provisions of Section 645 of the Standard Specifications shall apply with the following additions and modifications.

645.01 Description:
Description shall be in accordance with the Maine DOT Standard Specifications Subsection 645.01. This subsection shall be amended by the addition of the following paragraphs:

This work consists of purchasing and installing special signs (gateway signs) for the William Oscar Emery Drive park area, as shown and detailed on the plans and per manufacturers' recommendations (see Appendix B). The final location of the proposed signage shall be approved by the Resident and the City of Sanford and shall be located outside the proposed roadway clear zone.

645.021 Materials:
Materials shall be in accordance with the Maine DOT Standard Specifications Subsection 645.021. This subsection shall be amended by the addition of the following paragraphs:

The Contractor shall submit a shop drawing of the proposed gateway signs to the Resident for approval prior to purchasing any materials.

645.08 Method of Measurement:
Method of Measurement shall be in accordance with the Maine DOT Standard Specifications Subsection 645.08. This subsection shall be amended by the addition of the following paragraphs:

Item 645.51, Special Signing, shall be measured by Each sign complete in place and accepted.

645.09 Basis of Payment:
Basis of Payment shall be in accordance with the Maine DOT Standard Specifications Subsection 645.09. This subsection shall be amended by the addition of the following paragraphs:

The accepted quantity for Special Signing will be paid for at the contract unit price for each sign, complete-in-place and accepted. Such payment will be full compensation for furnishing and installing each sign per the approved shop drawing submittal, including all materials, excavation, bedding, gravels, foundations, labor, tools, tamper-proof hardware, and other incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Description	Pay Unit
645.516	Special Signing	Each

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[1].
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.

[1] "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 652
MAINTENANCE OF TRAFFIC

TEMPORARY PORTABLE RUMBLE STRIPS

Description This special provision describes providing, relocating, maintaining, and removing temporary portable rumble strips.

Materials Furnish a portable rumble strip system to be used in a transverse installation used within a travel lane. The color of the rumble strip shall only be white, black, or orange and shall not match the color of the pavement. The Contractor will be allowed at their option to use a combination of the color options (i.e. orange, black, orange or white, black, white etc.) or a continuous solid color that does not match the color of the pavement in each transverse installation to delineate the rumble strips to the traveling public. The Contractor shall submit for approval, literature and all necessary certifications to the Department prior to procurement of the product.

Construction Requirement

Provide rumble strips where the plans show or as directed by the Resident as follows:

1. Prior to placing rumble strips, clean the roadway of sand and other materials that may cause slippage.

2. Place one end of the rumble strips 6 inches from the roadway centerline. Extend the strips perpendicular to the direction of travel. Ensure strips lay flat on the roadway surface. Spacing of the rumble strip strips will be per the manufactures recommendation.

3. Only one group of rumble strips, placed before the first work zone, is required per direction of travel for multiple work zones spaced 1 mile or less apart. Work zones spaced greater than 1 mile apart require a separate group of rumble strips. Each lane shall use one group of temporary rumble strips.

4. The use of rumble strips will require an additional work zone sign stating “Caution Rumble Strips” in the approach sign package meeting all applicable MUTCD guidelines. The use of the temporary rumble strips and work zone signage will be discussed in the Contractor’s traffic control plan.

Maintain rumble strips as follows:

1. If rumble strips slide, become out of alignment, or are no longer in the wheel path of approaching vehicles during the work period, thoroughly clean both sides of the rumble strips and reset on a clean roadway.

2. Repair or replace damaged rumble strips immediately.

Method of Measurement The Department will measure temporary portable rumble strips as one group, per lane. A group shall be considered 3 full lane width of rumble strips.

Basis of Payment The accepted quantity of temporary portable rumble strips will be paid for at the contract unit price per group. Payment is full compensation for providing, relocating, maintaining or replacing, and removing temporary portable rumble strips.

Pay Item	Pay Unit
652.47 Temporary Portable Rumble Strip	Group

SPECIAL PROVISION
SECTION 654
INTELLIGENT TRANSPORTATION SYSTEMS
(Connected Roadside Unit)

Description. This item shall consist of furnishing and installing for connected vehicle (CV) roadside unit(s) (RSU) including all necessary fittings and mounting hardware at the locations shown on the plans or as indicated by MaineDOT.

Materials. The RSU system shall include equipment meeting the following General, CV Device Interoperability, Wireless Communication, RSU Configuration and Management, Device Interfaces, Systems Communications, Ports and Connectors, Mechanical, Electrical, Environment, Operating System, and Federal Communications Commission (FCC) requirements:

a. General. CV equipment includes all hardware and materials, software, and any necessary ancillary equipment for a complete assembly necessary to enable wireless vehicle-to-infrastructure (V2I) and vehicle-to-vehicle (V2V) communication. The CV equipment shall also fully support Dual Mode C-V2X at the same time as fully supporting DSRC V2X operations. Only new equipment and materials, except as specified in the contract shall be allowed. The CV equipment shall integrate into the ATC traffic signal controller and provide connected vehicle applications to mobile devices through a hybrid system using cellular vehicle-to-everything (C-V2X) and dedicated short-range radio communications (DSRC).

   CV equipment must be compatible with existing traffic controller assemblies unless otherwise shown on the Plans. The CV equipment must create a system that provides the minimum required functions and applications as shown on the Plans.

   Ensure the CV equipment is permanently and legibly marked with a serial number, date of manufacture, and part number.

   Connected vehicle equipment and systems must support the project goals and applications described in the contract.

   CV equipment must be compatible with a Security Credential Management System for V2V, V2I and C-V2X communication and meet the applicable industry standards listed in Table 1.

   CV equipment must be capable of remote firmware updates. Device manufacturers must make firmware updates available to the Department and maintaining agency at no cost.

Table 1
CV Roadside Unit (RSU) Requirements and Standards

Document Identifier	Description
USDOT RSU, Version 4.1	DSRC Roadside Unit (RSU) Specifications Document
SAE J2735, released 2016.03.30	Dedicated Short Range Communications (DSRC) Message Set Dictionary
SAE J2945, released 2017.12.07	On-Board System Requirements for V2V Safety Communications
C-V2X 3GPP Rel.14	LTE support for V2x services, eLAA, 4 band Carrier Aggregation, inter-band Carrier Aggregation
IEEE 802.11p	IEEE Standard for Information Technology− Telecommunications and information exchange between systems local and metropolitan area networks − Specific Requirements Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications
IEEE 1609.0	IEEE Guide for Wireless Access in Vehicular Environments (WAVE) - Architecture
IEEE 1609.2	IEEE Standard for WAVE − Security Services for Applications and Management Messages
IEEE 1609.3	IEEE Standard for WAVE − Networking Services
IEEE 1609.4	IEEE Standard for WAVE − Multi-Channel Operation
IEEE 1609.12	IEEE Standard for WAVE − Identifier Allocations
IEEE 802.3at	Standard for Power over Ethernet
ASTM E2213-03	Standard Specification for Telecommunications and Information Exchange Between Roadside and Vehicle Systems — 5-GHz Band Dedicated Short-Range Communications (DSRC), Medium Access Control (MAC), and Physical Layer (PHY) Specifications
Federal Communications Commission (FCC) Title 47, Parts 0, 1, 2, 15, 90, and 95	FCC Code of Federal Regulations

b. CV Device Interoperability. Provide standards-based CV devices that are interoperable with CV devices from other manufacturers. Ensure that RSUs and Onboard Units (OBUs) are compatible and interoperable. All proposed CV equipment, consisting of a complete engineered solution meeting the contract requirements must be provided to the Department, at no additional cost, within 45 days of contract execution for testing.

c. Wireless Communications. Ensure wireless communications are secure and compatible with the carrier used by the agency responsible for system operation and maintenance.

d. Roadside Unit (RSU). The RSU must be a commercially available product that provides information and supports public safety operations in a V2I/V2V and C-V2X communication environment. RSUs must be successfully demonstrated to the Department and shown to support the functional features and CV applications identified in the contract.

The RSU must be preconfigured by the manufacturer or an authorized manufacturer's representative so that it is ready for installation and operation at the site(s) shown on the Plans. The Department will provide on-site data, such as MAP data. Upon receipt of the RSU(s), the Department will validate the configuration of the unit. The contractor will provide all required support, throughout the configuration process until approved by the Department. The RSU must include antennas for all radio frequency connectors, surge protection device(s) (SPDs), mounting hardware, all associated cabling, and any other equipment required for a fully functional and complete installation.

The RSU must automatically recover from a power failure once power is restored. The Contractor shall verify and document that all programmable settings are restored to their previous configurations and that the system resumes proper operation. Documentation shall be submitted to MaineDOT and the Engineer.

e. Configuration and Management. RSU must be provided with all hardware, software, configuration tools and software licenses required for local and remote configuration, operation, and management including access to all user-programmable features as well as health and status monitoring, event logging, and diagnostic utilities. Configuration and management functions must be password protected. Access to all user-programmable features, alarm monitoring, configuration parameters, event logging and diagnostic utilities must be through a vendor provided Graphical User Interface (GUI). The RSU must be provided with an open application programming interface (API) and software development kit available to the Department at no additional cost. This vendor provided GUI must be able to create Transportation Information Messages and send them to the RSU.

Alarm monitoring must include communication failure, power failure, GPS deviations, and time source lost. The RSU must include an event log that includes the date and time of the event(s). The RSU must be capable of storing a minimum of 500 events as defined by USDOT RSU specification.

All major components of the RSU shall be of a modular design to facilitate future CV frequency changes as set forth by the FCC.

f. Device Interfaces. The RSU must include wired (Ethernet) and wireless interfaces specified in the USDOT RSU specification. The RSU must provide

cellular interfaces for system communication, as shown on the Plans. The Contractor shall verify and document that all interfaces are protected by a configurable firewall with a default to be to inactive.

a) DSRC Interface. The RSU must include a commercial-grade radio that transmits and receives DSRC messages within the 5.855 – 5.925 GHz band per the USDOT RSU specification.

b) C-V2X. The RSU must include a commercial-grade radio that transmits and receives messages over C-V2X within the 5.855 – 5.925 GHz band.

c) Antennas. The RSU must use antennas that were tested with the device to obtain the FCC Grant of Equipment Authorization (or similar antennas with equal gain). Antennas must be removable to allow for the antennas to be installed at a distance from the RSU unit or replaced as needed. The Contractor shall not co-locate or operate RSU antennas with any other antenna or transmitter, except in accordance with the FCC multi-transmitter policy.

i. DSRC radio characteristics:
    1. Protocol: IEEE 802.11p
    2. Freq. band: 5.855 – 5.925 GHz (LTE B47)
    3. 10 MHz channel spacing
    4. Output power: 20 dBm (power class 3)
    5. Sensitivity: typ. -95 dB

ii. C-V2X radio characteristics:
    1. Protocol: 3GPP C-V2X Rel.14
    2. Freq. band: 5.855 – 5.925 GHz (LTE B47)
    3. 10 MHz channel spacing, PC5 side link
    4. Output power: 20 dBm (power class 3)
    5. Sensitivity: typ. -95 dB

g. Systems Communications. All Contractor supplied equipment, including connected vehicle equipment and roadside devices (ATC, FMU, Detection systems and Ethernet Switch), shall be compatible and interoperable. In addition, all IP based network equipment supplied by the Contractor shall be fully compatible with all existing MaineDOT and local agency data networks.

h. Ports and Connectors. The RSU must include all necessary ports and connectors for a complete assembly. All ports and connectors must be weather proof and inhibit the ingress of water, dirt, sand and other foreign materials from entering the enclosure. All ports must be legibly and permanently marked designating their intended use. All labels must be weather resistant.

a) Copper Ports. The RSU must include a minimum of one Type RJ-45 Ethernet port. The Type RJ-45 port must be capable of auto-negotiating

speed (i.e., 10/100 Base) and duplex (i.e. full or half). All 10/100 Base TX connections must be compliant with the IEEE 802.3 standard pinouts.

b) Radio Frequency (RF) Connectors. The RSU must include at least three Type N weatherproof female RF ports.

c) Power over Ethernet (POE). The RSU must include at least one POE connector. The POE connector must be compliant with the Outdoor IP 66 rating.

i. Mechanical Specification. Ensure equipment is permanently marked with manufacturer name or trademark, part number, date of manufacture and serial number. All parts must be made of corrosion-resistant materials.

j. Electrical Specification. Ensure that all wiring complies with the latest edition of the National Electrical Code (NEC), National Electrical Safety Code (NESC), any local jurisdictional requirements, and IEEE 802.3.

Ensure that the RSU operates at a nominal voltage between 37 and 57 Voltage Direct Current (VDC).

Ensure that the POE injector used to power the RSU operates using a nominal input voltage of 120 Voltage Alternating Current (VAC). If any system device requires operating voltages other than 120 VAC, supply a voltage converter.

k. Environmental Specification. Ensure that the RSU complies with all environmental requirements of the latest edition of the Dedicated Short-Range Communications Roadside Unit Specifications published by the USDOT. Must be compliant with section 2 of the NEMA TS2 standard.

l. Operating System. The RSU's processor must run the latest version of the Linux operating system, at time of bid, and all applications must be written as Linux based applications. Additionally, the RSU must meet the minimum requirements for processing, memory, and storage as required in the USDOT RSU specification.

m. Applications. The RSU shall include software and business logic to support the following applications:
   a) Signal Phase and Timing (SPaT),
   b) Traveler Information Messages (TIM),
   c) Work Zone Alert,
   d) Emergency Vehicle Preemption (EVP),
   e) Snowplow Signal Priority,
   f) Freight Signal Priority,
   g) Pedestrian Warning (PedSafe),

h) Queue Warning, and
i) Curve Speed Warning,
j) Data Pass Through

n. FCC License. Compile all information required to register RSU devices and locations with the FCC and provide this information to the Department for review in accordance with Section 7-2. Support the permitting effort until complete. The Contractor shall procure all FCC licenses on MaineDOT behalf. All fees associated with procuring the FCC licenses shall be included as part of the bid price.

o. Connected Vehicle Management Software. The Contractor shall provide, configure and install a Connected Vehicle Management Software (CVMS) system on the cloud-based server that contains the CMS systems. The CVMS shall provide for local and remote configuration of the RSU, diagnostics, alarms, retrieval and storage of data. The CVMS shall function locally as well as remotely over an Ethernet network using the FMU or existing City owned network connections. All fees associated with procuring the CVMS licenses shall be included as part of the bid price.

p. Storage, Logs, and Routing. The RSU must store and transmit periodic status messages, capture System Status Logs and Communication Message Logs as well as route and forward IPv6 traffic for connected mobile units.

Construction Requirements. The Contractor shall be responsible for furnishing all training, labor, materials, cables, connectors, tools, equipment, shipping and incidental items necessary to complete the installation and make the RSU system fully operational.

Installation of the RSU system shall include the installation of any and all associated equipment including, but not limited to, the following:

a. RSU Installation. Install RSUs on existing poles or sign structures, or on new poles, as shown on the Plans. The RSU, mounting hardware, and any other related material that is exposed to the environment must be designed for 150 mph wind speeds and meet the requirements of the Department's Structures Manual. Submit electronic configuration file backups to the Department following field testing. Backup files must include communication settings, firmware, and all other files and settings required to restore current operation and program a new replacement RSU.

The Contractor may mount the RSU in an alternate location than shown on the plans provided the antennae have a clear line of sight for all approaches. This (alternate location) provision is to better assist the Contractor to stay within the typical 100 meter limitation of CAT5 cable runs without having to purchase repeaters to match the proposed plan locations.

b. Cabling. Ensure that all device cabling is free from defects. Provide sufficient cabling slack within existing cabinets and pull boxes to facilitate future re-terminations and any required adjustments needed to shift the RSU along the mounting structure. Neatly bundle and coil all slack within storage areas and prior to entering the RSU. Provide weatherproof cable tags at all storage points and at cable termination ends. All unshielded and shielded twisted pair Ethernet gel filled cabling shall be compliant with the EIA/TIA-568-B-2-1, CSA and ISO/IEC 11801 standards. Neatly coil and band all cable slack together using heavy duty cable locking ties. The use of standard zip-ties will not be permitted.

c. Testing. The following testing requirements shall be met.

a) General. CV equipment to field acceptance tests (FAT). The Department reserves the right to witness all FATs. Meet the requirements of T612.

b) Field Testing. Once the CV equipment has been installed, conduct local FATs at each field site according to the test plan(s). Perform the following:

1. Verify that physical construction has been completed as detailed on the Plans.
2. Inspect the installation of the CV Equipment and its associated cabling for a secure installation.
3. Inspect the quality and tightness of ground and surge protector connections.
4. Verify proper voltages for all power supplies and related power.
5. Connect devices to the power sources.
6. Verify all connections, including correct installation of communication and power cables.
7. Verify all wire and cable connections are correct and secure.
8. Verify the configuration of CV device network interfaces.
9. Verify that the CV equipment can be accessed and manipulated using the secured Shell from the remote computer.
10. Verify over the air that the RSU broadcasts using an approved multi-channel test tool (MCTT).
    i. Ensure data logging is active on all units under test and that data logs are sent to data repository per contract documents.
    ii. Test the DSRC with security on and off. With mismatched security certificates, ensure that messages are logged but payload is not decoded.

iii. Scan all DSRC channels and document sources of potential interference.

d. Warranty. Ensure that CV equipment has a manufacturer's warranty covering defects for a minimum of 5 years from the date of final acceptance by the Department.

Ensure the warranty includes providing replacements within 10 calendar days of notification for defective parts and equipment during the warranty period at no cost to the Department.

Method of Measurement. The RSU for CV applications will be measured by each unit furnished and installed. All equipment, labor, training and incidentals required to create a fully functional system will be included in the bid price of this item.

Basis of Payment. Payment will be full compensation for furnishing, transporting, handling, and installing the materials and equipment specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under the following:

Pay Item		Pay Unit
654.351	Connected Roadside Unit (RSU)	Each

SPECIAL PROVISION
SECTION 718
TRAFFIC SIGNALS MATERIAL

The provisions of Section 718 of the Standard Specifications shall apply with the following additions and modifications:

718.13 Pedestrian Crossing System Pedestrian crossings must have 16-inch by 18-inch countdown pedestrian signals that count down during the pedestrian clearance interval. The pedestrian countdown modules shall be GE Lumination GT1 Series in 16 inch – McCain Model 1000 Series housings (exterior finish per Special Provision 643) or approved equal.

The Accessible Pedestrian Signal (APS) push buttons with locator tones shall be at a minimum Campbell Company Advisor Model A915 or approved equal. Signs shall be posted at each audible signal push button stating which street may be crossed based upon the related push button. Where APS are proposed to be separated by a distance of at least 10 feet and in accordance with Section 4E.11.07 of the Manual on Uniform Traffic Control Devices (MUTCD), the audible walk indication shall be a percussive tone. When using Campbell buttons, MaineDOT has selected "Perc EW 30" for east/west concurrent PED crossings and "Perc NS 70" for north/south PED crossings.

If field modifications dictate that buttons be moved to the same pole or are separated by less than 10 feet, audible walk interval messages should be used as follows:

- For locations with concurrent pedestrian phases – for example "River Street, Walk sign is on to cross." The name of the street to cross at locations with concurrent pedestrian phases will change at each audible push button.

The audible push button identification information messages used during the non-walk phases should be as follows:

- For locations with concurrent pedestrian phases – for example "Wait to cross River Street."

All controllers are to be set so that a pedestrian actuation does not knock the intersection out of coordination.

SPECIAL PROVISION
SECTION 718
TRAFFIC SIGNALS MATERIAL

The provisions of Section 718 of the Standard Specifications shall apply with the following additions and modifications:

718.13 Traffic Signal Control System The expanded traffic signal control system shall meet the following minimum performance standards:

a. General The expanded Central Management System (CMS) shall satisfy the following basic requirements:

1. The expanded CMS shall be installed on the MaineDOT furnished, and configured cloud-based system. The Contractor shall supply all additional software and hardware accessories to provide a complete and functional cloud-based CMS system.

2. Provide Centracs Mobility (10-year license as part of the purchase price) to the project intersection.

3. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to satisfy the requirements as defined in these specifications.

4. All communications between the expanded CMS and the local controllers shall comply with NTCIP protocol consistent with other similar MaineDOT projects. Compatibility is required for all currently approved mandatory NTCIP standards and with the optional NTCIP consistent with similar MaineDOT projects. To help assure this compatibility, the system manufacturer shall certify and list what level of NTCIP compliance is supported for all current mandatory and optional NTCIP objects and standards. In addition, the list shall describe all manufacturer-specific NTCIP objects and functions available. The system supplier shall also list the non-approved NTCIP objects and standards in the system and furnish a description of the company's involvement in and input to the various NTICP standards committees, their degree of involvement, and present efforts including timetables for meeting proposed NTCIP standards under review. All communications between the local field controllers to the CMS shall be Ethernet based protocols, serial of FSK communications shall not be allowed.

5. The expanded system and all system controllers shall be able to provide signal priority routing to support Snowplow CV Operations through different signal groups.

6. The expanded cloud-based CMS shall be configured to provide remote access to the project intersections as well as system users as designated by MaineDOT and or the Engineer.

7. The expanded cloud-based CMS shall be configured to require a multi-factor authentication to gain access to the system. The Contractor shall coordinate and submit for approval all proposed network security setting with MaineDOT IT and the Engineer.

8. The Contractor shall coordinate with MaineDOT IT to create a site-to-site VPN connection between MaineDOT internal network and the Contractor expanded cloud system for the CMS, SPM and the Connected Vehicle (CV) system. This site-to-site connection shall be in conjunction with MaineDOT IT and follow all network security protocols, permissions and procedures.

9. All access to the expanded cloud-based CMS shall be configured to utilize a secure VPN connection. No unsecured network access shall be allowed to access the cloud-based system. The Contractor shall reconfigure all manufacture default passwords on all supplied devices to custom, unique complex alpha numeric passwords comprised of special symbols, upper case, lower case and numbers that are a minimum of 8 characters in length. The Contractor shall generate a complete list of all proposed passwords. That list shall be submitted to MaineDOT and the Engineer for approval. No manufacture default passwords shall be allowed and no duplicate passwords shall be allowed.

10. The Contractor shall configure within the expanded cloud-based CMS the ability to remotely access, configure and view all detection systems installed within the project.

11. All client and device based remote access operations to the expanded CMS shall be performed via a secure VPN tunnel using encryption methods to ensure network security. The Contractor shall create a network security connection document to be submitted to MaineDOT and the Engineer for approval.

12. The expanded CMS, SPM and the Connected Vehicle (CV) system shall communicate directly to all ATC controllers, cabinet assemblies and all in cabinet devices capable of supporting remote access; remote interface units are unacceptable. The system shall provide continuous communications, once per second at a minimum, to all controllers and connected devices supplied under the project.

ADVANCED TRANSPORTATION CONTROLLER (ATC)

The work under this Item shall include the furnishing and installation of an Advanced Transportation Controller (ATC) at each project location as shown on the plans. The ATC controller shall be supplied and installed in existing cabinet at each project intersection and specified elsewhere in this special provision. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to fully comply with the requirements as defined in these specifications. The ATC supplied shall conform to the 2020 MaineDOT Standard Specifications sections 718.07 and as amended under the following requirements:

- All controller units supplied as part of the project, shall be the same as to make, model, functionality and firmware version to ensure full compatibility with the CMS system procured under 24301.00 Statewide and 25321.00 Statewide.

SIGNAL PERFORMANCE MEASURES (SPM)

The system shall be furnished within the existing MaineDOT dashboard monitoring system. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to fully comply with the requirements as defined in these specifications. Intersections must be able to remotely report to the system:

i. Intersection Status
    1. Flash
    2. Door Status
    3. Temperature
    4. ATC Time
ii. Current Phase in operation
iii. Cycle Length
iv. Adaptive or non-adaptive operation
v. ATC alarms
vi. CV system alarms
vii. Detector faults
viii. SPM reports

SPM Reports

SPM reports shall be provided which can be used by MaineDOT for planning, operations and maintenance purposes. The reports shall be user definable as to format (hardcopy and/or electronic). The generation of reports shall be user definable and include manual and/or a time scheduled basis. These reports shall include the following:

Planning

1. Turning Movement Counts (TMC)
2. Approach Volumes
3. Pedestrian Delay
4. Purdue Coordination Diagrams

Operations

5. Arrival on Green (AOG)
6. Arrival on Red (AOR)
7. Split Monitoring
8. Preempt Service Requests
9. Approach Delay
10. Split Failure

Maintenance

11. Vehicle Detector Faults (Constant Call/No Call)
12. Pedestrian Detector Fault (Stuck Button)
13. Signal on Flash
14. Power Failure
15. Communications Failure
16. Manual Control Active

CONNECTED VEHICLE (CV) SYSTEM

The work under this Item shall include furnishing and installation of a Connected Vehicle (CV) system required to interface vehicles equipped with authorized CV devices with local controllers. This work includes all intersection controllers, software licenses, cloud-based costs, system testing, and all other equipment, materials, appurtenances and incidental costs necessary to provide a complete, fully operational Connected Vehicle (CV) system as specified herein and as shown on the plans. The Signal Phase and Timing (SPaT) Infrastructure System consists of all the hardware and software devices supplied under the project to support connected vehicle operations. The Contractor shall integrate the proposed Connected Vehicle (CV) system to be installed under this project on a Contractor created cloud-based system architecture. The Contractor shall furnish and install the means whereby MaineDOT and others shall be able to monitor and control the system remotely, as allowed by the system administrator. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to fully comply with the requirements as defined in these specifications. The CV system shall initially be

programmed to support the following applications without the need for additional costs and/or subscription services:

1. Signal Phase and Timing (SPaT),
2. Traveler Information Messages (TIM),
3. Work Zone Alert,
4. Emergency Vehicle Preemption (EVP),
5. Snowplow Signal Priority,
6. Freight Signal Priority,
7. Pedestrian Warning (PedSafe),
8. Queue Warning, and
9. Curve Speed Warning,
10. User Data Pass through.

The CV system and the CMS shall operate as an integrated system allowing for the CMS to report on alarms generated by the CV system.

The CV system shall consist of Roadside Units (RSU) compatible with existing MaineDOT On-Board Units (OBU) procured under previous projects. In addition, the CV system shall allow for the broadcast of SPAT, BSM and Personal Information Message (PIM) to mobile devices utilizing a mobile application for IOS and Android. The mobile application shall be branded with MaineDOT information for deployment to the general public. There shall not be any fees associated with the downloading or using the CV application.

The Contractor shall be responsible for all costs and fees associated with integration and maintenance of this CV system onto the cloud-based system during the construction and fine-tuning period. Additionally, the Contractor is responsible for all costs associated to support operations, ongoing access, maintenance and any other incidental fees related to the cloud-based system to maintain proper operation and remote system access for this CV system for a period of 120 months from the end of the fine-tuning period.

In addition to the requirements contained within the specification, the CV system shall be supplied and installed with the following functionality:

- Broadcast of SPAT, BSM, PIM messages to registered OBU and mobile device applications.
- Allow for the use of “GEO Fencing” to provide for “Pre-emption and Priority” calls to the ATC controller based on location of the OBU and mobile device application.
- Have the ability to support both DSRC and 5G communications.
- Shall receive traffic signal data from the Traffic Signal Controller that is compliant with the standard NTCIP 1202 v3.

- In locations where the SPaT Infrastructure System supports Signal Preemption, the SPaT Infrastructure System shall receive preemption status from the Traffic Signal System.
- In locations where the SPaT Infrastructure System supports signal priority applications, the system shall receive signal control and preemption/priority requests.
- Shall support Connected Vehicle enabled Pedestrian in Signalized Crosswalk Warning and/or Mobile Accessible Pedestrian Signal Systems (PED-SIG) applications.
- Shall synchronize an internal system clock with Coordinated Universal Time (UTC) and be accurate within 10 milliseconds (ms) of UTC at all times.
- Shall use a point in time – also referred to as time marks (i.e. minutes and seconds of the year) as opposed to countdowns (e.g. “for the next 12 seconds”) to define start and end times.
- The SPaT Intersection status shall include whether the intersection is operating in failure flash.
- The SPaT message shall uniquely identify the intersection for which it applies.
- The SPaT message shall support the ECO Departure application as implemented, each SPaT message shall include maneuver assist data.
- The SPAT message shall show the intersection status including whether the intersection is operated as fixed time or actuated control.
- The SPAT message shall show the intersection status including whether the intersection is currently operating in preemption or priority.
- The SPaT message shall contain Movement States. The number of Movement States shall correspond to the number of controller traffic and pedestrian phases that are currently in use at the intersection.
    - Movement State shall describe the current interval for each movement.
    - Movement State shall indicate when the current interval will end for each movement.
    - Movement State shall indicate when that movement is estimated to next be green if it is not currently green.
- SPaT message shall include a minimum end time defined to be the earliest time mark when the current phase will end.
- SPaT message shall contain a maximum end time defined to be the latest time mark when the current phase will end.
- SPaT message shall contain a likely end time that is the most likely end time of the current phase.

- The SPaT Infrastructure System shall make the maximum end time equal to the minimum end time when maximum end time is included in the SPaT message for fixed signal time.
- The SPaT Infrastructure System shall assemble SPaT messages that conform to the SAE J2735 standard format.
- The SPaT Infrastructure System shall include an interface for users to manage the SPaT Infrastructure System and its data.
- The SPaT Infrastructure System User Interface shall be browser-based and provide access to authorized users for all management, configuration and support functionality as described in Groups 3 and 12.
- The SPaT Infrastructure System User Interface shall be accessible via remote portable devices through the Internet.
- The SPaT Infrastructure System shall comply with the agency's security policy for remote access.
- The SPaT Infrastructure System User Interface shall include security compliant with agency policy to limit user access.
- The SPaT Infrastructure System User Interface shall only be accessible to authorized users.
- The SPaT Infrastructure System shall have a mechanism for an administrator to configure user roles such that different users are limited to different subsets of functionalities.
- The SPaT Infrastructure System User Interface shall display information to users.
- The SPaT Infrastructure System shall provide a GIS-based digital map to geographically view the System and manage data.
- The SPaT Infrastructure System User Interface shall display information to users on the operation, configuration and diagnostics of the System.
- The SPaT Infrastructure System User Interface shall provide information to users in text and graphical formats as appropriate.
- The SPaT Infrastructure System User Interface shall notify users of system alerts as defined in Group 12.
- The SPaT Infrastructure System shall manage a MAP database.
- The SPaT Infrastructure System shall include a database to store MAP data.
- The SPaT Infrastructure System shall have a mechanism to configure the MAP data to be applied to the intersection associated with the SPaT Infrastructure System.
- The SPaT Infrastructure System shall store a unique MAP message for each SPaT intersection.

- The SPaT Infrastructure System shall manage MAP dynamic features.
    - At intersections with reversible lanes, or movements restricted during selected periods (e.g. left turn not allowed during peak periods), the MAP messages shall designate these lanes as revocable.
    - In situations of reversible lanes, MAP messages shall define two lanes in the same location, one an ingress lane, and one an egress lane. Each lane shall be revocable.
    - In situations of turn restrictions (e.g. not permitting right turn on red or left turn allowed/not allowed), the MAP message shall define two lanes in the same location – one allowing the movement, the other not allowing the movement. Each lane shall be revocable.
- The SPaT Infrastructure System shall assemble the content for standard MAP messages.
    - The Intersection Geometry shall be changed if and only if the map information is updated.
    - Each MAP message shall uniquely identify the intersection for which it applies.
- The SPaT Infrastructure System shall increment the MAP message count whenever any data element in the message except the time stamp changes.
    - Each Map message shall identify each lane approaching and departing from the intersection and shall provide an intersection unique ID for the lane.
    - Each MAP message shall provide the directionality of each lane.
    - Each MAP messages shall identify all ingress and egress lanes.
    - Each ingress and egress lane shall be described by at least two node points that depict the center of the lane.
    - Each MAP message shall separately identify each possible connection between ingress and egress lanes and provide an intersection unique ID for the connection.
    - Each MAP message shall include, for each connection, the lane, maneuver and signal group associated with the connection.
    - Each ingress and egress lane shall be depicted by enough nodes such that the distance between the actual curved lane center line and the straight line connecting nodes shall not be more than half of the lane width.
    - When a single connection between an ingress lane and an egress lane is controlled by more than one signal group, such as a protected/permissive left turn movement, the MAP message shall separately identify each signal group that controls the movement on that connection.

  - In locations were PED-SIG or Pedestrian Warning applications are deployed, MAP messages shall include crosswalk lane types.
  - MAP message shall define ingress lanes from the stop bar to a minimum of 300 meters before the stop bar.
  - When connecting to another intersection, each MAP message shall identify the remote intersection to be connected.

- The SPaT Infrastructure System shall assemble MAP messages that conform to the SAE J2735 standard message format.
- The SPaT Infrastructure System shall assemble the MAP messages that adhere to the SAE J2735 March 2016 standard.
- The SPaT Infrastructure System shall assemble other standardized MAP messages, as needed.
- The SPaT Infrastructure System shall obtain position correction data.
- The SPaT Infrastructure System shall either calculate or obtain GPS position correction data in the RTCM 10403 Message Type 1001 format that corrects for the current atmospheric conditions in the area surrounding the intersection.
- The SPaT Infrastructure System shall either generate or obtain the coordinates of the antenna reference point in the RTCM 10403 Message Type 1005 format.
- The SPaT Infrastructure System shall assemble standard RTCM correction messages.
- The SPaT Infrastructure System shall assemble standard RTCM correction messages for the following RTCM version 3.0 message types:
  - Message Type 1001 – GPS L1 observations
  - Message Type 1005 – Antenna Reference Point coordinates.
- The SPaT Infrastructure System shall generate new RTCM Correction messages with the most current correction data at a minimum frequency of 5 Hz.
- The SPaT Infrastructure System shall assemble RTCM correction messages that conform to the SAE J2735 standard message format.
- The SPaT Infrastructure System shall assemble position correction messages that comply with additional standards, as needed.
- The SPaT Infrastructure System shall broadcast standard 5.9 GHz DSRC messages.
- The SPaT Infrastructure System broadcast of data shall be compliant with the USDOT's RSU Specification "DSRC Roadside Unit (RSU) Specification Document v4.1."
- The SPaT Infrastructure System shall broadcast SPaT, MAP, and RTCM messages using Dedicated Short Range Communications (DSRC) on channel 172.

- The SPaT Infrastructure shall broadcast the SPaT messages with a minimum frequency of 10 Hz.
- The SPaT Infrastructure system shall broadcast MAP messages with a minimum frequency of 1 HZ.
- The SPaT Infrastructure System shall broadcast RTCM Correction messages containing the most recent RTCM 10403 Message Type 1001 data with a minimum frequency of 5 Hz.
- The SPaT Infrastructure System shall broadcast RTCM Correction messages containing the most recent RTCM 10403 Message Type 1005 data with a minimum frequency of 2 Hz.
- In locations supporting preemption/priority applications, when there are active priority requests, the SPaT Infrastructure System shall broadcast Signal Status Messages (SSM) on Channel 182 with a minimum frequency of 10 Hz.
- The SPaT Infrastructure System shall broadcast messages such that they can be received by DSRC on-board units in each lane approaching the intersection.
- The SPaT Infrastructure System shall broadcast messages such that the data incurs no loss in fidelity to a distance of at least 300 meters upstream of the stop bar for each approaching lane.
- The SPaT Infrastructure System shall sign outgoing broadcast messages with a valid security key.
- The SPaT Infrastructure System shall validate received messages based on signed certificate associated with the messages.
- In locations where BSM data is collected, the SPaT Infrastructure System shall receive and process all valid DSRC broadcasts of the Basic Safety Message (BSM) received by the DSRC radio on Channel 172 at the SPaT Infrastructure System.
- In locations support signal priority and preemption, the SPaT Infrastructure System shall receive valid DSRC Signal Request Messages (SRM) received by the DSRC radio on Channel 182 at the SPaT Infrastructure System.
- In locations where vehicle data is received, the SPaT Infrastructure System shall receive and process security credentials and digital signatures to be used to validate message received.
- In locations where probe data is being collected by the SPaT Infrastructure System, the SPaT Infrastructure System shall receive and process valid Probe Vehicle Data (PVD) data broadcast received by the DSRC radio at the SPaT Infrastructure System.
- In locations supporting PED-SIG applications, the SPaT Infrastructure System shall receive valid Personal Safety Message (PSM) data broadcast by the Personal Information Device Systems within range of the SPaT Infrastructure System.

- The SPaT Infrastructure System shall publish data over alternate communication mediums.
- The SPaT Infrastructure System shall receive data over alternate communication mediums.
- The SPaT Infrastructure System shall monitor for signal preemption and priority requests.
- The SPaT Infrastructure System shall process Signal Request Messages (SRM) that adhere to the SAE J2735 March 2016 standard from SPaT Vehicle Systems as soon as they are received.
- The SPaT Infrastructure System shall process preemption/priority request cancellations received from SPaT Vehicle Systems.
- The SPaT Infrastructure System shall request preemption and priority.
- The SPaT Infrastructure System shall assemble Signal Status Messages in other standard formats with a maximum latency of 10 ms from the time the System receives information from the Traffic Signal System.
- The SPaT Infrastructure System shall monitor BSM, PVD, and PSM.
- The SPaT Infrastructure System shall receive BSM from vehicles.
- The SPaT Infrastructure System shall receive PVD from vehicles.
- The SPaT Infrastructure System shall receive PSM from Personal Information Devices (PIDs).
- The SPaT Infrastructure System shall convert BSM and PSM to detector calls.
- In locations where the intent is to convert BSMs to detector calls, the SPaT Infrastructure System shall have defined BSM geographic detection zones that define the geographic area assigned to each signal phase at each intersection detecting BSM.
- In locations where the intent is to convert PSMs into detector calls, the SPaT Infrastructure System shall have defined PSM geographic detection zones that define the geographic area assigned to each signal pedestrian phase at each intersection detecting PSM.
- The SPaT Infrastructure System shall convert the BSM and PSM messages received into detector calls for their corresponding detection zones.
- When the SPaT Infrastructure System receives a BSM located within the respective detection zone, the SPaT Infrastructure System shall generate detector calls for the appropriate signal phase.
- The SPaT Infrastructure System shall continue to generate detector calls whenever it receives BSM from one or more vehicles in a detection zone for BSM.

- When the SPaT Infrastructure System receives a PSM located within the respective detection zone, the SPaT Infrastructure System shall convert each PSM that is requesting a WALK signal into a pedestrian crossing detector call for the signal pedestrian phase assigned to the PSM detection zone.
- The SPaT Infrastructure System shall assemble pedestrian crossing detector calls to include the relevant crosswalk the pedestrian is requesting to access.
- When multiple PSM messages are received from more than one PID for a single WALK, the SPaT Infrastructure System shall generate no more than one detector call for a given phase within each cycle.
- The SPaT Infrastructure System shall prepare actuation reports to be sent to the Traffic Signal System in compliance with NTCIP 1202 v3, at a minimum.
- In locations where BSM and PVD data is collected, the SPaT Infrastructure System shall aggregate BSM and PVD data.
- The SPaT Infrastructure System shall exchange data with the Traffic Data System.
- In locations where the Traffic Data System utilizes data from the SPaT Infrastructure System, the SPaT Infrastructure System shall send traffic data messages to the Traffic Data System.
- The SPaT Infrastructure System shall exchange aggregated BSM data.
- The SPaT Infrastructure System shall exchange aggregated PVD data.
- The SPaT Infrastructure System shall obtain valid security credentials.
- The SPaT Infrastructure System shall comply with all security credentials, certification, and processes defined by the National Security Credentials Management System (SCMS), or another credential management system used by the SPaT Infrastructure System.
- The SPaT Infrastructure System certification shall include all of the security credentials necessary to support each application.
- The SPaT Infrastructure System shall have a mechanism for receiving updated security credential certification from the Security Back End System.
- The SPaT Infrastructure System shall store security credential certifications for use in broadcasting messages to SPaT Vehicle Systems for their validation purposes.
- The SPaT Infrastructure System shall request updated security credentials from the Security Back End System a configurable period of time in advance of when the current security credential expires.
- The SPaT Infrastructure System shall receive updates from the Security Back End System regarding revoked security credentials.
- The SPaT Infrastructure System shall store data regarding revoked security credentials.

- The SPaT Infrastructure System shall ignore data received from SPaT Vehicle Systems whose security credentials have been revoked.
- The SPaT Infrastructure System shall send data to the Security Back End System regarding invalid security credentials received from SPaT Vehicle Systems.
- The SPaT Infrastructure System shall verify the credentials it receives.
- The SPaT Infrastructure System shall have a mechanism for validating the security credentials received from SPaT Vehicle Systems.
- The SPaT Infrastructure System shall check the security credentials of messages that include security credential data received from SPaT Vehicle Systems.
- The SPaT Infrastructure System shall validate the security credentials of messages received from SPaT Vehicle Systems with valid credentials.
- The SPaT Infrastructure System shall identify as revoked the security credentials of messages received from SPaT Vehicle Systems that match a revoked security credential.
- The SPaT Infrastructure System shall ignore messages received from SPaT Vehicle Systems without a valid security credential.
- The SPaT Infrastructure System shall apply security credentials to broadcasts.
- The SPaT Infrastructure System shall broadcast valid security credentials in the form of digital certificates signed by a trusted certificate authority for those messages broadcast with security credential information.
- The SPaT Infrastructure System shall sign and validate DSRC messages using the IEEE 1609.2 security standard.
- The SPaT Infrastructure System shall manage access to the system network.
- The SPaT Infrastructure System shall comply with agency security policy to block malicious attempts, such as Distributed Denial of Service (DDOS) attacks, malware distribution, or other hacking efforts, to infiltrate the agency networks and systems.
- The SPaT Infrastructure System to provide a mechanism for users to configure data exchanges.
- The SPaT Infrastructure System shall provide a mechanism for users to configure data exchanges between the SPaT Infrastructure System and the Security Back-End System that are compliant with agency security and network policies.
- The SPaT Infrastructure System shall provide a mechanism for users to configure the Security Back-end System that are compliant with agency security and network policies.
- The SPaT Infrastructure System shall have a mechanism for managing logs of system activity.

- The SPaT Infrastructure System shall log and store records of data obtained by the System, including:
    - Traffic Signal System data.
    - GPS correction data.
    - MAP data.
    - Messages from SPaT Vehicle Systems and PIDs, including BSM, PVD, PSM and SRM.
- The SPaT Infrastructure System shall log and store the messages assembled by the System, including the content, time of generation and time of broadcast.
- The SPaT Infrastructure System shall log and store the SPaT messages assembled by the System.
- The SPaT Infrastructure System shall log and store the MAP messages assembled by the System.
- The SPaT Infrastructure System shall log and store the RCTM messages assembled by the System.
- The SPaT Infrastructure System shall log and store the SSM messages assembled by the System.
- The SPaT Infrastructure System shall log and store the location of origin for all stored data, such as the location/intersection for each message broadcast and received.
- The SPaT Infrastructure shall log and store user-initiated changes in System configuration, including the user, date and time, and configuration change.
- The SPaT Infrastructure System shall log and store system errors and alerts, such as for loss of power, loss of connection to other systems, failure to process data and messages.
- The SPaT Infrastructure System shall log and store user activity, including, at a minimum, the user and time of log in and log out for each session, and the time and location of failed login attempts.
- The SPaT Infrastructure System shall have a mechanism for selecting stored data for deletion and then deleting that data.
- The SPaT Infrastructure System shall have a mechanism for configuring multiple logs to reflect:
    - Log start and end times.
    - Data types and activities to be included in log.
    - Locations and/or devices to be included in log.

- The SPaT Infrastructure System shall provide a mechanism for users to configure the messages broadcast by the System.
- The SPaT Infrastructure System shall provide a mechanism for users to select the appropriate standardized format(s) for messages to be broadcast.
- The SPaT Infrastructure System shall have a mechanism for users to configure the data elements to include in:
    - SPaT Messages
    - MAP Messages
    - RTCM Messages
    - SSM
    - PSM
- The SPaT Infrastructure System shall have a mechanism for users to configure the frequency of broadcast for:
    - SPaT Messages
    - MAP Messages
    - RTCM Messages
    - SSM
    - PSM
- The SPaT Infrastructure System shall have a mechanism for managing MAP data.
- The SPaT Infrastructure System shall have a mechanism for the user to select the format of MAP data to be imported from the SPaT Infrastructure System's usable formats, including:
    - XML
- The SPaT Infrastructure System shall have a mechanism for the user to submit MAP data.
- The SPaT Infrastructure System shall notify the user of successful MAP data submissions.
- The SPaT Infrastructure System shall provide a mechanism for graphically displaying the location and layout of submitted MAP data.
- The SPaT Infrastructure System shall notify the user of errors in the structure of the submitted data, such as missing required data in the wrong format, or data outside the range of allowable values.
- The SPaT Infrastructure System shall have a mechanism for the user to create MAP data within the interface.

- The SPaT Infrastructure System shall include a “wizard” environment for data entry that describes the type of data expected in each field. For example, the User Interface may inform the user of the number of digits of precision required for latitudes and longitudes.
- The SPaT Infrastructure System shall have a mechanism for graphically displaying the location and layout of entered MAP data.
- The SPaT Infrastructure System shall allow the user to name, copy, modify and delete MAP data of one or more configurations for each intersection.
- The SPaT Infrastructure System shall have a mechanism for users to configure GPS correction.
- The SPaT Infrastructure System shall have a mechanism for users to configure the source of GPS position correction data (e.g. define the source, define the polling mechanism and approach).
    - In locations where the source of position correction data is a regional or national source of data (e.g. Internet accessible data), the configuration shall include the location of the intersection to enable the acquisition of GPS correction data to obtain the correct values.
    - At locations where messages are received from SPaT Vehicle Systems and PIDS, the SPaT Infrastructure System shall have a mechanism for the user to manage the detection zones defined for receiving data from SPaT Vehicle Systems and PIDs.
- The SPaT Infrastructure System shall have a mechanism for the user to create and modify detection zones and associate the detection zones to received message types and to vehicle and pedestrian movements at each intersection.
- The SPaT Infrastructure System shall have a mechanism for the user to graphically define detection zones within a digital map environment.
- The SPaT Infrastructure System shall have a mechanism to automatically identify when a vehicle or pedestrian movement does not have an associated detection zone and notify the user.
- The SPaT Infrastructure System User Interface shall be accessible via workstations on the agency network.
- The SPaT Infrastructure System User Interface shall be browser-based and provide access to authorized users for all management, configuration and support functionality.
- The SPaT Infrastructure System User Interface shall be accessible via the cloud-based system or via secure VPN connection.
- The SPaT Infrastructure System User Interface shall be accessible via remote Microsoft/Android/IOS devices through a secure internet connection.

- The SPaT Infrastructure System User Interface shall configured by the Contractor to be only be accessible by authorized users.
- The SPaT Infrastructure System shall comply with MaineDOT IT security policy for remote access.
- The SPaT Infrastructure System shall have a mechanism for an administrator to configure user roles such that different users are limited to different subsets of functionalities.
- The SPaT Infrastructure System shall provide a GIS-based digital map to geographically view the System and manage data
- The SPaT Infrastructure System User Interface shall display information to users on the operation, configuration and diagnostics of the System.
- The SPaT Infrastructure System User Interface shall provide information to users in text and graphical formats as appropriate.
- The SPaT Infrastructure System shall include a database to store MAP data.
- The SPaT Infrastructure System shall have a mechanism to configure the MAP data to be applied to the intersection associated with the SPaT Infrastructure System.
- The SPaT Infrastructure System shall store a unique MAP message for each intersection, that shall be stored locally within the intersection Road Side Unit (RSU) as well as the cloud based system.
- At intersections with reversible lanes, or movements restricted during selected periods (e.g. left turn not allowed during peak periods), the MAP messages shall designate these lanes as revocable.
- In situations of reversible lanes, MAP messages shall define two lanes in the same location, one an ingress lane, and one an egress lane. Each lane shall be revocable.
- In situations of turn restrictions (e.g. not permitting right turn on red or left turn allowed/not allowed), the MAP message shall define two lanes in the same location – one allowing the movement, the other not allowing the movement. Each lane shall be revocable.
- The Intersection Geometry shall be changed if and only if the map information is updated.
- Each MAP message shall uniquely identify the intersection for which it applies.
- The SPaT Infrastructure System shall increment the MAP message count whenever any data element in the message except the time stamp changes.
- Each Map message shall identify each lane approaching and departing from the intersection and shall provide an intersection unique ID for the lane.
- Each MAP message shall provide the directionality of each lane.

- Each MAP messages shall identify all ingress and egress lanes.
- Each ingress and egress lane shall be described by at least two node points that depict the center of the lane.
- Each MAP message shall separately identify each possible connection between ingress and egress lanes and provide an intersection unique ID for the connection.
- In locations were PED-SIG or Pedestrian Warning applications are deployed, MAP messages shall include crosswalk lane types.
- MAP message shall define ingress lanes from the stop bar to a minimum of 1000 feet before the stop bar.
- When connecting to another intersection, each MAP message shall identify the remote intersection to be connected.
- The SPaT Infrastructure System shall sign outgoing broadcast messages with a valid security key.
- In locations where BSM data is collected, the SPaT Infrastructure System shall receive and process all valid DSRC broadcasts of the Basic Safety Message (BSM) received by the DSRC radio on Channel 172 at the SPaT Infrastructure System
- In locations support signal priority and preemption, the SPaT Infrastructure System shall receive valid DSRC Signal Request Messages (SRM) received by the DSRC radio on Channel 182 at the SPaT Infrastructure System
- In locations where vehicle data is received, the SPaT Infrastructure System shall receive and process security credentials and digital signatures to be used to validate message received
- The SPaT Infrastructure System shall comply with all security credentials, certification, and processes defined by the National Security Credentials Management System (SCMS).

The Contractor shall configure the system to provide for the generation and broadcast of Signal Phasing and Timing (SPaT) data. This CV function shall be fully programed in all related CV devices to enable SPaT messages to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the SPaT CV functions. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to enable the SPaT function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at maximum broadcast distance at all intersections as part of the project. The geo-fence zones shall initially be programed by the Contractor to broadcast the per phase/per lane SPaT message data to properly equipped vehicles containing authorized CV devices.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the SPaT system will operate.

Traveler Information Messages (TIM)

The Contractor shall configure the system to provide for the generation and broadcast of Traveler Information Message data. This CV function shall be fully programed in all related CV devices to enable TIM messages to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the TIM CV functions. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to enable the TIM function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at maximum broadcast distance at all intersections as part of the project. The geo-fence zones shall initially be programed by the Contractor to broadcast the per phase/per lane TIM message data to properly equipped mobile CV systems, OBU and/or mobile devices.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the TIM system will operate.

Work Zone Alert

The Contractor shall configure the system to provide for the generation and broadcast of Work Zone Alert Message data. This CV function shall be fully programed in all related CV devices to enable Work Zone Alert messages to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the Work Zone Alert CV functions. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to enable the Work Zone Alert function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at maximum broadcast distance at all intersections as part of the project. The geo-fence zones shall initially be programed by the Contractor to broadcast the per phase/per lane Work Zone Alert message data to properly equipped vehicles containing authorized CV devices.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the Work Zone Alert system will operate.

Emergency Vehicle Preemption (EVP)

The Contractor shall configure the system to provide for an Emergency Vehicle Preemption (EVP) system operation (see also 718.15). This CV function shall be fully programed in all related CV devices to enable EVP for properly equipped emergency vehicles with the appropriate CV elements to generate a preemption request. The Contractor shall coordinate with MaineDOT and the Engineer to coordinate the installation of CV devices into emergency vehicles. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence detection zone at maximum broadcast distance at all intersections as part of the project. A preemption request message shall be generated upon entry of an emergency vehicle into a defined geo-fence detection zone. The preemption request message shall be transmitted via the OBU installed in the emergency vehicle. The preemption message shall be received by the DSRC/CV interface at each of the project intersections. The Contractor shall configure all relevant devices to accept the preemption signal request and initiate EVP operation. Emergency vehicle preemption shall override freight vehicle priority. The CMS shall log all CV actions into a system searchable database.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the EVP system will operate.

Snowplow Signal Priority

The Contractor shall configure the system to provide for a snowplow priority system operation. This CV function shall be fully programed in all related CV devices to enable a snowplow vehicle, properly equipped with the appropriate CV elements to generate a priority request. The Contractor shall coordinate with MaineDOT maintenance operations to schedule a time to modify and install CV devices in MaineDOT designated snowplow vehicles. The installation of CV devices shall not have any adverse impact on the vehicle snowplow operations.

The Contractor shall define and create geo-fence detection zone at all intersections as part of the project. The geo-fence detection zone shall initially be programed by the Contractor at a four hundred (400’) foot distance from the intersection stop bar at each vehicle approach. A conditional priority request message shall be generated upon entry of a snowplow vehicle into a defined geo-fence detection zone and whenever the snowplow is in operation (i.e. snowplow blade down and/or spreader activated). The priority request message shall be transmitted via the OBU installed in the snowplow vehicle. The priority message shall be received by the DSRC/CV interface at each of the project intersections. The Contractor shall configure all relevant devices to accept the priority signal request and conditionally initiate snowplow vehicle priority operation. Emergency vehicle preemption shall override snowplow vehicle priority. Priority operation shall not cause the traffic controller to drop out of coordination. The CMS shall log all CV actions into a system searchable database.

When a priority request is received at the controller, a priority operation shall initiate. If the controller is active in the phase for the approach requesting priority operation the green display shall be extended. If the controller is active in a phase other than the one requested, that phase green time shall be reduced. The amount of time that a phase is extended or reduced shall be determined on a location by location basis. Final settings shall be provided by MaineDOT and/or the Engineer.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the snowplow CV system will operate.

Freight Signal Priority

The Contractor shall configure the system to provide for a freight priority system operation. This CV function shall be fully programed in all related CV devices to enable a freight vehicle, properly equipped with the appropriate CV elements to generate a priority request. The Contractor shall coordinate with MaineDOT and freight companies identified by MaineDOT to coordinate the installation of CV devices into freight vehicles.

The Contractor shall define and create geo-fence detection zone at all intersections as part of the project. The geo-fence detection zone shall initially be programed by the Contractor at a four hundred (400') foot distance from the intersection stop bar at each vehicle approach. A priority request message shall be generated upon entry of a freight vehicle into a defined geo-fence detection zone. The priority request message shall be transmitted via any OBU installed in the freight vehicle. The priority message shall be received by the DSRC/CV interface at each of the project intersections. The Contractor shall configure all relevant devices to accept the priority signal request and conditionally initiate freight vehicle priority operation. Emergency vehicle preemption shall override freight vehicle priority. Priority operation shall not cause the traffic controller to drop out of coordination. The CMS shall log all CV actions into a system searchable database.

When a priority request is received at the controller, a priority operation shall initiate. If the controller is active in the phase for the approach requesting priority operation the green display shall be extended. If the controller is active in a phase other than the one requested, that phase green time shall be reduced. The amount of time that a phase is extended or reduced shall be determined on a location by location basis. Final settings shall be provided by MaineDOT and/or the Engineer.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the freight CV system will operate.

Pedestrian Warning (PedSafe)

The Contractor shall configure the system to provide for the generation and broadcast of Pedestrian Warning Message data. This CV function shall be fully programed in all related CV devices to enable Pedestrian Warning messages to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the Pedestrian Warning CV functions. No additional hardware or software costs and/or subscription fees/costs shall be allowed to enable the Pedestrian Warning function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at all intersections as part of the project. The geo-fence zones shall initially be programed per location by the Contractor, as approved by MaineDOT, to broadcast the per phase Pedestrian Warning message data to properly equipped vehicles containing authorized CV devices.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the Pedestrian Warning system will operate.

Queue Warning

The Contractor shall configure the system to provide for the generation and broadcast of Queue Warning Message data. This CV function shall be fully programed in all related CV devices to enable Queue Warning messages to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the Queue Warning CV functions. No additional hardware or software costs and/or subscription fees/costs shall be allowed to enable the Queue Warning function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at all intersections as part of the project. The geo-fence zones shall initially be programed per location by the Contractor, as approved by MaineDOT, to broadcast the per phase Queue Warning message data to properly equipped vehicles containing authorized CV devices.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the Queue Warning system will operate.

Curve Speed Warning

The Contractor shall configure the system to provide for the generation and broadcast of Curve Speed Warning Message data. This CV function shall be fully programed in all related

CV devices to enable Curve Speed Warning messages to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the Curve Speed Warning CV functions. No additional hardware or software costs and/or subscription fees/costs shall be allowed to enable the Curve Speed Warning function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at all intersections as part of the project. The geo-fence zones shall initially be programed per location by the Contractor, as approved by MaineDOT, to broadcast the per phase Curve Speed Warning message data to properly equipped vehicles containing authorized CV devices.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the Curve Speed Warning system will operate.

User Data Pass-Through

The Contractor shall configure the system to provide for the ability to allow for User Data Pass-Through. This CV function shall be fully programed in all related CV devices to enable User Data Pass-Through to be broadcast and received by properly equipped vehicles with the appropriate CV elements. The Contractor shall coordinate with MaineDOT and the Engineer to identify per intersection parameters needed to support the User Data Pass-Through CV functions. No additional hardware or software costs and/or subscription fees/costs shall be allowed to enable the User Data Pass-Through function as described. Any hardware, software and subscription fees shall be considered incidental and included as part of the bid price.

The Contractor shall define and create geo-fence zones at all intersections as part of the project. The geo-fence zones shall initially be programed per location by the Contractor, as approved by MaineDOT, to broadcast the per approach User Data Pass-Through to properly equipped vehicles containing authorized CV devices.

The Contractor shall create and submit a text narrative for approval prior to installation describing how the User Data Pass-Through system will operate.

Technical Support

Telephone technical support shall be provided to MaineDOT for ten (10) years by the ATC, SPM, Stop line vehicle detection system, Advanced vehicle detection system, and CV system manufactures. The cost for this telephone technical support shall be included in the bid price for the project. Telephone technical support shall be available to MaineDOT Monday through Friday, during normal business hours.

Local field technical support must be available for a period of 60 months after the "System Startup" project phase is completed.

Start-up and System Loading

The system supplier shall initiate complete system operation including ATC, SPM, Stop line vehicle detection system, Advanced vehicle detection system, CV system, Hosted cloud-based systems, FMU, the communications system, and remote monitoring and control of CMS operations as shown on the plans and/or directed by MaineDOT and the Engineer. After the supplier has initiated system operation, the system shall be run for a continuous 7-day initial operational testing period. If any major functions of the system fail to operate during this testing period, as determined by MaineDOT and/or the Engineer, the supplier shall correct or repair the system and the continuous 7-day testing period shall be restarted. At the completion of a successful 7-day testing period, the supplier shall advise MaineDOT and/or the Engineer that the system is ready for the Start-up Phase. Any major system malfunctions encountered during this testing period shall be corrected by the supplier, and the test restarted. During this period, MaineDOT and/or the Engineer may make modifications to the system timing parameters, but this will not cause restarting of the testing period. At the completion of the testing period, the system will be deemed ready for final acceptance testing as described in Acceptance Testing.

Manuals and Documentation

Operating manuals shall be supplied for all equipment and components of the system. Each set of operating manuals shall provide all necessary instructions for day-to-day use of the system by the end user. The manuals shall contain, as a minimum, the following information:

- Table of Contents
- System Overview (to include operation of all system features).
- Complete step-by-step instructions for performing each available function with sample screens, sample reports, and examples.
- Quick Start Guide with instructions for performing the basic and common functions.
- Updated manuals and system documentation must be provided as part of any system upgrade received by MaineDOT.

The cabinet shall additionally be provided with the following documentation:

- Operating and Maintenance manuals.
- ATC Database Printout

System Maintenance

Under this Item the Contactor, through their Vendor, shall provide operations and maintenance services of the ATC, SPM, CV system, and all system related field elements including communications and control devices for a 3-year period. This maintenance period shall begin once the project is accepted by MaineDOT. In addition to the requirements contained elsewhere within these specifications , the Contractor shall provide the following tasks:

- Provide software upgrades for the CV/SPM systems;
    - At any time that operating software updates are released by the manufacturer, whether routine enhancement updates, releases to fix software issues, or a combination of both, it shall be possible for personnel from MaineDOT to update the software in all its devices supplied as part of this project without any assistance or supervision from any other agency, firm, or persons. The device shall log which user installed the updates and provide a rollback feature to go back to the previous version in the event the update is not compatible with other system elements.
    - At any time that operating software updates are released by the manufacturer, they shall be made available to MaineDOT immediately upon release to the distributor by the manufacturer, including the release notes of the new firmware.
    - Software updates by the manufacturer shall be made available to the MaineDOT for the operating life of the devices at no additional cost to MaineDOT, except as expressly identified in the Contract documents.
    - At any time that operating software updates are released by the manufacturer, whether routine enhancement updates, releases to fix software issues, or a combination of both, it shall be possible for personnel from MaineDOT to update the software on all of its cloud-based systems without any assistance or supervision from any other agency, firm, or persons. The system supplier shall provide phone based technical support to MaineDOT personnel installing software updates.
    - The cloud-based system software shall operate under the Windows™ operating system, current version available at the time of installation. In addition, during the support period, the system supplier shall provide updates to the CMS/CV/SPM software to allow continued operation with a new windows version when the current Windows™ version no longer receives support from Microsoft.
- After system acceptance the manufacturer and supplier shall be responsible for all system operations and maintenance for a period of three years.
- Preserve the CMS/CV/SPM system to operate as designed or mitigate issues when anomalies occur.

- Signal performance measures shall be collected and retained based on a daily time schedule by MaineDOT.
- Respond to alarms, faults and communication issues.
- Prior to system acceptance, the Contractor shall be responsible for all maintenance on the systems.
- The manufacturer and supplier shall warrant the system to be free of defects for a period of one year, except that some system elements shall have a warranty of greater than one year, as shown in these specifications.
- If a unit is found to be defective during this warranty period, it will be the responsibility of the manufacturer and/or representative to assume the cost of shipping the unit to and from the factory, supplying parts and making repairs at no cost to the agencies.
- During the warranty period, the vendor shall provide a unit of the same type to make the intersection operational per the design plans.
- Each piece of equipment shall carry its own individual warranty from the equipment manufacturer and the supplier.
- Standard maintenance practices and standards compliance shall be adhered to as set forth in the contract documents.
- In the absence of a defining standard or code, all work shall be conducted using the highest standards of care and methodology normally associated with the specific activity.

The Contractor/Vendor shall conduct monitoring of the CMS/CV/SPM system operations throughout the length of the maintenance period. In addition to monitoring the Contractor/ Vendor shall implement changes to parameters associated with the CMS/CV/SPM system as approved by MaineDOT.

Note: The Contractor shall staff and provide resources to ensure a maximum twelve (12) hour response time to address signal operational issues identified and communicated by MaineDOT throughout the life on the maintenance period.

The Contractor shall be required to keep records of dates when parameter changes are implemented. These records shall be submitted by the Contractor/ Vendor to MaineDOT. A written copy shall be transmitted to MaineDOT by the first of each month.

The system must come with a minimum five (5) year software maintenance agreement to become effective when the proposed system has been accepted, in writing, by MaineDOT.

Software updates shall be provided free of charge for five (5) years from date of system acceptance. Software corrections or required modifications for proper system operation per these specifications shall be furnished to MaineDOT at no additional cost during the warranty

period.

Hardware equipment shall be warrantied for three (3) years, effective when the proposed system has been accepted in writing by MaineDOT.

Third party hardware and software licenses and warranties shall be passed to MaineDOT.

License Agreement

The suppliers of the CV/SPM shall provide an unlimited software seat license to MaineDOT. If additional systems are installed and connected, any additional software licenses required shall be at the same cost as the remote licenses furnished for the initial project. Suppliers shall attach a copy of its standard Software License Agreement (SLA). The SLA, as negotiated, shall be made a part of the final equipment ordering contract. The licensing arrangement must address access to the system by agencies other than MaineDOT. The supplier shall carry out no work that will infringe on the licensing of third party hardware and software.

System Integration Testing Requirements

Upon completion of work, tests shall be conducted to ensure that the system integration has been performed properly and all requirements described and required as part of this project have been met. This includes all hardware and all software installed as part of this project. All tests shall be conducted in accordance with the approved test procedures developed by the Contractor. The Contractor shall submit test procedures and forms/checklists for review and approval to the Resident and Design Engineers. As part of the system integration testing, the Contractor will be required to verify all system and intersection dynamic graphic displays against observed field conditions. This will require that a person be in the field while another person is at central during this central to field verification of graphic displays and logging data to ensure that what the operator observes at central matches what is actually occurring in the field at each local intersection.

Verification confirms that a system meets all its specified requirements. Validation confirms that a system has achieved all of the operational needs identified in the Concept of Operations. The Contractor will be required to develop and submit a detailed system test plan. This test plan, when approved and executed, must demonstrate that the system achieves all of the operational needs identified in the Concept of Operations, all of the system requirements identified in the System Requirements document, and all of the requirements contained in the project Plans and Specifications. The successful execution of this test plan will therefore meet the requirements for system verification and validation.

The Contractor shall propose testing plans and submit the test plan(s) and procedures as detailed herein to the Resident and Design Engineers for approval prior to testing. Each of the test plans shall contain the following elements:

- Proposed date, time, and location of the testing

- Names of the Contractor personnel who will be conducting the testing
- Descriptive overview of the proposed test procedure
- List of test equipment required to perform the testing
- Test cases and test logging forms which detail every step of the test procedure:

Test logging forms shall be presented in tabular format, with separate columns for each of the following:

- Test case description detailing the test step to be performed.
- Expected result
- Actual result
- Pass/Fail
- Comments

The Contractor shall supply separate test logging forms at the time of testing for each test plan, and for each device location. The test logging forms shall show the device location, date, and the start and end times of the test.

At the end of each test logging form, there shall be signature and date locations for each of the following:

- Contractor personnel conducting the test
- MaineDOT representative witness
- Design Engineer witness

Signatures on the test logging form will signify only that the test was performed and witnessed, not that it passed or failed.

The detailed Test Plans shall be submitted to the Resident Engineer and Design Engineer no later than thirty (30) days prior to the beginning of each test phase.

The Contractor shall have approved test plans prior to submitting a request to schedule the start of any test activities. The Contractor shall notify the Resident and Design Engineers no less than fourteen (14) days prior to the beginning of any equipment or systems testing.

Testing shall provide verification and documentation that all requirements included in the Contract Documents are met. The Test Plans shall be developed by the Contractor to provide a mechanism that ensures that all contract requirements have been tested fully and verified.

If any deviations or changes to the approved Test Plans arise, it shall be resubmitted by the Contractor for review and approval by the Engineer at least fourteen (14) calendar days prior to any planned test activity stage. No tests shall be conducted until the Resident Engineer, Design Engineers have approved the test plan.

A summary of all tests shall be produced at the completion of each testing phase of the project to ensure that all requirements defined by the system are satisfied.

MaineDOT reserves the right to examine and test or retest any or all materials furnished by the Contractor for the project to determine if they meet the requirements specified within the Contract Documents.

If the MaineDOT decides that any material used in the construction of this project is defective or otherwise unsuitable, and the workmanship does not conform to the requirements of this Contract, the Contractor shall replace such defective parts and material at no cost to the Project. The times and dates of the tests shall be approved by the Resident and Design Engineers. The Contractor shall conduct all tests in the presence of the Resident and Design Engineers. Testing shall take place only on weekdays, which are official working days, unless the Resident and Design Engineers allows the test to be conducted and/or continued on weekends and non-working days. The Contractor shall make a request in writing at least fourteen (14) days prior to the proposed testing, and schedule tests only if permission is granted by MaineDOT in writing.

The Contractor shall be responsible for the conduct and documentation of the results of these tests that will be countersigned by the Resident and Design Engineers at the end of each test. The signature of the Engineers implies only proof of presence. Test results shall be packaged and submitted to the Engineers within one week of test completion. No test phase shall begin until all prior test phases have been completed, and test results have been approved by the Engineers.

The Contractor shall utilize vendor supplied or any test specific software for testing, as needed, at no additional cost.

Acceptance Testing

Upon completion of the 7-day testing period, MaineDOT and/or the Engineer shall evaluate system operations. It is expected that the complete system shall operate fully functional for a period of 30 consecutive days without malfunction. Minor malfunctions of inoperability not the fault of the Contractor, as judged by MaineDOT and/or the Engineer, are not included in the 30-day period. If the system fails to operate as intended by this specification the malfunction shall be corrected by the Contractor at its cost and a new 30- day testing period shall begin. This process shall continue until a completely operable system is demonstrated for a consecutive 30-day period.

Acceptance testing must demonstrate to MaineDOT and/or the Engineer’s reasonable satisfaction that the hardware and licensed software function in accordance with the specifications, requirements, functionalities, performance criteria or other benefits stated in documentation, proposals, and/or demonstrations given to MaineDOT.

718.14 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.

For all intersections as part of the project, communications from the cloud-based system to the on-street traffic signal controllers shall be made through the Field Monitoring Unit (FMU) as shown on the plans. The Contractor shall furnish and install all materials necessary for a complete and operational connection 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 CMS/CV/SPM system. All connections shall be encrypted VPN tunnels. The Contractor shall coordinate all configuration settings with MaineDOT IT and the Engineer.

The FMU shall be Applied Information model AI-500-085-02 or approved equal with a documented history of meeting the following requirements while connected to the cloud-based CMS/CV/SPM system.

The Contractor shall be responsible for determining which compatible cellular provider can provide the best network coverage to the shelf mount FMU for remote communications to the CMS and provide the proper SIM card on a per site basis.

The FMU central web based interface shall be a separate element from the CMS/CV/SPM.

The Contractor shall provide sufficient slack cable to the shelf mount FMU harness so the device can be rotated around without having to disconnect the harness.

The Contractor shall procure a high gain antenna for each project location in lieu of the standard FMU petri dish antenna.

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 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 Controller and cabinet faults and or alarms.

2.4 The FMU shall be wired directly to the cabinet.

2.5 The FMU shall contain two individually switchable 120VAC outlets controlled via the cloud-based management software.

2.5.1 The following two devices shall be plugged into the outlets:

2.5.1.1 Non-Invasive detection system

2.5.1.2 C-V2X/DSRC unit

2.6 The FMU shall have an internal cellular modem running at 5G.

2.7 The FMU shall incorporate an integrated GPS and cell modem.

2.8 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.

2.9 The FMU shall be powered via a standard 120V input power.

2.10 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.

2.11 The FMU shall be configured to allow for the remote display and control of the connected traffic signal controller via the FMU manufacturer cloud hosted web-based software. This feature shall not require the end user to create a separate VPN connection to the FMU.

2.12 The FMU shall be configured to provide access to view the detection system, including the video image of each approach, via the FMU web-based software. This feature shall not require the end user to create a separate VPN connection to the FMU.

2.13 The FMU shall perform a load test of the connected Battery Backup System (BBS) batteries on a scheduled or on demand basis (if applicable).

2.14 The FMU shall include web services built into the FMU manufacturer cloud hosted web-based software to allow the installation of 3rd party software programs and the software programmed hosted at no additional charge.

2.15 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.

2.16 The FMU shall incorporate an integrated GPS which will allow the FMU to geo-locate itself on the FMU management software map, without configuration.

2.17 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.

2.18 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.

2.19 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.

2.20 The FMU shall include Ethernet communications via an Ethernet Port with RJ45 connector.

2.21 The FMU shall include weather proof high gain 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 identify, 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 Remote Front Panel of the connected traffic signal controller

8.1.7 SPaT message broadcast to mobile device application

8.1.8 The FMU shall be configured for SPaT data.

8.1.9 The FMU shall be supplied with the unlimited video/data streaming service.

8.1.10 The FMU shall be configured with Traffic Signal Controller remote front panel access.

8.1.11 The FMU shall be configured to supply streaming video from the detection system.

8.1.12 At the time of the shop drawing submittal, Contractor shall supply a detailed list of available FMU functions for the agency consideration

8.1.13 Future Connected Vehicles Service

718.15 Emergency Vehicle Preemption System The emergency vehicle preemption systems shall be installed in the same ATCC as the ATC.

The emergency vehicle preemption control systems shall consist of a data-encoded phase selector to be installed within the ATCC. Those units will serve to validate, identify, classify, and record the signal from the optical detectors located on support structures at the intersections. Upon receiving a valid signal from the detectors, the phase selectors shall generate a preempt call to the ATC initiating preemption operations as shown on the plans. The phase selectors shall have full ID and logging capabilities and be a rack-mounted plug-in four channel, dual priority devices. Programming the phase selectors shall be via a PC-based computer utilizing unit specific software as well as the cloud-based CMS. One copy of the software shall be supplied and licensed to MaineDOT. A hard copy of final programming data shall be left in the control cabinets. The Contractor shall supply a complete set of interface cables for phase selector to laptop connection in each controller cabinet. The phase selectors shall be connected to the Ethernet Switch and/or the FMU in each ATCC, as shown in the Plans, such that the phase selector event/system logs and unit/device configuration can be remotely accessed through the secure communications system. The Contractor shall supply and install any required converters, cables, device servers or other devices, to interface the phase selector to the Ethernet switch in each cabinet. No additional hardware, software items and/or subscription fees/costs shall be needed/allowed to satisfy the requirements as defined in these specifications.

The optical detectors shall be single input, single output units used to control one approach. All traffic signal installations shall be supplied with a single optical detector for each approach to the intersection unless otherwise noted in the major items list or as shown on the plans.

The Contractor shall install the quantity of confirmation strobes at each traffic signal location as shown in the plans or as directed by the Engineer. The confirmation strobe shall serve to validate to the driver of the emergency vehicle that the traffic signal has recognized the preemption call and will initiate the proper preemption sequence. The confirmation strobe shall be illuminated whenever any emergency vehicle preemption green is on. The confirmation strobe shall be a red lens Whelan model 1500 or approved equivalent.

The Contractor shall be responsible for the proper programming of the phase selector, orientation of the optical detectors, and all other work necessary to provide a complete and operating emergency vehicle preemption system. The Contractor may be required to field adjust the location of the optical detectors in the presence of the Engineer and the municipal Fire Department to properly detect preemption calls from approaching vehicles.

The emergency vehicle preemption installed under this project shall be functionally compatible with the proposed traffic signal control system and allow CMS based remote access to the phase selectors via FMU and/or Ethernet switch by secure VPN connection. In addition, the system shall be configured such that preemption or priority control can be initiated through the Dedicated Short-Range Communications (DSRC)/4GLTE – 5G Roadside Unit (RSU) by means of an approaching authorized vehicle with an On-Board Unit (OBU).

718.16 Pedestrian Crossing System Pedestrian crossings must have 16-inch by 18-inch countdown pedestrian signals that count down during the pedestrian clearance interval. The pedestrian countdown modules shall be GE Lumination GT1 Series in 16 inch – McCain Model 1000 Series housings (exterior finish per Special Provision 643) or approved equal.

The Accessible Pedestrian Signal (APS) push buttons with locator tones shall be at a minimum Campbell Company Advisor Model A915 or approved equal. Signs shall be posted at each audible signal push button stating which street may be crossed based upon the related push button. Where APS are proposed to be separated by a distance of at least 10 feet and in accordance with Section 4E.11.07 of the Manual on Uniform Traffic Control Devices (MUTCD), the audible walk indication shall be a percussive tone. When using Campbell buttons, MaineDOT has selected "Perc EW 30" for east/west concurrent PED crossings and "Perc NS 70" for north/south PED crossings.

If field modifications dictate that buttons be moved to the same pole or are separated by less than 10 feet, audible walk interval messages should be used as follows:

- For locations with concurrent pedestrian phases – for example "Main Street, Walk sign is on to cross." The name of the street to cross at locations with concurrent pedestrian phases will change at each audible push button.

The audible push button identification information messages used during the non-walk phases should be as follows:

- For locations with concurrent pedestrian phases – for example "Wait to cross Main Street."

All controllers are to be set so that a pedestrian actuation does not knock the intersection out of coordination.

SPECIAL PROVISION
SECTION 801
TEST PITS
(Test Pits)

The provisions of Section 801 (outlined below) shall be added to the Standard Specifications.

801.01 Description:

This work shall consist of excavating and back-filling test holes to locate existing utilities at locations shown on the plans or as directed by the Resident. Only one test pit payment per specific site will be made.

801.02 Construction Requirements:

The work shall be done in a manner that provides safe passage of the traveling public (vehicles and pedestrians) at all times. Coordination with utilities is required before and during test pit activities. An authorized representative from the utility shall be present during the test pit activity. Test pits shall be completed without damaging any utilities. Any damage to utilities or other roadway features by the test pit operations shall be repaired by the Contractor at no additional cost and shall be to the Resident's satisfaction.

The Contractor shall GPS locate the utility once exposed.

Once the location work is complete, the Contractor shall backfill the hole, place gravel and pavement over the test pits in a manner consistent with the existing conditions and in accordance with the standard specifications for backfilling.

801.03 Method of Measurement:

Item 801.03, Test Pits, will be measured for payment by Each, complete in place, and accepted.

801.04 Basis of Payment:

Item 801.03, Test Pits, shall be paid for at the contract unit price per each, which shall constitute full compensation for all excavation, dewatering, backfill, and compaction at the locations shown on the plans, as well as for 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:

Pay Item	Description	Pay Unit
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	703.02 for class AA
Stone PVC Pipes & Fittings 4 in.	ASTM D3034 (SDR 35)

Construction Requirements

Excavation Trenches shall be excavated in accordance with the requirements of Section 206 - Structural Excavation and wide enough to allow joining the pipe and compacting the bedding and backfill material under and around the pipe. Unless otherwise designated, trench walls shall be as nearly vertical as possible and the trench width no greater than necessary for installation of the pipe.

Bedding The inspection standpipe and pipe line shall be bedded in original material.

Laying The Contractor shall not install nor backfill cellar drain inspection standpipes between December 15th and April 1st without written permission. Installing shall begin at the downhill end of the cellar drain line. Bell or groove ends shall be placed facing uphill.

Joining The pipe ends shall be thoroughly cleaned before the joint is made. Joints shall be made in accordance with the manufacturer's recommended procedures.

Backfilling After the inspection standpipe and pipe are installed, it will be inspected before any backfill material is placed. All pipe found to be out of alignment, unduly settled or damaged to the extent that full performance is impaired, shall be taken up and re-laid or replaced. One bag of concrete mix shall be installed around the foot of the standpipe, placement as per manufacturer’s recommendations.

Trenches shall be backfilled in accordance with Section 206.03 and as follows. The backfill shall be original excavation in 12 in. maximum lifts and shall be thoroughly compacted with power tampers or vibratory compactors or other approved equipment or combination of equipment.

Method of Measurement PVC pipe will be measured by the length in 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.

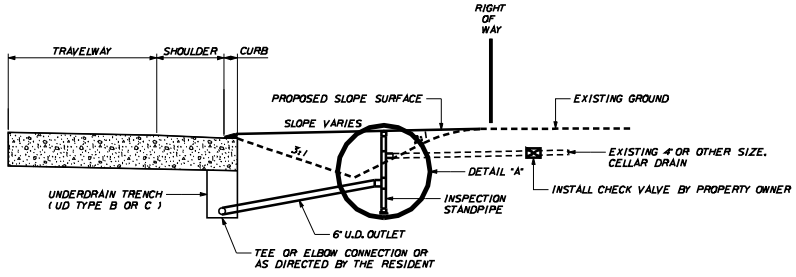
Basis of Payment The accepted quantities of pipe will be paid for at the contract unit price per meter [linear foot], for the types and sizes specified, complete in place and shall be full compensation for all labor, materials, equipment, excavation, dewatering, bedding, furnishing and installing pipe, removal and disposal of existing pipes, connecting to manholes, connecting to existing cellar drain, concrete footing, backfill, compacting, cleaning, testing, maintaining existing flows, and all other incidental required.

No payment will be made for pipe ordered without written approval of the Resident when such pipe is not required to be installed for completion of the work.

Payment will be made under:

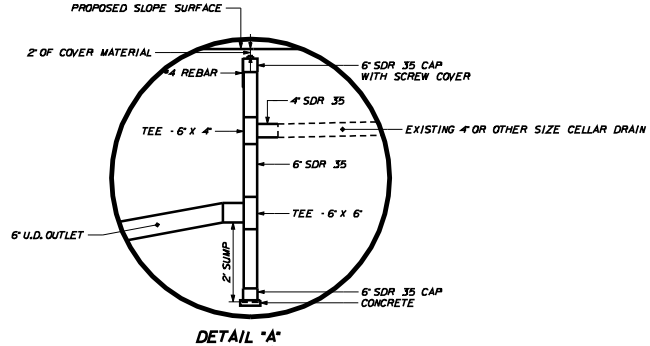
Pay Item		Pay Unit
801.141	4 in. PVC Sanitary Sewer (SDR-35)	Linear Foot
801.16	6 in. PVC Sanitary Sewer (SDR-35)	Linear Foot

CELLAR DRAIN CONNECTION DETAIL: UNDERDRAIN SECTION



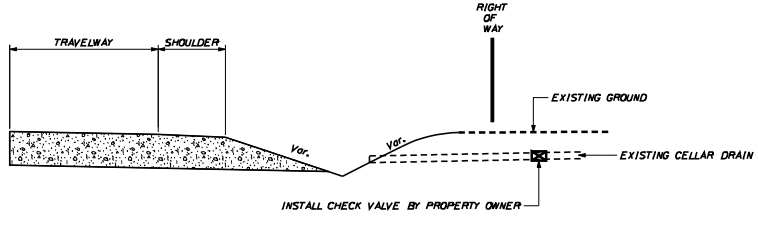
NOTES

1. PAYMENT FOR CONNECTION FROM THE INSPECTION STANDPIPE TO THE PROPOSED UNDERDRAIN SYSTEM SHALL BE A 150mm UNDERDRAIN OUTLET. ITEM NO. 605.10. OR AS DIRECTED BY THE RESIDENT.
2. INSPECTION STANDPIPE SHALL HAVE A SOLID COVER AND BE INSTALLED WITHIN THE STATE'S RIGHT OF WAY.
3. A CHECK VALVE TO PREVENT BACK FLOW TO PROPERTY MAY BE INSTALLED. CHECK VALVE SHOULD BE INSTALLED AT THE UPSTREAM SIDE OF THE INSPECTION STANDPIPE AND OUTSIDE OF THE STATE'S RIGHT OF WAY. INSTALLATION OF CHECK VALVE SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER
4. PAYMENT FOR CONNECTION OF THE EXISTING CELLAR DRAIN TO THE INSPECTION STANDPIPE SHALL BE INCIDENTAL TO THE ITEM NO. 801.141 OR 801.16.
5. THE STATION LOCATIONS MAY BE CHANGED TO FIT FIELD CONDITIONS, AS DIRECTED BY THE RESIDENT.
6. A 3' LENGTH OF #4 REBAR SHALL BE PLACED ADJACENT TO STANDPIPE AND FLUSH WITH CAP. INSTALLATION OF THE REBAR AND THE CONCRETE FOOTING SHALL BE INCIDENTAL TO ITEM NO. 801.141 OR 801.16.
7. INVERTS AND SLOPES OF PIPES SHALL BE INSTALLED AS DIRECTED BY THE RESIDENT IN THE FIELD.



DETAIL "A"
INSPECTION STANDPIPE

CELLAR DRAIN CONNECTION DETAIL: DITCH SECTION



NOTES

1. A CHECK VALVE TO PREVENT BACK FLOW TO PROPERTY MAY BE INSTALLED. CHECK VALVE SHOULD BE INSTALLED OUTSIDE OF THE STATE'S RIGHT OF WAY. INSTALLATION OF OPTIONAL CHECK VALVE SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
2. PAYMENT FOR CONNECTION FROM EXISTING CELLAR DRAIN TO DRAINAGE DITCH SHALL BE 150mm UNDERDRAIN OUTLET PIPE. ITEM NO. 605.10. OR AS DIRECTED BY THE RESIDENT.
3. THE STATION LOCATIONS MAY BE CHANGED TO FIT FIELD CONDITIONS, AS DIRECTED BY THE RESIDENT.
4. INVERTS AND SLOPES OF PIPES SHALL BE INSTALLED AS DIRECTED BY THE RESIDENT IN THE FIELD.

PROJECT DESIGN ENGINEER		BY	DATE
DESIGN DETAILED	J. MINZER	M. ADAMS, J.R.	FEB. 2008
CHECKED	-----	-----	-----
PLANS REVISIONS	-----	-----	-----
FIELD CHANGES			

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CELLAR DRAIN DETAIL

NOT TO SCALE

SHEET 1 OF 1 AUGUSTA, MAINE

Filename: ...\008_Typical_Cellar Drain Details.dgn Division: HIGHWAY Username: Rhobe.Moulton Date:2/21/2013

SPECIAL PROVISION
SECTION 841
BOLLARDS
(Steel Bollard, 6 Inch)

The provisions of Section 841 (outlined below) shall be added to the Standard Specifications.

841.01 Description:

This work shall consist of furnishing and installing 6”- diameter steel tube bollards at the locations indicated on the plans. Steel bollards shall be precast in concrete, with a minimum of 6” provided outside the steel tube. Steel tubes shall be 84” tall (min.) with an exposed height of 42”; the exposed portion shall be painted yellow. Steel tubes shall be filled and capped with concrete. All earthwork, excavation, and compacted backfill shall be incidental to the bollard.

The contractor shall submit shop drawings to the Resident for approval prior to ordering the materials.

841.02 Construction:

Steel bollards shall be spaced and located as shown on the plans. Any proposed changes to the bollard locations must be approved by the Resident in advance.

841.03 Method of Measurement:

Item 841.4712, Steel Bollard, 6 Inch, shall be measured by each bollard complete-in-place and accepted.

841.04 Basis of Payment:

The accepted quantity for Steel Bollard, 6 Inch will be paid for at the contract unit price for each bollard, complete-in-place and accepted. Such payment will be full compensation for all labor, materials, excavation, backfill, tools, associated hardware, and any other incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Description	Pay Unit
841.4712	Steel Bollard, 6 Inch	Each

SPECIAL PROVISION
SECTION 890
RECREATIONAL
(Bike Racks)

The provisions of Section 890 (outlined below) shall be added to the Standard Specifications.

890.01 Description:

This work consists of purchasing and installing bike racks in accordance with the plans and details, as well as the manufacturer's instructions and requirements.

890.02 Materials:

Concrete for the slab shall be Class A. Strength testing of the concrete is not necessary for this item.

Volume 3 – Riverside Avenue & William Oscar Emery Drive:
The bike racks shall be Street Life's "Solid Bike Parking" or an approved equal. The bike racks shall be galvanized steel with a hardwood beam in untreated FSC 100% Cumaru Hardwood, unless otherwise approved by the Resident. The Contractor shall submit shop drawings to the Resident for approval prior to purchasing any materials.

The bike racks shall be surface-mounted to a 4" concrete slab with a 12" subbase gravel pad as noted in the details of this plan. The concrete pad and subbase materials will be paid for separately under item 608.08, Reinforced Concrete Sidewalk, and applicable 304 items.

Volume 4 – Emerson Street Parking Facility:
The bike racks shall be Streetlife: Vestre Vroom Bike Rack – Small, Casting in the Ground (Product # 686C), or approved equal. The bike racks shall be powder-coated aluminum, graphite grey (RAL 702), unless otherwise approved by the Resident. The Contractor shall submit shop drawings to the Resident for approval prior to purchasing any materials.

The bike racks shall be subsurface-mounted to a 4" concrete slab as noted in the details of this plan.
The concrete pad and subbase materials will be paid for separately under item 608.08, Reinforced Concrete Sidewalk, and applicable 304 items.

890.03 Method of Measurement:

Item 890.07, Bike Racks, shall be measured by each bike rack complete-in-place and accepted.

Item 890.08, Remove and Reset Bike Rack, shall be measured by Each bike rack complete-in-place and accepted.

890.04 Basis of Payment:

The accepted quantity for Bike Racks and Remove and Reset Bike Rack will be paid for at the contract unit price for each bike rack, complete-in-place and accepted. Such payment will be full compensation for furnishing and installing each bike rack, as well as removing the existing bike rack and installing it on a new foundation, including all labor, tools, equipment, tamper-proof hardware, and other incidentals necessary to complete the work.

Installation of the concrete pavers over the concrete pad (Volume 4 only) and around the bike racks will be paid for under the applicable 608 items.

Payment will be made under:

Pay Item	Description	Pay Unit
890.07	Bike Racks	Each
890.08	Bike Rack - Remove and Reset	Each

September 9, 2026
Replaces August 27, 2026

SUPPLEMENTAL SPECIFICATIONS
(Corrections, Additions, & Revisions to Standard Specifications – March 2026)

Throughout the entire Document; Replace "AASHTO NTPEP" with "**AASHTO Product Evaluation and Audit Solutions**"

DIVISION 100

GENERAL CONDITIONS

100.1 In the first sentence, replace "2025" with "2026"

so that it says" …. **This 2026 edition**…"

101.2 Under the definition of Standard Specifications remove the phrase "Revision of 2020".

104.5.4 In front of "Prompt Payment of Subcontractors" place the subsection number "**104.5.5**".

At the end of the paragraph starting with "**Payment Tracking Federal Projects**" add the sentence " **Contractors and Subcontractors shall acknowledge Payments within 30 Days.**"

APPENDIX A TO DIVISION 100

A-18 Starting on page A-18, Replace Section 1273 in the appendix with the current version dated June 25, 2026.

SECTION 201

STRUCTURAL EXCAVATION

201.24 Under 'Pay Item' add

201.24	**Removing Stump**	**Each**

SECTION 524

TEMPORARY STRUCTURAL SUPPORTS

524.06 Basis of Payment, in the item chart change the description of Item Number 524.301 from "Temporary Structural Support, Approaches" To "**Temporary Structural Support, _____**"

SECTION 639

ENGINEERING FACILITIES

639.01 Subsection 639.091 of the standard specification is deleted and replaced with the following:

"639.092 **Communication Services** The Contractor shall provide a secure, high-speed internet connection for the exclusive use of State personnel within the field office. The connection must remain active and functional for the entire duration of the project.

A. Performance Requirements:

- **Bandwidth:** The connection must deliver a minimum continuous download speed of **25 Mbps** and a minimum upload speed of **5 Mbps** per field office. For construction contracts over $10 million, the minimum download speed shall scale to **50 Mbps**.
- **Latency:** The network latency must not exceed **80 milliseconds** round-trip to ensure stable connection to State VPN environments.
- **Data Allowance:** The service plan must include unlimited data, or a business-tier data allowance of no less than **200 GB per month per user**. Data throttling below the minimum required bandwidth speeds is prohibited.

B. **Acceptable Technologies:**

The Contractor may utilize any commercially available broadband technology that meets the performance requirements of Section A, including but not limited to:

- Cable or Fiber-optic broadband
- Fixed Wireless Access (FWA) or 4G LTE/5G Cellular Routers
- Low Earth Orbit (LEO) Satellite Systems (e.g., Starlink Business)

Traditional Geostationary (GEO) satellite internet systems (characterized by latencies exceeding 200 milliseconds) are explicitly prohibited unless a specific geographic exception is approved in writing by the Resident Engineer.

C. Hardware and Security:

- The Contractor shall supply a commercial-grade Wi-Fi router capable of supporting Wi-Fi 6 (802.11ax) standards.
- The field office network must be protected by a secure, unique WPA3 (or WPA2-Enterprise) password provided only to State personnel. A separate "guest" network must be configured if the Contractor's personnel share the physical connection.

  The Contractor shall be responsible for the installation charges and all reinstallation charges following suspended periods. Monthly service and maintenance charges shall be billed by the Communication Service Provider (CSP) directly to the Contractor.

D. Waiver of Performance Requirements:

In locations where commercially available communication services are unable to meet one or more of the performance requirements specified in Section A, the Contractor may submit a written request to the Department for a waiver of the affected requirement(s). The request shall identify the requirement(s) that cannot be met, document the communication technologies reasonably available at the project location, and demonstrate that the proposed service represents the highest level of performance commercially available.

SECTION 643

TRAFFIC SIGNALS

643.19 Under 'Pay Item' replace

643.83	Non-Invasive Detection – Stop Bar	Each
643.84	Non-Invasive Detection – Advance	Each

With the following:

643.83	**Video Detection System**	**Lump Sum**
643.84	**Interconnect Wire Between**	**Lump Sum**

SECTION 652

MAINTENANCE OF TRAFFIC

652.2 Materials. Revise the second paragraph beginning with " All signs shall be…" by adding the word "cones" to the second sentence so it reads in part

"All barricades**, cones,** drums, and vertical panel markers shall be …"

652.8.2 Revise the last paragraph beginning with " There will be no payment…" by adding the following to the end:

"**There will be no payment for Maintenance of Traffic Control Devices during approved Contractor Requested Suspensions; The Contractor shall be responsible for maintaining all traffic control devices left in place during the suspension.**"

APPENDIX A TO DIVISION 100

SECTION 1 - BIDDING PROVISIONS

A. Federally Required Certifications By signing and delivering a Bid, the Bidder certifies as provided in all certifications set forth in this Appendix A - Federal Contract Provisions Supplement including:

- Certification Regarding No Kickbacks to Procure Contract as provided on this page 1 below.
- Certification Regarding Non-collusion as provided on page 1 below.
- Certification Regarding Non-segregated Facilities as provided by FHWA Form 1273, section III set forth on page 21 below.
- "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion" as provided by FHWA Form 1273, section XI set forth on page 32 below.
- "Certification Regarding Use of Contract Funds for Lobbying" as provided by FHWA Form 1273, section XII set forth on page 35 below.

Unless otherwise provided below, the term "Bidder", for the purposes of these certifications, includes the Bidder, its principals, and the person(s) signing the Bid. Upon execution of the Contract, the Bidder (then called the Contractor) will again make all the certifications indicated in this paragraph above.

CERTIFICATION REGARDING NO KICKBACKS TO PROCURE CONTRACT Except expressly stated by the Bidder on sheets submitted with the Bid (if any), the Bidder hereby certifies, to the best of its knowledge and belief, that it has not:

(A) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other then a bona fide employee working solely for me) to solicit or secure this contract;

(B) agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out the contract, or;

C) paid, or agreed to pay, to any firm, organization, or person (other than a bona fide employee working solely for me) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the contract;

By signing and submitting a Bid, the Bidder acknowledges that this certification is to be furnished to the Maine Department of Transportation and the Federal Highway Administration, U.S. Department of Transportation in connection with this contract in anticipation of federal aid highway funds and is subject to applicable state and federal laws, both criminal and civil.

CERTIFICATION REGARDING NONCOLLUSION Under penalty of perjury as provided by federal law (28 U.S.C. §1746), the Bidder hereby certifies, to the best of its knowledge and belief, that:

the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with the Contract.

For a related provisions, see Section 102.7.2 (C) of the Standard Specifications - "Effects of Signing and Delivery of Bids" - "Certifications", Section 3 of this Appendix A entitled "Other Federal Requirements" including section XI - "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion" and section XII. - "Certification Regarding Use of Contract Funds for Lobbying."

****

B. Bid Rigging Hotline To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

****

SECTION 2 - FEDERAL EEO AND CIVIL RIGHTS REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 2 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Nondiscrimination & Civil Rights - Title VI The Contractor and its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Department deems appropriate. The Contractor and subcontractors shall comply with Title VI of the Civil Rights Act of 1964, as amended, and with all State of Maine and other Federal Civil Rights laws.

For related provisions, see Subsection B - "Nondiscrimination and Affirmative Action - Executive Order 11246" of this Section 2 and Section 3 - Other Federal Requirements of this "Federal Contract Provisions Supplement" including section II - "Nondiscrimination" of the "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273.

B. Nondiscrimination and Affirmative Action - Executive Order 11246 Pursuant to Executive Order 11246, which was issued by President Johnson in 1965 and amended in 1967 and 1978, this Contract provides as follows.

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be

based upon its efforts to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

Ensure and maintain a working environment free of harassment, intimidations, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all forepersons, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and to maintain a record of the organization's responses.

Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

Provide immediate written notification to the Department's Civil Rights Office when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Design-Builder's efforts to meet its obligations.

Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under B above.

Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligation; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring,

assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Forepersons, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractor's and Subcontractors with whom the Contractor does or anticipates doing business.

Direct its recruitment efforts, both orally and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later that one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above describing the openings, screenings, procedures, and test to be used in the selection process.

Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth, both on the site and in other areas of a Contractor's workforce.

Validate all tests and other selection requirements.

Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractor's and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.

Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

C. Goals for Employment of Women and Minorities Per Executive Order 11246, craft tradesperson goals are 6.9% women and .5% minorities employed. However, goals may be adjusted upward at the mutual agreement of the Contractor and the Department. Calculation of these percentages shall not include On-the-Job Training Program trainees, and shall not include clerical or field clerk position employees.

For a more complete presentation of requirements for such Goals, see the federally required document "Goals for Employment of Females and Minorities" set forth in the next 6 pages below.

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Start of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

§60-4.2 Solicitations

(d) The following notice shall be included in, and shall be part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of $10,000 to be performed in geographical areas designated by the Director pursuant to §60-4.6 of this part (see 41 CFR 60-4.2(a)):

Notice of Requirement for Affirmative Action to Ensure Equal Opportunity (Executive Order 11246)

1. The Offeror's or bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

Goals for female participation in each trade 6.9%

Goals for minority participation for each trade
Maine
001 Bangor, ME 0.8%
Non-SMSA Counties (Aroostook, Hancock, Penobscot, Piscataquis, Waldo, Washington)

002 Portland-Lewiston, ME
SMSA Counties: 4243 Lewiston-Auburn, ME 0.5%
(Androscoggin)

6403 Portland, ME 0.6%
(Cumberland, Sagadahoc)

Non-SMSA Counties: 0.5%
(Franklin, Kennebec, Knox, Lincoln, Oxford, Somerset, York)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be in violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor, estimated dollar amount of the subcontract; estimated started and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the Contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:

   a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

   b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;

   c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department form 941;

   d. "Minority" includes:
      (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of the North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor, is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors for Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a. through p. of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical areas where the work is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specific.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant, thereto.

6. In order for the non working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the

apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as expensive as the following:

   a. Ensure and maintain a working environment free of harassment, intimidation, coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, when possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

   b. Establish and maintain a current list of minority and female recruitment sources provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.

   c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment sources or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

   d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

   e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.

   f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific

review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment, efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing prior to the date for the acceptance of applications for apprenticeship or the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on site and in other areas of a Contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of

solicitation to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7 a through p.). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7 a through p. of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program and reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions take on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both make and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, specific minority group of women is underutilized.)

10. The Contractor shall not use the goals and timetables or affirmative action even through the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementation regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the

requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.6.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location sat which the work was performed. Records be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

End of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

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D. Section '**D Disadvantaged Business Enterprise (DBE) Requirements**' is removed in its entirety. The DBE material is in:

Section 105.10 EQUAL OPPORTUNITY AND CIVIL RIGHTS.

SECTION 3 - OTHER FEDERAL REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 3 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Buy America

If the cost of products purchased for permanent use in this project which are manufactured of steel, iron or the application of any coating to products of these materials exceeds 0.1 percent of the contract amount, or $2,500.00, whichever is greater, the products shall have been manufactured and the coating applied in the United States. The coating materials are not subject to this clause, only the application of the coating. In computing that amount, only the cost of the product and coating application cost will be included.

Ore, for the manufacture of steel or iron, may be from outside the United States; however, all other manufacturing processes of steel or iron must be in the United States to qualify as having been manufactured in the United States.

United States includes the 50 United States and any place subject to the jurisdiction thereof.

Products of steel include, but are not limited to, such products as structural steel, piles, guardrail, steel culverts, reinforcing steel, structural plate and steel supports for signs, luminaries and signals.

Products of iron include, but are not limited to, such products as cast iron grates.

Application of coatings include, but are not limited to, such applications as epoxy, galvanized and paint.

To assure compliance with this section, the Contractor shall submit a certification letter on its letterhead to the Department stating the following:

> "This is to certify that products made of steel, iron or the application of any coating to products of these materials whose costs are in excess of $2,500.00 or 0.1 percent of the original contract amount, whichever is greater, were manufactured and the coating, if one was required, was applied in the United States."

B. Materials

a. Convict Produced Materials References: 23 U.S.C. 114(b)(2), 23 CFR 635.417

Applicability: FHWA's prohibition against the use of convict material only applies to Federal-aid highways. Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if: 1) such materials have been produced by convicts who are on parole, supervised release, or probation from a prison; or 2) such material has been produced in a qualified prison facility, e.g., prison industry, with the amount produced during any 12-month period, for use in Federal-aid projects, not exceeding the amount produced, for such use, during the 12-month period ending July 1, 1987.

Materials obtained from prison facilities (e.g., prison industries) are subject to the same requirements for Federal-aid participation that are imposed upon materials acquired from other sources. Materials manufactured or produced by convict labor will be given no preferential treatment.

The preferred method of obtaining materials for a project is through normal contracting procedures which require the contractor to furnish all materials to be incorporated in the work. The contractor selects the source, public or private, from which the materials are to be obtained (23 CFR 635.407). Prison industries are prohibited from bidding on projects directly (23 CFR 635.112e), but may act as material supplier to construction contractors.

Prison materials may also be approved as State-furnished material. However, since public agencies may not bid in competition with private firms, direct acquisition of materials from a prison industry for use as State-furnished material is subject to a public interest finding with the Division Administrator's concurrence (23 CFR 635.407d). Selection of materials produced by convict labor as State-furnished materials for mandatory use should be cleared prior to the submittal of the Plans Specifications & Estimates (PS&E).

b. Patented/Proprietary Products References: 23 U.S.C. 112, 23 CFR 635.411

FHWA will not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

- the item is purchased or obtained through competitive bidding with equally suitable unpatented items,
- the STA certifies either that the proprietary or patented item is essential for synchronization with the existing highway facilities or that no equally suitable alternative exists, or
- the item is used for research or for a special type of construction on relatively short sections of road for experimental purposes. States should follow FHWA's procedures for "Construction Projects Incorporating Experimental Features" (expermnt.htm) for the submittal of work plans and evaluations.

The primary purpose of the policy is to have competition in selection of materials and allow for development of new materials and products. The policy further permits materials and products that are judged equal may be bid under generic specifications. If only patented or proprietary products are acceptable, they shall be bid as alternatives with all, or at least a reasonable number of, acceptable materials or products listed; and the Division Administrator may approve a single source if it can be found that its utilization is in the public interest.

Trade names are generally the key to identifying patented or proprietary materials. Trade name examples include 3M, Corten, etc. Generally, products identified by their brand or trade name are not to be specified without an "or equal" phrase, and, if trade names are used, all, or at least a reasonable number of acceptable "equal" materials or products should be listed. The licensing of several suppliers to produce a product does not change the fact that it is a single product and should not be specified to the exclusion of other equally suitable products.

c. State Preference References: 23 U.S.C. 112, 23 CFR 635.409

Materials produced within Maine shall not be favored to the exclusion of comparable materials produced outside of Maine. State preference clauses give particular advantage to the designated source and thus restrict competition. Therefore, State preference provisions shall not be used on any Federal-aid construction projects.

This policy also applies to State preference actions against materials of foreign origin, except as otherwise permitted by Federal law. Thus, States cannot give preference to in-State material sources over foreign material sources. Under the Buy America provisions, the States are permitted to expand the Buy America restrictions provided that the STA is legally authorized under State law to impose more stringent requirements.

d. State Owned/Furnished/Designated Materials References: 23 U.S.C. 112, 23 CFR 635.407

Current FHWA policy requires that the contractor must furnish all materials to be incorporated in the work, and the contractor shall be permitted to select the sources from which the materials are to be obtained. Exceptions to this requirement may be made when there is a definite finding, by MaineDOT and concurred in by Federal Highway Administration's (FHWA) Division Administrator, that it is in the public interest to require the contractor to use materials furnished by the MaineDOT or from sources designated by MaineDOT. The exception policy can best be understood by separating State-furnished materials into the categories of manufactured materials and local natural materials.

Manufactured Materials When the use of State-furnished manufactured materials is approved based on a public interest finding, such use must be made mandatory. The optional use of State-furnished manufactured materials is in violation of our policy prohibiting public agencies from competing with private firms. Manufactured materials to be furnished by MaineDOT must be acquired through competitive bidding, unless there is a public interest finding for another method, and concurred in by FHWA's Division Administrator.

Local Natural Materials When MaineDOT owns or controls a local natural materials source such as a borrow pit or a stockpile of salvaged pavement material, etc., the materials may be designated for either optional or mandatory use; however, mandatory use will require a public interest finding (PIF) and FHWA's Division Administrator's concurrence.

In order to permit prospective bidders to properly prepare their bids, the location, cost, and any conditions to be met for obtaining materials that are made available to the contractor shall be stated in the bidding documents.

Mandatory Disposal Sites Normally, the disposal site for surplus excavated materials is to be of the contractor's choosing; although, an optional site(s) may be shown in the contract provisions. A mandatory site shall be specified when there is a finding by MaineDOT, with the concurrence of the Division Administrator, that such placement is the most economical or that the environment would be substantially enhanced without excessive cost. Discussion of the mandatory use of a disposal site in the environmental document may serve as the basis for the public interest finding.

Summarizing FHWA policy for the mandatory use of borrow or disposal sites:

- mandatory use of either requires a public interest finding and FHWA's Division Administrator's concurrence,
- mandatory use of either may be based on environmental consideration where the environment will be substantially enhanced without excessive additional cost, and
- where the use is based on environmental considerations, the discussion in the environmental document may be used as the basis for the public interest finding.

Factors to justify a public interest finding should include such items as cost effectiveness, system integrity, and local shortages of material.

C. Standard FHWA Contract Provisions - FHWA 1273

Unless expressly otherwise provided in the Bid Documents, the following "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273, are hereby incorporated into the Bid Documents and Contract.

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Cargo Preference Act : Contractor and Subcontractor Clauses. "Use of United States-flag vessels: The contractor 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."(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 (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590."(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract."(Reorganization Plans No. 21 of 1950 (64 Stat. 1273) and No. 7 of 1961 (75 Stat. 840) as amended by Pub. L. 91-469 (84 Stat. 1036) and Department of Commerce Organization Order 10-8 (38 FR 19707, July 23, 1973)) [42 FR 57126, Nov. 1, 1977]

The Cargo Preference Act requirements apply to materials or equipment that are acquired for a specific Federal-aid highway project. In general, the requirements are not applicable to goods or materials that come into inventories independent of an FHWA funded-contract. For example, the requirements would not apply to shipments of Portland cement, asphalt cement, or aggregates, as industry suppliers and contractors use these materials to replenish existing inventories. In general, most of the materials used for highway construction originate from existing inventories and are not acquired solely for a specific Federal-aid project. However, if materials or equipment are acquired solely for a Federal-aid project, then the Cargo Preference Act requirements apply."

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CONTRACT PROVISIONS FOR FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Davis-Bacon and Related Act Provisions
IV. Contract Work Hours and Safety Standards Act Provisions
V. Subletting or Assigning the Contract
VI. Safety: Accident Prevention
VII. False Statements Concerning Highway Projects
VIII. Implementation of Clean Air Act and Federal Water Pollution Control Act
IX. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
X. Certification Regarding Use of Contract Funds for Lobbying
XI. 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. Historically, contracting agencies using Federal-aid highway funds were required to ensure Form FHWA-1273 was physically incorporated into all contracts and subcontracts. Effective June 10, 2026, this requirement was eliminated [91 FR 25492]. Future use of Form FHWA-1273 is now optional on the part of the contracting agency using Federal-aid highway funds. FHWA continues to make Form FHWA-1273 available as a convenience to contracting agencies. Contracting agencies must continue to ensure compliance with the provisions cited in Form FHWA-1273 in accordance with the provisions regardless of the use of Form FHWA-1273. Accordingly, the contracting agency retains the authority to determine whether the contractor must use Form FHWA-1273 to physically incorporate required contract provisions in each subcontract and in lower tier contracts. Where permitted by the contracting agency, the contractor may choose other ways to include required contract provisions in each subcontract, besides incorporating Form FHWA-1273. Contract provisions in Form FHWA-1273 are not required to be physically included in subcontracts for design services on Federal-aid design-build contracts, or in purchase orders, rental agreements and other agreements for supplies or services.

The applicable provisions 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 or 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.

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 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

The contractor and all subcontractors must comply with the following policies: 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, including any amendments thereto.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with 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, including any amendments thereto.

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.

1. Assurances Required:

a. The requirements of 49 CFR Part 26, including any amendments thereto, 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, including any amendments thereto, 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, including any amendments thereto, are incorporated by reference. 49 CFR Part 21.

III. 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. 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, 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 IV, 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 reprocurement 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/WHD/legacy/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 29 CFR part 30, including any amendments thereto.

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 III. 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 in any subcontracts the clauses set forth in paragraphs (1) through (11) of this section, 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.

IV. 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.

* $33 as of January 15, 2025 (See 90 FR 1859) 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 III 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 reprocurement 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.

V. 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 this section 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 this section 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).

VI. 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).

VII. 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."

VIII. 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.

IX. 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.

* * * * *

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 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).

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.

* * * * *

X. 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.

XI. 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 (40 U.S.C. sections 14501(d) and 14701 and the Appalachian Regional Commission Code as authorized under 40 U.S.C. section 14302)
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 40 U.S.C. 14501 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 US.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
Dale F. Doughty, Commissioner
(Name of Recipient)

By: _____
(Signature of Authorized Official)

Dated: 2-13-26

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 Aviation 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 Aviation 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).

MaineDOT

Environmental Summary Sheet

WIN: 22642.00 **Date Submitted: 7/7/2026**
Town: Sanford
CPD Team Leader: Danielle Tetreau
ENV Field Contact: Nick Koltai

NEPA Complete: Section 326 Categorical Exclusion (CE) 23 CFR 771.117.c.26 issued on 8/7/2023

Section 106

Review Complete: No Adverse Effect - SHPO Concurrence 3/20/2023
Section 106 Resources: Twelve Apostles Historic District
Holy Family Parish Historic District
Woodbury Physician's Building
H.D. Goodall Hospital
**See SP 105 for location and environmental requirements*

Section 4(f) and 6(f)

Section 4(f)	Section 6(f)
Review Complete - de minimis 5/15/2023	Review Complete - No properties, no takes

Section 7 – Endangered Species Act
Species of Concern: northern long-eared bat: No Effect not in modeled habitat.

Essential Fish Habitat
No Effect - no work in mapped EFH.

Maine Department of Inland Fisheries and Wildlife
Not Applicable Timing Window: Not Applicable

Maine Department of Agriculture, Conservation, and Forestry
Public Lands, Submerged Land Lease: Not Applicable
Maine Land Use Planning Commission: Not Applicable

Maine Department of Environmental Protection
Not Applicable – Exempt per 480-Q-2-D

Army Corps of Engineers: Clean Water Act.
Non-Notifying Authorization - NWP-14
**See SP 105 for documentation and requirements.*

Stormwater Review
Chapter 500 MOA - compliance complete
MS4 Community – compliance complete

Hazardous Material Review
General Note-Proximity to documented contaminant or spill

☒ **Special Provisions Required**

Standard Specification 656-Erosion Control Plan	N/A☐	Applicable☒
Standard Specification 105.8.8-Protected Species	N/A☐	Applicable☒
Special Provision 105-Environmental Requirements	N/A☐	Applicable☒
General Note for Hazardous Waste	N/A☐	Applicable☒
Special Provision 203-Hazardous Waste	N/A☒	Applicable☐
Special Provision 656-Minor Soil Disturbance	N/A☒	Applicable☐
Special Provision 203-Dredge Spec	N/A☒	Applicable☐

**All permits and approvals based on plans/scope as of: 02/08/2024*

Environmental Summary Sheet

WIN: 24395.01 **Date Submitted: 7/7/2026**
Town: Sanford
CPD Team Leader: Danielle Tetreau
ENV Field Contact: Nick Koltai

NEPA Complete: Section 326 Categorical Exclusion (CE) 23 CFR 771.117.c.26 issued on 3/20/2024

Section 106
Review Complete: No Adverse Effect - SHPO Concurrence 3/20/2023
Section 106 Resources: Main Street Historic District
Sanford Mills Historic District
Sanford Residential Historic District
Sanford Commons Park (Contributing to Main Street HD)
Various individually eligible properties
**See SP 105 for location and environmental requirements*

Section 4(f) and 6(f)

Section 4(f)	Section 6(f)
Review Complete - no use	Review Complete - No properties, no takes

Section 7 – Endangered Species Act
Species of Concern: northern long-eared bat: No Effect not in modeled habitat.

Essential Fish Habitat
No Effect - no work in mapped EFH.

Maine Department of Inland Fisheries and Wildlife
Not Applicable Timing Window: Not Applicable

Maine Department of Agriculture, Conservation, and Forestry
Public Lands, Submerged Land Lease: Not Applicable
Maine Land Use Planning Commission: Not Applicable

Maine Department of Environmental Protection
Not Applicable – no resource impacts

Army Corps of Engineers: Clean Water Act.
Not Applicable - no resource impacts
**See SP 105 for documentation and requirements.*

Stormwater Review
Chapter 500 MOA - compliance complete
MS4 Community – compliance complete

Hazardous Material Review
General Note-Proximity to documented contaminant or spill

☒ **Special Provisions Required**

Standard Specification 656-Erosion Control Plan	N/A☐	Applicable☒
Standard Specification 105.8.8-Protected Species	N/A☐	Applicable☒
Special Provision 105-Environmental Requirements	N/A☐	Applicable☒
General Note for Hazardous Waste	N/A☐	Applicable☒
Special Provision 203-Hazardous Waste	N/A☒	Applicable☐
Special Provision 656-Minor Soil Disturbance	N/A☒	Applicable☐
Special Provision 203-Dredge Spec	N/A☒	Applicable☐

**All permits and approvals based on plans/scope as of: 1/12/2024*

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT OFFICE
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

June 29, 2026

Regulatory Division
File No. NAE-2026-00783
MaineDOT WIN: 25335.00

Danielle Tetreau
Maine Department of Transportation
16 State House Station
Augusta, Maine 04330
Via Email: danielle.tetreau@maine.gov

Dear Danielle Tetreau:

The U.S. Army Corps of Engineers (Corps) has reviewed your request to discharge fill material in waters of the U.S. associated with a culvert replacement project. The proposed work is located in an unnamed tributary between Number One Pond and Stump Pond on William Oscar Emery Drive, in Sanford, York County, Maine, at latitude 43.4470° and longitude -70.9810°. The proposed regulated activities associated with this project are detailed on the attached drawings titled "SANFORD WIN# 25335.00 WOE DRIVE," dated May 15, 2026, and September 2024, and are described below.

Project Description

The Maine Department of Transportation will replace a culvert in non-tidal waters and reconstruct the roadway. The existing equalizer culvert consists of a 5-foot-diameter by 104-foot-long multiplate corrugated metal pipe, which will be removed and replaced with a 13-foot-span by 6-foot-rise by 114-foot-long pre-cast concrete box culvert. The culvert will be embedded and armored at the inlet and outlet with riprap and streambed fill material. Below the ordinary high water mark (OHWM) of an unnamed tributary to Number One Pond and Stump Pond, there will be 466 square feet of new permanent fill from the culvert, riprap, and streambed material, 692 square feet of permanent fill within the existing fill footprint, and 268 square feet of temporary fill from cofferdams. All in-water construction will be completed behind sealed cofferdams.

Based on the information provided, the Corps has verified that the proposed actions are authorized under Nationwide Permit (NWP) 14, Linear Transportation Projects, pursuant to authorities under Section 404 of the Clean Water Act (33 U.S.C. § 1344). You can find a copy of these permits at: https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/. You must ensure the proposed work is performed in accordance with the enclosed applicable terms and conditions.

Special Conditions

In addition, this verification is subject to the following special conditions:

1. In-water work shall occur between July 1 through September 30, of any year(s).

2. If the authorized work is not complete before the monarch butterfly (*Danus plexippus*) is listed under the Endangered Species Act (ESA), the permittee shall contact the Federal Highway Administration to initiate ESA Section 7 consultation with the U.S. Fish and Wildlife Service. The permittee shall also notify the Corps to determine if the consultation will result in a need to reverify the project under the NWPs.

You are also required to complete and return the enclosed Compliance Certification form within 30 days of completing your project. Please email the completed documents to the representative identified in the last paragraph of this letter.

A change in location or project plans may require re-evaluation of your project. Proposed changes should be coordinated with this office prior to construction. Failure to comply with all terms and conditions of these permits (NWP) invalidate this authorization and could result in a violation of Section 301 of the Clean Water Act or Section 10 of the Rivers and Harbors Act. You must also obtain all local, state, Tribal, and other Federal permits that apply to this project.

Water Quality Certification (WQC)

The State of Maine issued a conditioned WQC decision for the NWPs (enclosed). You must comply with the conditions specified in the WQC decision for this NWP authorization to be valid.

Permit Expiration

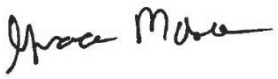
The Corps verification of this NWP authorization is valid until March 14, 2031, unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work for the NWP authorization has not been completed by that date and you have commenced or are under contract to commence this activity before March 14, 2031, you will have until March 14, 2032, to complete the activity under the enclosed terms and conditions of this NWP.

Contact Information

If you have any questions, please contact Rachel Antieau at 978-580-3512, or by email at rachel.h.antieau@usace.army.mil. In order to better serve you, please

complete the Customer Service Survey located at:
https://regulatory.ops.usace.army.mil/customer-service-survey/.

Sincerely,

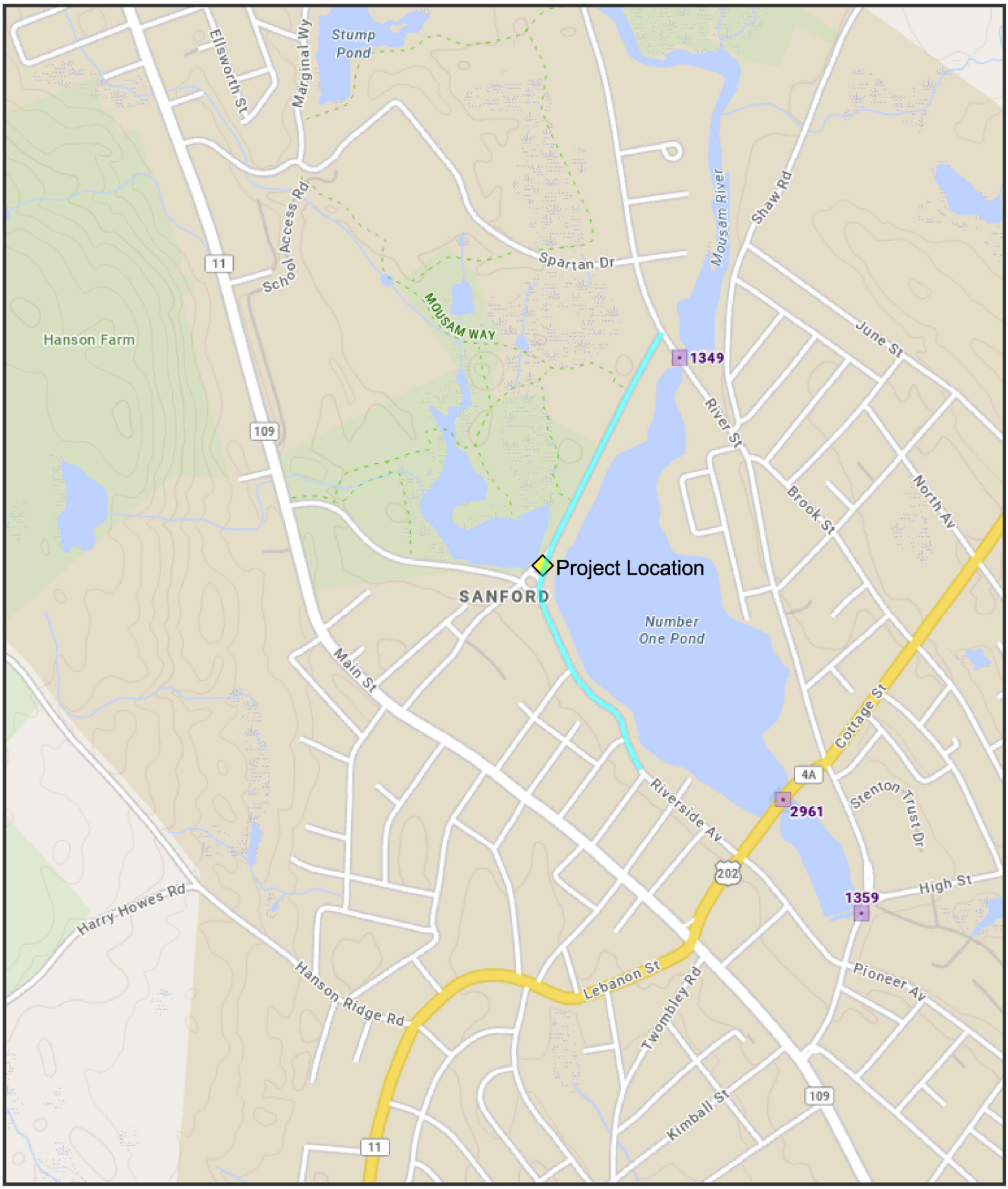


Grace Moses
Chief, Technical Support Branch
Regulatory Division

Enclosures:
Project Plans, Compliance Certification, NWP 14 and General/Regional Conditions

CC (W/ENCLOSURES):
Kristen Chamberlain, MaineDOT; Kristen.Chamberlain@maine.gov
Maine DEP; LandonCall@maine.gov
John Perry, MDIFW; john.perry@maine.gov

SANFORD WIN# 25335.00 WOE DRIVE

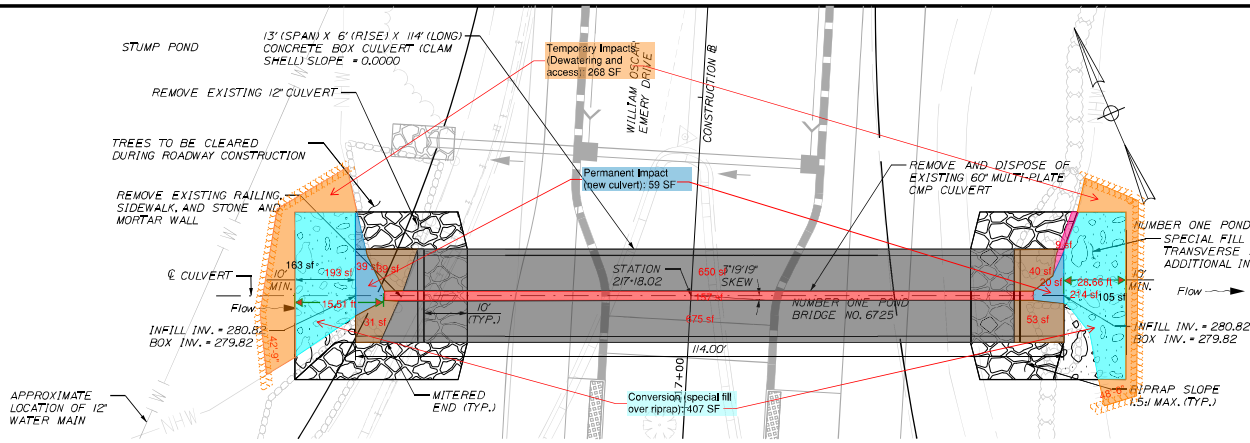


The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information.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

0.15 Miles

1 inch =0.2 miles

Date: 5/15/2026
Time: 1:54:53 PM
384



PLAN VIEW

PLAN VIEW NOTES:

1. TEMPORARY STOCKPILES SHALL NOT BE LOCATED WITHIN 100 FEET OF THE POND.
2. CONTRACTOR SHALL SUBMIT DEWATERING AND CHANNEL BYPASS PLAN TO RESIDENT FOR REVIEW AND APPROVAL PRIOR TO START OF CONSTRUCTION.
3. ALL INSTREAM WORK SHALL BE COMPLETED BETWEEN JULY 15 AND SEPTEMBER 30.

Existing Culvert (RED): 520 SF

Replace existing Rip Rap below OHWM/NHW (PINK): 9 SF

Proposed Culvert (currently road, becomes culvert bottom) (GRAY): 1,325 SF

Proposed Culvert (currently rip rap or retaining wall, becomes culvert bottom) (BROWN): 163 SF

Proposed Waterbody Impacts

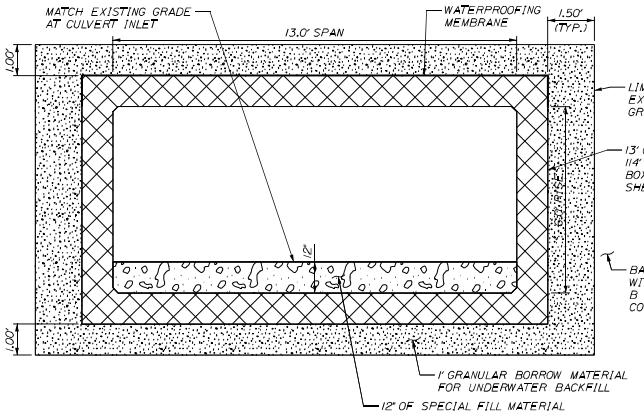
Rip rap covered with special fill (CYAN): 407 SF

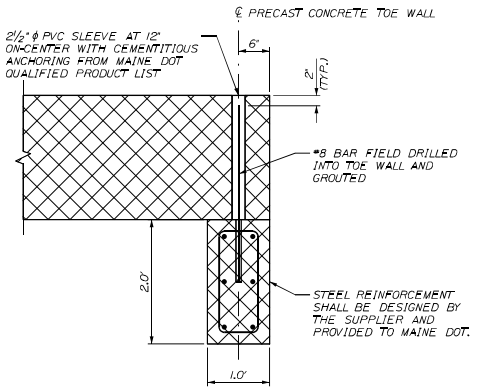
Proposed Culvert (currently ponded, to be backfilled and infilled naturally) (BLUE): 59 SF

USACE 6/18/2026

PRECAST CONCRETE BOX CULVERT NOTES

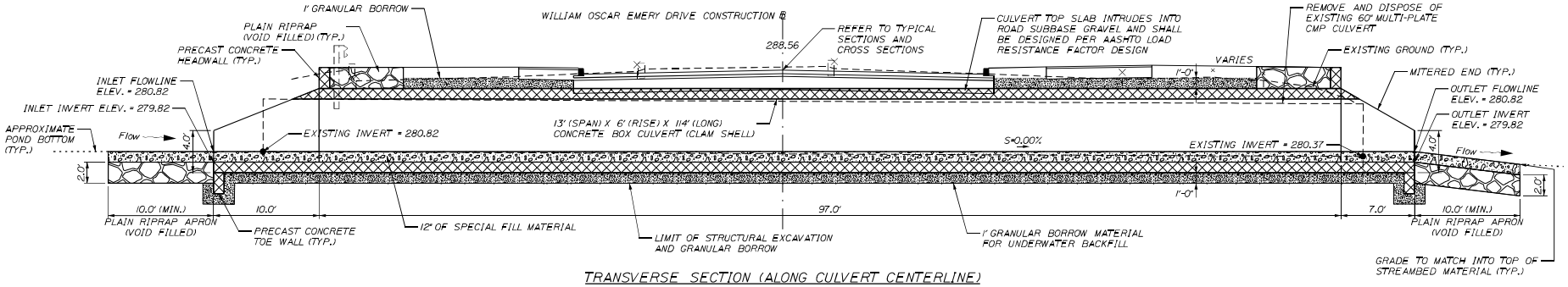
1. PRECAST UNITS SHALL BE DESIGNED TO CARRY CONSTRUCTION LOADINGS WITH A MINIMUM FILL COVER OF 18 INCHES OVER THE TOP OF THE UNITS.
2. THE PRECAST CONCRETE BOX CULVERT SHALL BE BEDDED ON A 1 FOOT LAYER OF COMPACTED GRANULAR BORROW MATERIAL FOR UNDERWATER BACKFILL.
3. A "CLAMSHELL" PRECAST CONCRETE BOX CULVERT WILL BE USED. HORIZONTAL SEAM WILL BE AT THE TOP OF THE BOX.
4. CONSTRUCTION, HANDLING, AND ASSEMBLY OF THE PRECAST UNITS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATION 534 AND THE MANUFACTURER'S SPECIFICATIONS AS APPLICABLE.
5. INSTALL SHEET MEMBRANE WATERPROOFING OVER THE TOP AND 12 INCHES DOWN THE EXTERIOR SIDES OF THE PRECAST UNITS WITHIN THE LIMITS OF THE BACKFILL OVER THE TOP OF THE STRUCTURE.
6. RIPRAP SHALL BE USED TO INSLOPE AROUND THE PRECAST CONCRETE BOX CULVERT ENDS AT BOTH THE INLET AND OUTLET. SEE PLAN FOR LOCATIONS.
7. RIPRAP SHALL BE PLACED SO AS TO NOT DAMAGE THE NEW PRECAST CONCRETE BOX CULVERT STRUCTURE.
8. REMOVAL OF THE EXISTING CULVERT SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 534.71. THE EXISTING PIPE SHALL BECOME PROPERTY OF THE CONTRACTOR.
9. ALL REBAR IS INCIDENTAL TO ITEM NO. 534.71 PRECAST CONCRETE BOX CULVERT.





PRECAST CONCRETE TOE WALL

BOX CULVERT SECTION PERRENIAL STREAM CROSSING



TRANSVERSE SECTION (ALONG CULVERT CENTERLINE)

NOT TO SCALE

CITY OF SANFORD
MAIN STREET
SANFORD, MAINE 04073

WIN 025335.00

PROJ. MANAGER	A. MCL			
DESIGNED	R. SMITH			
DETAILED	M. MOSELEY	09/24	SIGNATURE	
QUANTITIES	M. MOSELEY	09/24		
CHECKED	A. MCL	-	P.E. NUMBER	
REVISIONS 1		-		
REVISIONS 2		-		
REVISIONS 3		-		
FIELD CHANGES		-	DATE	

SANFORD
RIVERSIDE AVENUE AND
WILLIAM OSCAR EMERY DRIVE

SPECIAL DETAILS - CULVERT

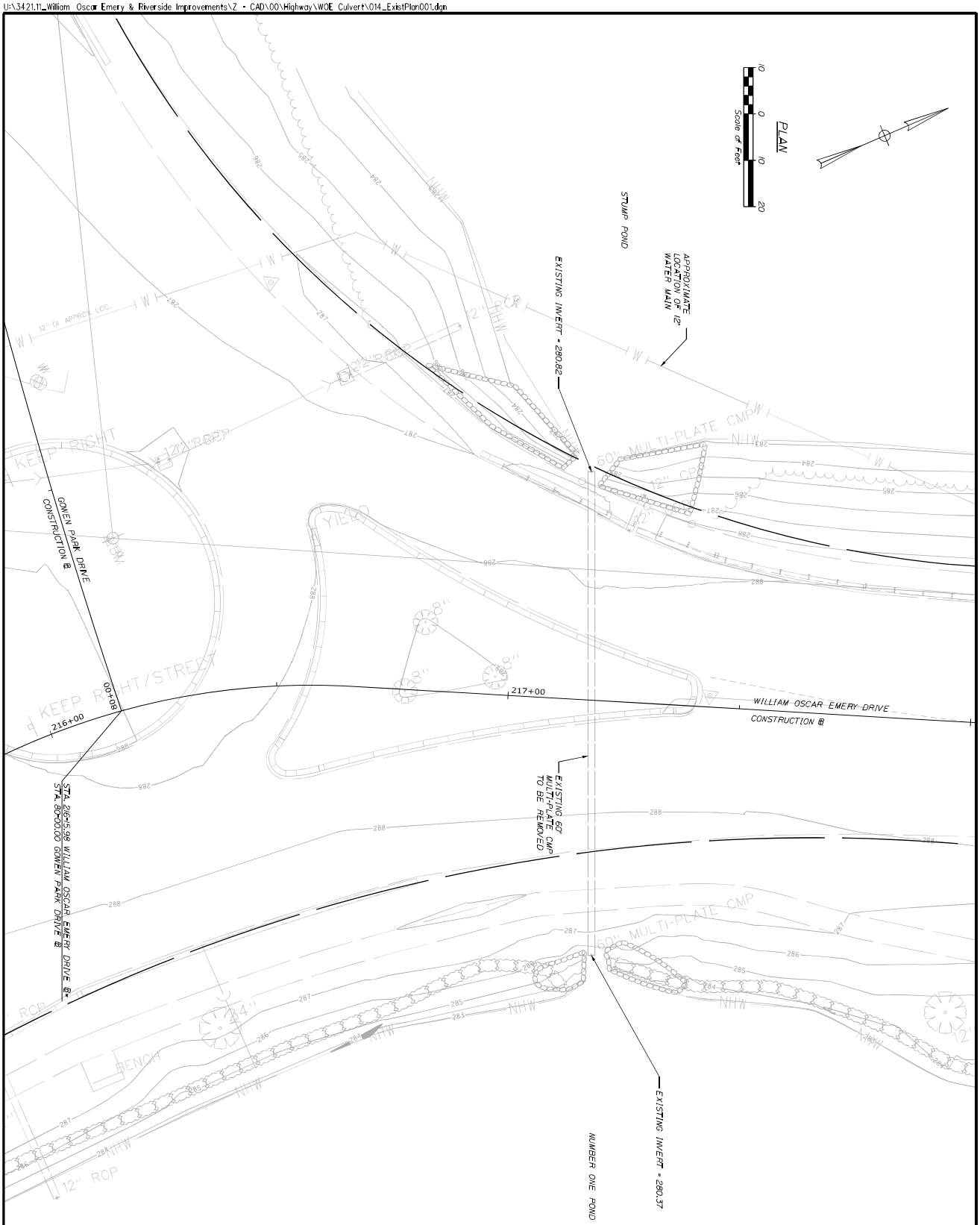
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OF 84

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Filename: ...\014_ExistPlan001.dgn Division: HIGHWAY Username: Trey.Warren Date:9/30/2024

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SANFORD
RIVERSIDE AVENUE AND
WILLIAM OSCAR EMERY DRIVE

SPECIAL DETAILS - CULVERT

	PROJ. MANAGER	M. HILL	BY	DATE
	DESIGN-DETAILED	B. SHAW	M.CUNDIFF	09\24
	CHECKED-REVIEWED	J.MORENHOR	W. HASNELL	09\24
	DESIGN2-DETAILED2	–	–	–
	DESIGN3-DETAILED3	–	–	–
	REVISIONS 1	–		–
	REVISIONS 2	–		–
	REVISIONS 3	–		–
	REVISIONS 4	–		–
	FIELD CHANGES			–

SIGNATURE

P.E. NUMBER

DATE

SHEET NUMBER 14 OF 84

CITY OF SANFORD
919 MAIN STREET
SANFORD, MAINE 04073

WIN
025335.00

U.S. Army Corps of Engineers (USACE)

CERTIFICATION OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT

For use of this form, see Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, and Section 103 of the Marine Protection, Research, and Sanctuaries Act; the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0003 Expires 2027-10-31

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0003, is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PURPOSE: This form is used by recipients of U.S. Army Corps of Engineer Regulatory permits to certify compliance with the permit terms and conditions.

Your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the U.S. Army Corps of Engineers, New England District, Regulatory Office.

The certification can be submitted by email at cenae-r-tu@usace.army.mil or by mail at the below address:

U.S. Army Corps of Engineers
New England District Office
Street Address: 696 Virginia Road
City: Concord State: Massachusetts Zip Code: 01742-2751

COMPLETED BY THE CORPS

Corps Action Number: NAE-2026-00783

Permit Type: General Permit

General Permit Number and Name (*if applicable*): NWP 14 - Linear Transportation Projects

Name of Permittee: Danielle Tetreau, MaineDOT

Project Name: Sanford WIN# 25335.00 William Oscar Emery Drive

Project Location (*physical address*): William Oscar Emery Drive
Sanford, Maine (latitude 43.4470° and longitude -70.9810°)

PERMITTEE'S CERTIFICATION

Date Work Started: _____

Date Work Completed: _____

Enclose photographs showing the completed project (*if available*).

I _____ hereby certify that the work authorized by the above referenced permit has been completed in accordance with all of the permit terms and conditions, and that any required compensatory mitigation has been completed in accordance with the permit conditions.

Name	Date	Signature

14. Linear Transportation Projects.
Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, driveways, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge of dredged or fill material cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to preconstruction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge of dredged or fill material in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges of dredged or fill material for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army

authorization but do not require pre-construction notification (see paragraph (b)(4) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

NAE Note 1 (Maine): A joint pre-application consultation with the Corps and state resource agencies is strongly advised for all activities that involve new or replacement tidal crossings.

NAE Note 2 (Maine): Activities conducted under NWPs involving the replacement or installation of new tidal crossings should comply with the state of Maine's CoastWise Approach. See state website for additional information: http://www.maine.gov/dmr/sites/maine.gov.dmr/files/inline-files/CoastWiseManualJuly2023_updated.pdf

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- **Environmental Protection Agency Water Quality Certification**

2026 Nationwide Permits General Conditions

1. Navigation

a) No activity may cause more than a minimal adverse effect on navigation.

b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

NAE Note: *Compliance with this condition can be achieved by ensuring no unreasonable interference with navigation by the existence or use of any activity authorized by any Nationwide Permit (NWP), and no attempt made by a permittee to prevent the full and free use by the public of all navigable waters at or adjacent to any activity authorized by any NWP.*

2. Aquatic Life Movements

No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

NAE Note: *Compliance with this condition may be achieved by ensuring that during in-stream work, the low flow channel/thalweg remains unobstructed during periods of low flow, except when it is necessary to perform the authorized work. Additionally, for work in tidal waters, in-stream controls should be installed in such a manner that do not obstruct fish passage.*

3. Spawning Areas

Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (*e.g.,* through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas
Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds
No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

Maine Note: *Contact the Maine Department of Marine Resource (ME DMR) for further conservation measures if a proposed activity would result in excess turbidity (i.e., dredging) and is located within 100 feet of ME DMR shellfish areas. Reference material can be found at: https://dmr-maine.opendata.arcgis.com/datasets/mainedmr-molluscan-shellfish-2010/explore?location=43.733484%2C-69.767928%2C10.43 and https://mgs-maine.opendata.arcgis.com/datasets/maine-coastal-marine-geologic-environments/explore.*

6. Suitable Material
No activity may use unsuitable material (*e.g.,* trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes
No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects from Impoundments
If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows
To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows, including tidal flows. The activity must not restrict or impede the passage of normal or high flows including tidal flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (*e.g.,* stream restoration or relocation activities).

10. Fills Within 100-year Floodplains
The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

Massachusetts Note: *For activities located within the Commonwealth of Massachusetts, activities may be required to comply with the Bordering Lands Subject to Flooding provisions of the Commonwealth's Wetland Protection Act. Applicants should contact Massachusetts Department of Environmental Protection to determine whether this provision applies to their proposed activity/ies.*

11. Equipment
Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

If mats are used to minimize soil disturbance, the affected areas must be returned to pre-construction elevations, and revegetated as appropriate. In circumstances where the use of mats has caused significant soil compaction efforts using techniques (*e.g.,* soil reaeration techniques) to break up the compaction should be employed to return the soil to a pre-construction state prior to returning to pre-construction elevations.

NAE Notes: *(1) Compliance with this condition may be achieved through the implementation of best management practices outline in NAE's "Construction Mat Best Management Practices" document available at https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Permit-Resources/.*

(2) Compliance with this condition may be achieved by ensuring that construction equipment such as barges in tidal waters always provide adequate clearance above the substrate to avoid impacts to SAS during all tides.

(3) Compliance with this condition may be achieved by ensuring that construction equipment that would cross or access streams utilizes temporary bridges, spans, construction mats, culverts, or cofferdams to minimize disturbance to the waterway.

12. Soil Erosion and Sediment Controls
Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

NAE Note: *Compliance with this condition may be achieved by ensuring that all discharge points back into waters of the U.S., including wetlands use appropriate energy dissipaters and erosion and sedimentation control BMPs. Controls that are biodegradable can be left in place, but should be removed if they are not biodegradable.*

Temporary controls should be removed upon completion of work, but not before all exposed soil and other fills and any work waterward of the OHWM are permanently stabilized. Once permanently stabilized, temporary controls should be removed as soon as possible. Sediment and debris collected by these controls should be removed and placed at an upland location and in a manner that will prevent its later erosion into a waterway or wetland.

Massachusetts Note: *In Massachusetts, compliance with this condition may be achieved by ensuring, as applicable, that all activities are compliant with the State of Massachusetts' Stormwater Management Standards at 314 CMR 9.06(6)(a)-(f) and the State of Massachusetts' Stormwater Handbook.*

13. Removal of Temporary Structures and Fills
Temporary structures must be removed to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

NAE Note: *Compliance with this general condition may be achieved by underlying temporary fills with geotextile fabric which may help to facilitate the restoration to pre-construction elevations.*

14. Proper Maintenance
Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

NAE Note: *Compliance with this general condition may be achieved by the complete removal, cutting, and/or driving to three feet below the substrate of* d*erelict, degraded, or abandoned piles and sheet piles located in navigable waters of the U.S., except for those inside existing work footprints for piers to prevent interference with navigation. Existing creosote piles that are affected by project activities may be completely removed if practicable. In areas of fine-grained substrates, piles may be removed by the direct, vibratory or clamshell pull method to minimize sedimentation, and turbidity impacts and prevent interference with navigation from cut piles. Removed piles should be disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate, or mudflats.*

15. Single and Complete Project
The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers
a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the

appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or Study River (*e.g.*, National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

NAE Note: *See also: Regional Condition C, Additional PCN Requirement (Wild and Scenic Rivers).*

17. Tribal Rights
No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species
a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA section 7 consultation.

b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective Federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference has been completed. If the non-federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (*e.g.*, an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal permittee should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this

general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their web pages at http://www.fws.gov/ or http:// www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

NAE Note: *For information on how to comply with General Condition 18, please visit our website at https://www.nae.usace.army.mil/missions/regulatory/endangered-species-act/.*

Maine Note: *Federal agencies should refer to "Multiple Federal Agency & Lead Federal Agency Best Practices" when a Corps permit is required, which can be found on the Corps' webpage at: www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit. (This is a pending document and will be published on our website when completed.)*

19. Migratory Birds and Bald and Golden Eagles
The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties
a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district

engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective Federal agency is responsible for fulfilling its obligation to comply with section 106.

c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

d) Where the non-federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and so notified the Corps, the non-federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects on historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

NAE Note: *The following link to the Corps' website provides SHPO and THPO contact information and additional procedures to expedite Corps regulatory review regarding the NHPA. Please contact the appropriate SHPO and/or THPO based on the geographic location of the regulated activity: https://www.nae.usace.army.mil/Missions/Regulatory/Historic-and-Tribal-Resources/.*

21. Discovery of Previously Unknown Remains and Artifacts
Permittees that discover any previously unknown historic, cultural or archaeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters
Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57, and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation

The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (*i.e.*, on site).

b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (*e.g.*, conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (*e.g.*, riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the

NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another Federal agency holds an easement, the district engineer will coordinate with that Federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

6) Compensatory mitigation requirements (*e.g.*, resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or

scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

NAE Note: *Applicants are encouraged to utilize the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS) in order to determine which in-lieu fee programs and/or mitigation banks have a sufficient amount of appropriate and available credits which they may propose to use to offset their proposed activity's unavoidable impacts to waters of the U.S., including wetlands. RIBITS is available at https://ribits.ops.usace.army.mil/ords/f?p=107:2::::::. See also: Regional Condition I, Compensatory Mitigation.*

24. Safety of Impoundment Structures
To ensure that all impoundment structures are safely designed, the district engineer may require non-federal applicants to demonstrate that the structures comply with established state or Federal dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality
a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed activity which may result in any discharge from a point source into waters of the United States must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed activity which may result in any discharge from a point source into waters of the United States in order for the activity to be authorized by an NWP.

b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed activity which may result in any discharge from a point source into waters of the United States is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge into waters of the United States, the permittee must submit a copy of the certification to the district engineer. The discharge into waters of the United States is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied (*i.e.,* by the issuance of a water quality certification or a waiver and completion of the Section 401(a)(2) process).

c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

NAE Note: *For information concerning how to apply to EPA for a Water Quality Certification for activities located within Tribal lands or within lands of exclusive Federal jurisdiction, please see: https://www.epa.gov/cwa-401/resources-when-epa-acts-certifying-authority-under-section-401 and/or contact: R1CWA401@epa.gov.*

Connecticut Note: *For information concerning how to apply to CTDEEP for a Water Quality Certification, please see: https://portal.ct.gov/deep/permits-and-licenses/factsheets-inland-water/401-water-quality-certification-fact-sheet.*

Maine Note: *For information concerning how to apply to LUPC or MEDEP for a Water Quality Certification, please see: https://www.maine.gov/dep/water/wd/wqc/.*

Massachusetts Note: *For information concerning how to apply to MassDEP for a Water Quality Certification, please see: https://www.mass.gov/lists/wetlands-permitting-forms.*

New Hampshire Note: *For information concerning how to apply to NHDES for a Water Quality Certification, please see: https://www.des.nh.gov/water/rivers-and-lakes/water-quality-certification.*

Rhode Island Note: *For information concerning how to apply to RIDEM for a Water Quality Certification, please see: https://dem.ri.gov/sites/g/files/xkgbur861/files/2025-06/wqcheck.pdf.*

Vermont Note: *For information concerning how to apply to VTDEC for a Water Quality Certification, please see: https://dec.vermont.gov/act250/watershed/business-support/water-quality-certification-section-401.*

26. Coastal Zone Management

In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

NAE Note: *If an individual state coastal zone management consistency concurrence is required, applicants should submit a consistency certification to the state (see 15 CFR 930.31(d)) at the same time as the PCN is submitted to the Corps, or shortly thereafter.*

Connecticut Note: *For information concerning how to apply to CTDEEP for a coastal zone management consistency certification, please see: https://portal.ct.gov/deep/coastal-resources/coastal-permitting/coastal-consistency.*

Maine Note: *For information concerning how to apply to the Maine Office of Community Affairs for a coastal zone management consistency certification, please see: https://www.maine.gov/dmr/programs/maine-coastal-program/federal-consistency-review.*

Massachusetts Note: *For information concerning how to apply to Mass CZM for a coastal zone management consistency certification, please see: https://www.mass.gov/federal-consistency-review-program.*

New Hampshire Note: *For information concerning how to apply to NHDES for a coastal zone management consistency certification, please see: https://www.des.nh.gov/water/coastal-waters/federal-consistency.*

Rhode Island Note: *For information concerning how to apply to CRMC for projects within the coastal zone, please see: https://www.crmc.ri.gov/applicationforms.html and https://www.crmc.ri.gov/regulations/fed_consistency.pdf.*

27. Regional and Case-by-Case Conditions
The activity must comply with any regional conditions that may have been added by the division engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits
The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

a) The total acreage of loss of waters of the United States for a single and complete project cannot exceed the acreage limit of the NWP with the highest specified acreage limit when multiple NWPs are used to authorize an activity.

b) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States for that single and complete project cannot exceed that specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14 (which has an acreage limit of 1/3-acre in tidal waters), with associated bank stabilization authorized by NWP 13 (which does not have a specified acreage limit), the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

c) If two or more of the NWPs used to authorize the single and complete project have specified acreage limits, the acreage loss of waters of the United States authorized by each of those NWPs cannot exceed the specified acreage limits of each of those NWPs. For example, if a commercial development is constructed under NWP 39 (which has a 1/2-acre limit), and the single and complete project

includes the filling of a ditch authorized by NWP 46 (which has a 1-acre limit), the maximum acreage loss of waters of the United States for the construction of the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States caused by the combination of the NWP 39 and 46 activities cannot exceed 1 acre.

29. Transfer of Nationwide Permit Verifications

If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____

(Transferee)

_____

(Date)

30. Compliance Certification

Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The successful completion of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States
If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

NAE Note: *Refer to the New England District's Section 408 Program webpage that can be found at: https://www.nae.usace.army.mil/Missions/Section-408/. See also: Regional Condition B, Additional PCN Requirement (Federal Projects).*

32. Pre-Construction Notification
a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential

to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

b) Contents of the Pre-Construction Notification: The PCN must be in writing and include the following information:

1) Name, address and telephone numbers of the prospective permittee;

2) Location of the proposed activity;

3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (*e.g.,* a conceptual plan), but do not need to be detailed engineering plans);

5) The PCN must include a delineation of waters, wetlands, and other special aquatic sites on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate. For NWP 27 activities that require PCNs because of other general conditions or regional conditions imposed by division engineers, see Note 2 of that NWP;

NAE Note: *To comply with the above GC 32(5), the following methodologies should be utilized:*

(a) Wetlands should be delineated in accordance with the Corps Wetlands Delineation Manual and the most recent Northcentral/Northeast Regional Supplement. Wetland delineation and jurisdiction information can be found at: www.nae.usace.army.mil/missions/regulatory/jurisdiction-and-wetlands and https://www.usace.army.mil/Media/Announcements/Article/4262089/1-august-2025-us-army-corps-of-engineers-enhances-aquatic-resource-delineation/*.*

(b) Refer to the "Best Practices for Jurisdictional Determinations and Wetland Delineations," which can be found on the Corps webpage at: https://www.nae.usace.army.mil/missions/regulatory/state-general-permits/maine-general-permit/. (This is a pending document and will be published on our website when completed.)

(c) The ordinary high water mark should be delineated (on both sides) when streams, rivers, non-tidal open waters are present on the project site. Ordinary high water mark guidance can be found in RGL 05-05 (https://usace.contentdm.oclc.org/utils/getfile/collection/p16021coll9/id/1253). For complex, atypical, or problematic sites see: https://www.erdc.usace.army.mil/Media/Fact-Sheets/Fact-Sheet-Article-View/Article/486085/ordinary-high-water-mark-ohwm-research-development-and-training/.

(d) Vegetated shallows should be delineated when present on the project site. Vegetated shallow survey guidance and maps can be found on the Corps webpage at: https://www.nae.usace.army.mil/Missions/Regulatory/Jurisdiction-and-Wetlands/.

(e) All Essential Fish Habitat should be delineated when present on the project site. EFH survey guidance can be found in the current EFH programmatic, which can be found on the Corps webpage at https://www.nae.usace.army.mil/Missions/Regulatory/Essential-Fish-Habitat/.

6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the compensatory mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

c) Form of Pre-Construction Notification: The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

d) Agency Coordination:

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for:

(i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States;

(ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and

(iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

Maine Note: *The Corps will additionally coordinate with the State of Maine on all activities that require a waiver.*

(3) When agency coordination is required, the district engineer will immediately provide (*e.g.,* via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or email that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

2026 Nationwide Permits - New England District Regional Conditions

The U.S. Army Corps of Engineers (Corps) New England District Regulatory Division issues the following Regional Conditions (RCs) to ensure that activities authorized by the 2026 Nationwide Permits (NWPs) in the New England states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont will not cause more than minimal adverse environmental impacts, both individually and cumulatively. Before the New England District will verify an activity under one or more NWPs, the activity must be demonstrated to comply with the applicable NWP terms and all applicable NWP General Conditions (GCs) and RCs. Prior to commencement of a "non-notifying" activity (i.e., activities authorized by NWPs which do not require submission of a pre-construction notification [PCN]), the proponent (i.e., the person and/or the entity performing the work) is responsible for ensuring the activity meets all applicable:

- Terms of the NWP
- GCs
- RCs
- State Water Quality Certification, if applicable
- State Coastal Zone Consistency, if applicable

PCN Summary Table. The following activities may require a PCN regardless of the terms of the applicable NWP. Please read the applicable RCs to determine if a PCN is required.

Applicable to All New England States	
Exceedance of loss thresholds within streams, tidal/non-tidal wetlands, tidal submerged aquatic vegetation, mudflats, and intertidal areas	See RC A
Located within, or within the vicinity of a Federal Project	See RC B
Located within, or within the vicinity of a Wild and Scenic River	See RC C
Involving discharges of temporary fill material	See RC D
Involving slip lining	See RC E
Involving stream crossings	See RC F
Located within Essential Fish Habitat	See RC J
Applicable to Specific New England States	
Activities within Time-of-Year Restrictions	See RCs N, O, S, U, V, W
Located within the Saint John and Saint Croix River basins (Maine)	See RC P
Authorized by NWP 48, Commercial Shellfish Mariculture Activities and within the State of Maine > 5 acres	See RC Q
Located within Important or Rare Resources within the State of Maine	See RC R
Discharges of fill >10 cubic yards in Lake Champlain and Lake Memphremagog and/or their adjacent wetlands (Vermont)	See RC X

Regional Conditions

The following RCs apply to all applicable NWPs in **all New England States** (unless otherwise specified):

A. Additional PCN Requirement (Specific Resources): A PCN is required for any proposed activities that would result in the loss of waters of the U.S. that exceed the listed thresholds to the following aquatic resources if a PCN is not already required by the NWP.

Aquatic Resource	**Threshold**
Non-tidal Wetlands	4,356 square feet (1/10-acre)
Tidal and Non-Tidal Stream	200 linear feet or 3/100-acre (whichever is less)
Tidal Wetland	500 square feet
Tidal Submerged Aquatic Vegetation (SAV)	25 square feet
Mudflat	1,000 square feet
Intertidal	1,000 square feet

B. Additional PCN Requirement (Federal Projects): A PCN is required for any proposed activities that would involve the temporary or permanent occupation of, or alteration of, a federal project (including, but not limited to, a levee, dike, floodwall, channel, anchorage, breakwater, seawall, bulkhead, jetty, wharf, pier, or other work built or maintained but not necessarily owned by the United States). This includes all structures and work in, over, or under a Corps' federal navigation project (FNP) or in the FNP's buffer zone. The buffer zone is an area that extends from the horizontal limits of the FNP to a distance three times the FNP's authorized depth.

The activity may also require review and approval by the Corps pursuant to 33 USC 408 (Section 408 Permission). The applicant may reach out to the points of contact listed here: https://www.nae.usace.army.mil/Missions/Section-408/ and https://www.nan.usace.army.mil/Missions/Regulatory/Section-408/ (for activities located within the Lake Champlain watershed) and consult the National Channel Framework mapper: https://experience.arcgis.com/experience/b413139f18c046009ebcf62abea941dd/page/Map/. For activities which require a Section 408 permission, verification under an NWP will not be issued prior to the decision the Section 408 permission requires. Any structure or work constructed in an FNP, or its buffer zone shall be subject to removal at the owner's expense prior to any future Corps dredging or hydrographic surveys.

Applicants should contact the Corps Real Estate Division (https://www.nae.usace.army.mil/Missions/Real-Estate-Division/) at (978) 318-8585 for work that would occur on or would potentially affect a Corps property (or properties) and/or Corps-controlled easements. Work may not commence on Corps properties and/or Corps-controlled easements until they have received any required

Corps real estate documents demonstrating site-specific permission to perform work.

A PCN is not required if an applicant has previously obtained a Section 408 permission for their proposed activities, or a determination from the Corps that a Section 408 permission is not required for their proposed activities, and the proposed activities qualify for a non-notifying NWP.

C. Additional PCN Requirement (Wild and Scenic Rivers): A PCN is required under NWP GC 16, Wild and Scenic Rivers, and for: 1) any proposed activities that would be located in and within 1/4-mile up- or downstream of a Wild and Scenic River (WSR) segment, or in tributaries within 1/4-mile of a WSR segment; 2) any proposed activities that would be located in wetlands within 1/4-mile of a WSR segment; and 3) any proposed activities that have the potential to alter free-flowing characteristics in a WSR segment. Applicants should utilize http://www.rivers.gov/ for the most up-to-date WSR designations.

   Note: Applicants may coordinate with the Federal agency that has direct management responsibility of the WSR segment or tributary their proposed activity would be within 1/4-mile of prior to submitting a PCN to the Corps. This regional condition does not require a PCN to be submitted if that Federal agency determines that the proposed activity would not adversely affect the subject WSR.

D. Additional PCN Requirement (Temporary Fills): A PCN is required for any proposed activities that would involve the discharge of temporary fill (33 CFR 323.2(e) and (f)) greater than 1/10-acre to be left in place in non-tidal wetlands for more than one growing season. The growing season is generally defined as April 1 to September 30 (See the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* for more information about determining growing season. https://www.nae.usace.army.mil/Missions/Regulatory/Jurisdiction-and-Wetlands/Wetland-Delineation-Manual/).

   Note 1: The Corps will determine on a case-by-case basis, after evaluating site-specific and activity-specific circumstances whether temporary construction mats proposed for use are considered as temporary fill.

   Note 2: For linear projects, crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization (33 CFR 330.2(i)). Therefore, each crossing of a water of the U.S., including wetlands could have up to 1/10-acre of temporary fill without requiring the submittal of a PCN. *Applicants should be aware that the definition of what constitutes a single and complete project per state regulations may differ from the Corps' definition. Applicants should consult with the state in order to determine state requirements. *

E. Additional PCN Requirement (Slip Lining): A PCN is required for any proposed activity that involves slip lining a stream crossing that is not currently meeting the stream crossing BMPs found in Regional Condition F (e.g., slip lining and invert-lining).

F. Additional PCN Requirement (Stream Crossing Standards): A PCN is required for any proposed stream crossing activities that cannot comply with the below "Stream Crossing Best Management Practices (BMPs)" unless the district engineer provides the applicant written verification removing the below requirements.

1. The width of the crossing shall be greater than or equal to 1.2 times the bank full width.
2. The crossing shall be embedded greater than or equal to 2 feet and/or at least 25 percent of the conveyance's height.
3. The crossing shall be constructed with a natural bottom substrate, as applicable.
4. The crossing shall match the gradient (i.e., slope) of the natural stream channel profile.
5. The crossing shall meet an openness ratio of greater than 0.82 feet.

Regardless of whether a proposed crossing can implement the above BMPs, the applicant should first coordinate with the appropriate state office to obtain required or recommended alternate stream crossing BMPs, prior to submitting a PCN to the Corps. If a stream crossing is designed to meet the standards required or recommended by the appropriate state agency for which the proposed activity is located within, those standards can serve in-lieu of these BMPs and submittal of a PCN is not required.

Note: Below are links to the stream crossing standards/guidelines for those New England states that have published such standards/guidelines. Applicants are highly encouraged to contact their state for additional information regarding those requirements and/or recommendations, as state requirements may be more stringent than the above listed BMPs.

Connecticut: CTDEEP Inland Fisheries Division Habitat Conservation and Enhancement Program's Stream Crossing Guidelines (https://portal.ct.gov/-/media/DEEP/fishing/restoration/StreamCrossingGuidelinespdf.pdf)

Maine: Maine Interagency Stream Crossing Guidelines: (https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit/) and CoastWise (https://www.maine.gov/dmr/sites/maine.gov.dmr/files/inline-files/CoastWiseManualJuly2023_updated.pdf)

Massachusetts: Massachusetts River and Stream Crossing Standards as implemented through 314 CMR 9.06(2)(b).

(https://www.mass.gov/doc/massachusetts-river-and-stream-crossing-standards/download)

New Hampshire: New Hampshire RSA 482-A (https://www.gc.nh.gov/rsa/html/L/482-A/482-A-mrg.htm)

Rhode Island: Regardless of whether a proposed crossing can meet the above BMP's, all wetland and watercourse crossings in Rhode Island are evaluated on a site-by-site basis that account for on-site environmental characteristics by the state. For freshwater crossings, please contact them using the following link: https://dem.ri.gov/environmental-protection-bureau/customer-and-technical-assistance/pre-application-meetings. If a proposed crossing is within the coastal zone and under the jurisdiction of CRMC, please contact them using the following link: https://www.crmc.ri.gov/contact.html.

Vermont: *Vermont Stream Alteration Rule and General Permit* available at https://dec.vermont.gov/watershed/rivers/river-management#rules.

G. Aquaculture: Applicants proposing new aquaculture operations or modifications of existing aquaculture operations are required to coordinate with the appropriate U.S. Coast Guard (USCG) Sector for siting review, Navigation Risk Assessment (NRA), and navigation risk mitigation needs.

1. Coordination with the USCG can be completed by contacting via email:

   Sector Northern New England: (Maine, New Hampshire, Vermont, and Northeastern New York, Lake Champlain) D01-SMB-SecNNE-Waterways@uscg.mil

   Sector Boston: (New Hampshire border southward to Plymouth, Massachusetts) D01-SMB-SECBOSWaterways@uscg.mil

   Sector Southeastern New England: (Rhode Island and Southeastern Massachusetts, Cape Cod, and Islands) SENEWWM@uscg.mil

   Sector Long Island Sound: (New York to Connecticut border at Port Chester, Connecticut to Rhode Island border at Watch Hill) SECLISSPWMarineEvent@uscg.mil

   Sector New York: (Sandy Hook, New Jersey north through Port of New York/New Jersey, Hudson River to Whitehall, NY (south of Lake Champlain) D01-SMB-SecNY-Waterways@uscg.mil

   The applicant shall provide the following information to facilitate completion of the NRA: applicant name/company affiliation, license/lease type (commercial, research, shellfish, kelp, new or modified), nautical chart, detailed drawing with

dimensions, time of year, potential lighting/marking, types/materials of structures in water, planned anchoring, cultivation techniques (number of weekly/monthly visits, vessel tending/type), and any other significant information.

If the applicant receives a medium or high-risk assessment, they shall coordinate with the Corps and apply safety risk mitigations. The USCG will refer the project to the Corps unless the Corps makes the determination that it may proceed.

Any safety lights and signals prescribed by the USCG, through regulations or otherwise, must be installed and maintained at the permittee's expense. For required permitting, the applicant shall contact USCG First District Private Aid Program Manager through D01-SMB-D01PrivateAtoN@uscg.mil. Only actual AtoNs are permitted; floats, balls, markers, mooring balls and 'highflier flags' are not considered Aids to Navigation (AtoN). See: http://www.usharbormaster.com.

Applicants shall notify NOAA's National Ocean Service (NOS) Nautical Data Branch Office of Coast Survey to initiate chart and Coast Pilot corrections. See: https://nauticalcharts.noaa.gov/. Applicants must also notify NOAA on removal. See Note 2.

2. For marine safety information during construction or other significant periods, applicants may use the First District's Marine Safety Information form and email to: D01-SMB-LNM@uscg.mil.

Note 1: If a PCN is required, applicants shall include documentation of all required coordination with their PCN.

Note 2: For nautical chart and coast pilot updates, activities owners should use the status report form at https://nauticalcharts.noaa.gov/charts/docs/charts-updates/USACE+Permit+Status+Report.pdf. For aquaculture activities owners should use: https://nauticalcharts.noaa.gov/charts/docs/charts-updates/Artificial+Reef+Aquaculture+Status+Report.pdf to notify the Office of Coast Survey of the project completion. The form should be emailed to ocs.ndb@noaa.gov and should include a copy of as-built drawings.

H. Hydrology: Permanent wetland crossings shall be constructed in such a manner as to prevent excessive ponding or drying on either side of the authorized crossing after completion of the work. Measures shall be taken to maintain the existing hydrology. Such measures may include road cross drains such as culverts that are appropriately sized and placed at intervals to maintain the existing hydrology of the contiguous wetland.

I. Compensatory Mitigation: In addition to the requirements of NWP GC 23, Mitigation, compensatory mitigation requirements for unavoidable impacts to waters of the U.S. will be evaluated in accordance with the latest version of the *New England District Compensatory Mitigation Standard Operating Procedures* (https://www.nae.usace.army.mil/Missions/Regulatory/Mitigation/).

J. Essential Fish Habitat: Essential Fish Habitat (EFH) is defined as those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity (16 U.S.C. 1802).

The following NWPs have been determined to result in no more than minimal adverse effects, provided the permittee complies with all terms and conditions of the NWP as applicable to the activity, including all activity thresholds and activity-specific Conservation Recommendations (CRs) identified in the current EFH and Fish and Wildlife Coordination Act (FWCA) Programmatic Consultation (https://www.nae.usace.army.mil/Missions/Regulatory/Essential-Fish-Habitat/). The National Marine Fisheries Service (NMFS) has granted General Concurrence (50 CFR 600.920(g)) for the below listed NWPs, and these activities do not require activity-specific EFH consultation.

Nationwide Permit	Authorized Activities with General Concurrence
NWPs: 1, 4, 5, 6, 9, 10, 11, 15, 16, 19, 20, 27, 28, 32, 35, & 41	All authorized activities
NWP 3	Parts (a) and (c) (i.e., non-notifying)
NWP 12	Section 404 only activities that do not result in the loss of greater than 1/10-acre and is not a new pipeline greater than 250 miles (i.e., non-notifying)
NWP 13	Activities less than 500 linear feet in length with a discharge of less than one (1) cubic yard per running foot below the ordinary high water mark or high tide line, and no discharges into special aquatic sites (i.e., non-notifying)
NWP 14	Activities less than 1/10-acre with no discharges into special aquatic sites (i.e., non-notifying)
NWP 18	Activities that discharge less than ten (10) cubic yards of fill material below the plane of the ordinary high water mark or high tide line with no discharges into special aquatic sites (i.e., non-notifying)
NWP 22	Activities associated with vessels that are not listed or eligible for listing on the National Register of Historic Places and not located within special aquatic sites (i.e., non-notifying)
NWP 23	Activities not identified as notifying within Regulatory Guidance Letter 05-07 (i.e., non-notifying)
NWP 33	Section 404 only activities (i.e., non-notifying)
NWP 36	Activities that discharge less than 50 cubic yards of fill material and are less than 20 feet wide (i.e., non-notifying)

NWP 43	Activities that do not involve the expansion or construction of a new stormwater management facility (i.e., non-notifying)
NWP 48	Activities that are not the installation of a new operation and do not directly affect greater than 1/2-acre of submerged aquatic vegetation (i.e., non-notifying)
NWPs: 51 & 60	Activities that do not result in the loss of greater than 1/10-acre (i.e., non-notifying)
NWP 54	Maintenance activities (i.e., non-notifying)
NWPs: 57 & 58	Section 404 only activities that do not result in the loss of greater than 1/10-acre (i.e., non-notifying)

For non-federal applicants whose proposed activities would be located within EFH and that do not require a PCN per the language of the NWP or per any other general or regional condition (i.e., non-notifying), the applicant shall review the current EFH and FWCA Programmatic Consultation (https://www.nae.usace.army.mil/Missions/Regulatory/Essential-Fish-Habitat/) to ensure their proposed activity complies with all applicable CRs.

1. A PCN is required for any proposed project that would exceed the activity thresholds that are included within the current EFH and FWCA Programmatic Consultation. Any proposed project that exceeds an activity threshold requires preliminary coordination/project-specific consultation.

2. For all activities that do not exceed the activity-based thresholds included within the current EFH and FWCA Programmatic Consultation, the project proponent shall implement the activity-specific applicable CRs. If the applicable CRs cannot be implemented, a PCN must be submitted to the Corps, and work may not commence until the Corps verifies the project under the applicable NWP(s).

Federal applicants should follow their own procedures for compliance with the Magnuson-Stevens Fishery Conservation and Management Act and Fish and Wildlife Coordination Act.

Note 1: For activities proposed for authorization by an NWP that requires the submittal of a PCN, applicants are encouraged to review the current EFH and FWCA Programmatic Consultation and design their proposed activities with the activity-based thresholds and incorporate applicable CRs.

Note 2: Applicants can utilize the NMFS EFH mapper to determine if their proposed activities are located within EFH: https://www.habitat.noaa.gov/apps/efhmapper/. Applicants can also utilize the current EFH and FWCA Programmatic Consultation (https://www.nae.usace.army.mil/Missions/Regulatory/Essential-Fish-Habitat/) for guidance on non-tidal waterbodies with diadromous fish.

K. Invasive Species: The introduction, spread, or the increased risk of invasion of invasive plant or animal species on the project site, into new or disturbed areas, or into areas adjacent to the project site caused by the site work shall be avoided. Native, non-invasive vegetation must be used unless otherwise authorized by the Corps, and shall not contain any species listed in Appendix K ("Invasive and Other Unacceptable Plant Species") of the current *New England District Compensatory Mitigation Standard Operating Procedures* located at: https://www.nae.usace.army.mil/Missions/Regulatory/Mitigation/. Equipment shall be thoroughly cleaned before and after project construction to prevent the spread of invasive species. This includes, but is not limited to, tire treads and construction mats. Information about how to avoid the spread of invasive species can be found at: https://www.nae.usace.army.mil/Missions/Regulatory/Invasive-Species.

L. NWP Documentation On-Site: The permittee shall ensure that a copy of their verification letter (for notifying NWPs only) and applicable NWP with all applicable GCs and RCs are at the worksite whenever work is being performed, and that all personnel performing work are fully aware of its terms and conditions.

M. Abandonment: If the permittee decides to abandon the activity authorized by an NWP, unless such abandonment is merely the transfer of property to another party, the permittee may be required to restore the area to the satisfaction of the Corps.

State-Specific Regional Conditions

The following RCs apply to all applicable NWPs in the **State of Connecticut**:

N. Regional Condition N is reserved for the State of Connecticut.

The following RCs apply to all applicable NWPs in the **State of Maine**:

O. Additional PCN Requirement and Time-of-Year Windows and Restrictions: In-water work (including physical alterations) within non-tidal and tidal waters, shall be conducted during the following time-of-year (TOY) work windows (see below table). Approval to work outside the TOY work windows must be obtained from the Maine Department of Inland Fisheries and Wildlife (IFW) using the form located at: https://www.maine.gov/dep/land/permits/pbr/index.html for work in non-tidal waters or from the Maine Department of Marine Resources (DMR): https://www.maine.gov/dep/land/permits/pbr/index.html for work in tidal waters. If in-water work cannot be completed during the TOY work window or approval to work outside the TOY work window from IFW or DMR is not obtained, then the project requires a PCN and written verification removing the below requirements. If a PCN is required, due to NWP thresholds and/or other general and/or regional conditions, then the state's approval for working outside the TOY restriction shall be submitted with the PCN.

	TOY Work Restriction	TOY Work Window
Non-Tidal Waters	October 2 to July 14	July 15 to October 1
Tidal Waters	April 16 to November 14	November 15 to April 15

Any proposed activity located in waters of the U.S. (excluding wetlands) shall be completed entirely "in-the-dry" or be isolated from active flows/the water column using temporary measures (i.e., cofferdams, sandbags, flume pipes, etc.) to the maximum extent practicable. The term "in-the-dry" means work that is done under dry conditions, e.g., work behind cofferdams or when the stream or tide is waterward of the work.

P. Additional PCN Requirement (Saint John and Saint Croix River basins): A PCN is required for any proposed work within the Saint John and Saint Croix River basins that requires approval of the International Joint Commission. In addition, a PCN is required if any temporary or permanent use, obstruction, or diversion of international boundary waters could affect the natural flow or levels of waters on the Canadian side of the boundary; or if any construction or maintenance of remedial works, protective works, dams, or other obstructions in waters downstream from boundary waters could raise the natural level of water on the Canadian side of the boundary.

Q. Additional PCN Requirement (NWP 48, Commercial Shellfish Mariculture Activities): A PCN is required for any activities proposed under NWP 48 that would install gear for a commercial shellfish operation within a site greater than 5 acres in size.

R. Additional PCN Requirement (Important or Rare Resources): A PCN is required for any proposed discharges of dredged or fill material within any of the following aquatic resources or resource types identified as specifically important or rare within the State of Maine which warrant additional protections:

1. Lakes and tributaries that support arctic char and lake whitefish; or
2. Bogs and fens

The following RCs apply to all applicable NWPs in the **Commonwealth of Massachusetts**:

S. Regional Condition S is reserved for the Commonwealth of Massachusetts.
T. Regional Condition T is reserved for the Commonwealth of Massachusetts.

The following RCs apply to all applicable NWPs in the **State of New Hampshire**:

U. Regional Condition U is reserved for the State of New Hampshire.

The following Regional Conditions apply to all applicable NWPs in the **State of Rhode Island**:

V. Regional Condition V is reserved for the State of Rhode Island.

The following Regional Conditions apply to all applicable NWPs in the **State of Vermont**:

W. Regional Condition W is reserved for the State of Vermont.
X. Regional Condition X is reserved for the State of Vermont.

STATE OF MAINE

MELANIE LOYZIM
COMMISSIONER
DEPT. OF ENVIRONMENTAL PROTECTION

AMANDA E. BEAL
COMMISSIONER
DEPT. OF AGRICULTURE, CONSERVATION & FORESTRY

SAMANTHA HORN
DIRECTOR
MAINE OFFICE OF COMMUNITY AFFAIRS

December 18, 2025

Tammy Turley
Chief, Regulatory Division
U.S. Army Corps of Engineers
New England District
696 Virginia Rd
Concord, MA 01742

RE: WQC and CZM Decision on Proposed 2026-2031 Nationwide Permits

Dear Ms. Turley,

This letter is in response to the Clean Water Act Section 401 Water Quality Certification (WQC) requests received by the Maine Department of Environmental Protection (DEP) and Land Use Planning Commission (LUPC) on June 18, 2025 as well as the Coastal Zone Management Act ("CZM") consistency determination received by Maine Coastal Program (MCP) on June 24, 2025 for the proposed U.S. Army Corps of Engineers (USACE) nationwide permits (NWPs) that would replace the existing NWPs set to expire on March 14, 2026. Public notice of this proposed action was published in the Portland Press Herald on July 2, 2025 with a comment period through July 21, 2025 as well as on November 9, 2025 with a comment period through November 29, 2025.

The New England District of the USACE proposes to implement NWPs, a type of general permit issued on a nationwide basis to streamline the authorization of activities under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 that result in no more than minimal individual and cumulative adverse environmental effects, for a five-year period beginning March 15, 2026. Of the existing NWPs numbered 1 through 59 and proposed NWP A, the New England District is not proposing to implement NWPs 2, 21, 24, 25, 30, 49, or 50. Further, in the opinion of the USACE, NWPs 1, 9, 10, 11, 28, 35, and 55 could not reasonably be expected to result in a discharge into waters of the U.S. and the Corps does not deem certification to be necessary. However, the final decision of whether certification is needed for those NWPs rests with the certifying authority. Additionally, NWP 8 only authorizes activities seaward of the territorial seas and therefore does not require WQC.

Under Section 401 of the Clean Water Act, any activity authorized by a federal permit that may result in a discharge to waters of the U.S. must obtain a WQC or waiver from the appropriate certifying authority. DEP and LUPC are both certifying authorities in the State of Maine. The LUPC serves as the planning, zoning, and permitting authority for the 10.4 million acres of unorganized and deorganized areas of the State, including townships, some plantations, and a few small towns. Additionally, pursuant to Section 307 of the Coastal Zone Management Act of 1972, federal activities affecting a state's coastal zone must be undertaken in a manner consistent to the maximum extent practicable with the enforceable policies of MCP. Maine's federally approved coastal zone extends from the inland boundary of coastal municipalities or unorganized townships or plantations that contain tidal waters seaward to the outer limit of the State's territorial ownership, three nautical miles from the baseline from which the territorial sea is measured.

Maine's Natural Resources Protection Act (NRPA), 38 M.R.S. §§480-A – 480-KK, finds and declares the state's rivers and streams, great ponds, fragile mountain areas, freshwater wetlands, significant wildlife habitat, coastal wetlands, and coastal sand dune systems to be resources of state significance. A state permit is required when an activity would be located in, on, or over any of the above protected natural

resources, as well as other cases where an activity would be adjacent to those natural resources, unless the activity is otherwise exempt. The DEP issues permits pursuant to NRPA and LUPC issues permits pursuant to 38 M.R.S. § 480-E-1 and Chapter 10 of the Commission's Rules and Regulations, having delegation of permit-granting authority under NRPA for projects wholly within its jurisdiction. The MCP incorporates NRPA, Chapter 10, and other state laws and regulations as enforceable policies of the coastal program, and federal actions must be carried out in a manner consistent with those policies.

A decision table is provided on page 4 to summarize the information below.

CONDITIONAL WQC CERTIFICATION AND CONDITIONAL CZM CONCURRENCE – GENERAL
DEP, LUPC, and MCP have coordinated on the review of the proposed NWPs and have decided that NWPs 3, 4, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 27, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 46, 48, 50, 51, 52, 53, 54, 56, 57, 58, 59, and A would conditionally comply with state water quality requirements and MCP enforceable policies and therefore conditionally certify and conditionally concur, provided that the applicant obtains all applicable state approvals pursuant to 38 M.R.S. §§480-A through -KK and 06-096 C.M.R. ch. 305 and ch. 310 and 01-672 C.M.R. ch. 10.

The DEP and LUPC have robust programs, standards, and criteria to review applications for the activities identified in each NWP. The NWPs themselves provide insufficient information to determine if discharges from the regulated activities would comply with Maine's Water Quality Standards and MCP enforceable policies within 38 M.R.S. §§480-A – 480-KK. By conditioning WQC and CZM on applicants going through applicable state review process(es), necessary data and information can be obtained and evaluated to ensure there would be no negative impacts to water quality or other protected natural resources. The DEP also has its own standards for activities that have been determined to not significantly affect the environment if carried out in accordance with the standards and conditions under 06-096 C.M.R. Chapter 305 Permit by Rule. DEP and LUPC have additionally identified activities not requiring a permit by applicable state standards which also do not need WQC, as stated in the "WQC waived" section below.

CONDITIONAL WQC CERTIFICATION AND CONDITIONAL CZM CONCURRENCE – NWP 36
36. Boat Ramps conditions

- WQC and CZM are only given for public, community, and commercial boat ramps, where commercial means that the ramp is privately owned and operated but open to all members of the public with or without a fee. Private/single residential boat ramps require individual WQC and CZM review.

Limiting the scope of NWP 36 ensures the most public benefit per project and also prevents violation of state water quality standards.
38 M.R.S. §§480-A – 480-KK; 06-096 C.M.R. ch. 305; 12 M.R.S. § 685-B(4) as restated in 01-672 C.M.R. § 10.24(A)(1); 01-672 C.M.R. § 10.27(L)

WQC WAIVED
DEP waives WQC for activities for which a permit is not required pursuant to 38 M.R.S. §480-Q. LUPC waives WQC for activities that are identified as exempt pursuant to 12 M.R.S. §685-B(1-A) or as uses allowed without a permit, or uses allowed without a permit subject to standards, pursuant to 01-672 C.M.R. ch. 10. Additionally, such activities do not necessitate an individual CZM review by MCP.
DEP and LUPC agree with USACE that WQC is not necessary for NWPs 1, 9, 10, 11, 28, and 55.

DEP and LUPC waive WQC for NWP 8 because it does not apply to activities in waters within state jurisdiction.

WQC DENIAL AND CZM OBJECTION
DEP, LUPC, and MCP deny and object to NWP 45. The state cannot certify that this activity would comply with water quality requirements because it does not align with DEP's Chapter 310 Wetlands and Waterbodies Protection rules, which clarify that "a yard or other developed area may not be extended closer to the water as part of a shoreline stabilization project." It also does not align with *Land Use Districts and Standards* 01-672 C.M.R. ch. 10, included but not limited to Sections 10.25(A), 10.25(P)(1)(b), 10.25(P)(1)(c), 10.25(T), and 10.27(F)(6).
38 M.R.S. §§ 480-A – 480-KK; 06-096 C.M.R. ch. 310; 01-672 C.M.R. ch. 10

CZM-SPECIFIC CONDITIONAL CONCURRENCE
MCP conditionally concurs with NWPs 1, 9, 10, 11, 28, and 55, provided the applicant obtains all applicable state approvals pursuant to 38 M.R.S. §§480-A through -KK and 06-096 C.M.R. ch. 305 and ch. 310 and 01-672 C.M.R. ch. 10 for the reasoning provided above.

CZM OBJECTION
MCP objects to NWP 8 because it would not be consistent with MCP enforceable policies. It is the policy of the state to manage the marine environment and its related resources to preserve and improve the ecological integrity and diversity of marine communities and habitats and to enhance the economic value of the state's renewable marine resources. It is also the policy of the state to conserve, by according such protection as is necessary to maintain and enhance their numbers, all species of fish or wildlife found in the state, as well as the ecosystems upon which they depend. Pursuant to 38 M.R.S. §480-D(3), a permit cannot be granted for an activity that would unreasonably harm any significant wildlife habitat, … travel corridor, … or marine fisheries or other aquatic life. Oil and gas activities and the threat of oil spills in the Gulf of Maine would endanger commercial fishing, aquaculture, tourism, fish and wildlife habitat, and other coastal and ocean resources.
38 M.R.S. §1801(2); 12 M.R.S. §12801; 12 M.R.S. §6971; 38 M.R.S. §480-D(3)

Any instance where a project does not follow the terms and conditions of the NWPs, general conditions, and WQC/CZM conditions shall be assumed to constitute a WQC denial and a CZM objection and necessitate individual review under such authorities.

The State of Maine appreciates the opportunity to collaborate on this federal permitting streamlining effort. Please note that WQC issuance and CZM concurrence does not negate the need for any other state and/or local authorizations and coordination that may be required. Early coordination with project proponents is always recommended. For questions, please reach out to the following contacts:
DEP – WQCertification@maine.gov
LUPC – LUPC@maine.gov
MCP – CZM_FederalConsistency@maine.gov

Sincerely,

Robert Wood
Director of the Bureau of Land Resources
Department of Environmental Protection

Benjamin Godsoe
Acting Executive Director
Land Use Planning Commission

Jocelyn Runnebaum
Director
Maine Coastal Program

cc: Jessica Damon, DEP
Audie Arbo, LUPC
Tim Carr, LUPC
Erin Wilson, MCP

Maine Nationwide Permit Decision Table

Nationwide Permit	WQC	CZM
1. Aids to Navigation	Waive	Conditional
3. Maintenance	Conditional	Conditional
4. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities	Conditional	Conditional
5. Scientific Measurement Devices	Conditional	Conditional
6. Survey Activities	Conditional	Conditional
7. Outfall Structures and Associated Intake Structures	Conditional	Conditional
8. Oil and Gas Structures on the Outer Continental Shelf	Waive	Object
9. Structures in Fleeting and Anchorage Areas	Waive	Conditional
10. Mooring Buoys	Waive	Conditional
11. Temporary Recreational Structures	Waive	Conditional
12. Oil or Natural Gas Pipeline Activities	Conditional	Conditional
13. Bank Stabilization	Conditional	Conditional
14. Linear Transportation Projects	Conditional	Conditional
15. U.S. Coast Guard Approved Bridges	Conditional	Conditional
16. Return Water from Upland Confined Disposal Areas	Conditional	Conditional
17. Hydropower Projects	Conditional	Conditional
18. Minor Discharges	Conditional	Conditional
19. Minor Dredging	Conditional	Conditional
20. Response Operations for Oil or Hazardous Substances	Conditional	Conditional
22. Removal of Vessels	Conditional	Conditional
23. Approved Categorical Exclusions	Conditional	Conditional
27. Aquatic Ecosystem Restoration, Enhancement, and Establishment Activities	Conditional	Conditional
28. Modification of Existing Marinas	Waive	Conditional
29. Residential Developments	Conditional	Conditional
31. Maintenance of Existing Flood Control Facilities	Conditional	Conditional
32. Completed Enforcement Actions	Conditional	Conditional
33. Temporary Construction, Access, and Dewatering	Conditional	Conditional
34. Cranberry Production Activities	Conditional	Conditional
35. Maintenance Dredging of Existing Basins	Conditional	Conditional
36. Boat Ramps	Conditional	Conditional
37. Emergency Watershed Protection and Rehabilitation	Conditional	Conditional
38. Cleanup of Hazardous and Toxic Waste	Conditional	Conditional
39. Commercial and Institutional Developments	Conditional	Conditional
40. Agricultural Activities	Conditional	Conditional
41. Reshaping Existing Drainage and Irrigation Ditches	Conditional	Conditional
42. Recreational Facilities	Conditional	Conditional
43. Stormwater Management Facilities	Conditional	Conditional
44. Mining Activities	Conditional	Conditional
45. Repair of Uplands Damaged by Discrete Events	Deny	Object
46. Discharges in Ditches	Conditional	Conditional
48. Commercial Shellfish Mariculture Activities	Conditional	Conditional
51. Land-Based Renewable Energy Generation Facilities	Conditional	Conditional
52. Water-Based Renewable Energy Generation Pilot Projects	Conditional	Conditional
53. Removal of Low-Head Dams	Conditional	Conditional
54. Living Shorelines	Conditional	Conditional
55. Seaweed Mariculture Activities	Waive	Conditional
57. Electric Utility Line and Telecommunications Activities	Conditional	Conditional
58. Utility Line Activities for Water and Other Substances	Conditional	Conditional
59. Water Reclamation and Reuse Facilities	Conditional	Conditional
A. Activities to Improve Passage of Fish and Other Aquatic Organisms	Conditional	Conditional

REGION 1
BOSTON, MA 02109

December 18, 2025

Ms. Tammy Turley
Chief, Regulatory Division
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

Subject: Tribal Nations and Lands of Exclusive Federal Jurisdiction Water Quality Certification for the proposed 2026 Nationwide Permits

Dear Ms. Turley,

On June 18, 2025, EPA Region 1 received a request for water quality certification of the U.S. Army Corps of Engineers' (Corps) proposed 2026 Nationwide Permits (NWPs) that may result in a discharge in waters of the United States within the Boundaries of an Indian Country or lands of exclusive federal jurisdiction (LEFJ) that are surrounded by the states of Maine, Massachusetts, Rhode Island, and Connecticut. In that notification, the Corps requested that EPA issue a Clean Water Act (CWA) Section 401 water quality certification for the NWPs.

CWA section 401(a)(1) requires applicants for Federal permits and licenses that may result in discharges into waters of the United States to obtain certification that the discharge will comply with applicable provisions of the CWA, including sections 301, 302, 303, 306 and 307. The enclosed CWA section 401 water quality certification decision applies to Tribal Lands and LEFJ in relevant respects where EPA is the certifying authority.[1] EPA reviewed the draft NWPs and applicable conditions and has determined that any discharge from activities authorized by the proposed NWPs as certified will comply with water quality requirements, as defined at 40 CFR 121.1(n), subject to the applicable enclosed conditions pursuant to Section 401(d). For the water quality certification decision on NWP 45 on behalf of Federally recognized Tribes in Maine and LEFJ in Maine, EPA denies water quality certification. For work that proposes activities authorized under NWP 45 that may occur on Tribal lands in Maine or on LEFJ in Maine, an individual water quality certification will be required.

[1] 33 U.S.C. 1341(a)(1). Please contact EPA Region 1 for current information regarding the jurisdictions where this 401 certification decision applies at R1cwa401@epa.gov.

REGION 1
BOSTON, MA 02109

Please provide this certification to any project proponent (or their designated contractor) contacting the Corps with applicable projects that may be authorized under the NWPs. If a project fails to meet the enclosed conditions, the applicant must contact EPA Region 1 at R1cwa401@epa.gov for a project-specific certification. This email may be used to submit pre-filing meeting requests, requests for certification, or for any certification-related questions.

EPA appreciates our long-standing partnership and coordination in implementing Section 401 of the CWA. If you have any questions, please contact Haley Miller at miller.haley@epa.gov or 617-918-1169.

Sincerely,

ANDREA TRAVIGLIA

Digitally signed by ANDREA TRAVIGLIA
Date: 2025.12.18 13:43:09 -05'00'

Andrea Traviglia
Acting Section Chief
Water Quality and Wetlands Protection Section

Cc:

Roberta "Birdie" Budnik, Project Manager, Regulatory Division, U.S. Army Corps of Engineers New England District
Matthew Hanington, Tribal Program Coordinator, U.S. Environmental Protection Agency
Honorable Clarissa Sabattis, Chief, Houlton Band of Maliseet Indians
Honorable Sheila McCormack, Chief, Mi'kmaq Nation
Honorable Kirk Francis, Chief, Penobscot Indian Nation
Honorable William Nicholas, Chief, Passamaquoddy Tribe of Indians – Indian Township Reservation
Honorable Pos Bassett, Chief, Passamaquoddy Tribe of Indians – Pleasant Point Reservation
Honorable Cheryl Andrews-Maltais, Chairwoman, Wampanoag Tribe of Gay Head (Aquinnah)
Honorable Brian Weeden, Chairman, Mashpee Wampanoag Tribe
Honorable Anthony Dean Stanton, Chief Sachem, Narragansett Indian Tribe
Honorable James Gessner, Chairman, Mohegan Tribe
Honorable Rodney Butler, Chairman, Mashantucket Pequot Tribal Nation

U.S. Environmental Protection Agency Region 1's Clean Water Act Section 401 Certification of the 2026 Nationwide Permits for Tribal Lands and Acadia National Park in Maine

December 18, 2025

Clean Water Act (CWA) Section 401 requires applicants for Federal licenses or permits to conduct any activity which may result in any discharge into waters of the United States to obtain a certification or waiver from the certifying authority where the discharge originates or will originate. Where no state or Tribe has authority to give such certification, the U.S. Environmental Protection Agency is the certifying authority. 33 U.S.C. 1341(a)(1). In this case, the Wabanaki Tribal Nations in Maine (the Houlton Band of Maliseet Indians, the Passamaquoddy Tribe of Indians, the Passamaquoddy Tribe of Indians Pleasant Point Reservation, Penobscot Nation, and the Mi'kmaq Nation) do not have the authority to provide CWA Section 401 certification for projects within their respective Tribal lands. Therefore, EPA is making the certification decision for the 2026 Nationwide Permits in Indian Country in Maine to the extent that the State of Maine has no authority to issue such a certification for waters within the exterior boundaries of an Indian reservation. Additionally, the state of Maine does not have authority to provide CWA section 401 certification for projects within Acadia National Park, which is a land of exclusive federal jurisdiction (LEFJ) in relevant respects.[1] Therefore, EPA is making the certification decision for the 2026 Nationwide Permits in Acadia National Park.

Project Description

On June 18, 2025, the Corps proposed to reissue 56 NWPs and 1 new NWP that would expire in March 2026. 90 FR 26100 (June 18, 2025). The purpose of the NWPs is to authorize categories of activities under CWA Section 404 and Section 10 of the Rivers and Harbors Act of 1899 that have no more than minimal individual and cumulative adverse environmental impacts. For more details see: https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Nationwide-Permits/

[1] An inventory report compiled by the U.S. General Services Administration for federal properties as of 1962 identifies properties that may contain exclusive federal jurisdiction. This document is accessible at https://www.congress.gov/116/meeting/house/110088/documents/HHRG-116-II13-20191017-SD044.pdf. The EPA notes that this inventory report is not all-inclusive and that the information contained within it has not been recently confirmed and/or updated. Please contact EPA Region 1 at r1cwa401@epa.gov with questions regarding the jurisdictions where this certification decision applies.

The EPA's Public Notice Process

On June 18, 2025, the EPA received a request for certification from the project proponent. On July 8, 2025, the EPA issued a public notice regarding the proposed project and provided the opportunity for the public to submit comments until August 2, 2025. EPA received no public comments during the public notice period.

General Information

The general information provided in this section does not constitute a certification condition(s).

General Applicability

- The Corps did not request certification for NWPs 2, 8, 21, 24, 25, 30, 49, and 50, and as such, the certification process did not begin and EPA neither certified nor waived certification. Consequently, if any activity authorized by this NWP may result in a discharge into a water of the United States, on lands that EPA acts as the certifying authority, the Corps must seek CWA 401 certification from EPA.
- If a project proposal does not meet either the general or NWP-specific certification conditions, or if certification is denied for a specific NWP, the project proponent must request an individual certification from EPA Region 1.

Documentation Recommendations

- Project proponents for potential projects authorized under the NWPs should retain this certification in their files with the applicable NWPs as documentation of EPA's certification decisions for the above-referenced proposed NWPs. This certification is specifically associated with the proposed NWPs described above and expires when those NWPs expire, five years from Corps issuance date, or are otherwise superseded by subsequent reissuance if less than five years.
- Copies of this certification should be kept on the job site and made readily available for reference.

Contact Information

- The project proponents for potential projects authorized under an NWP are encouraged to contact EPA Region 1 during the project planning phase if there are any questions about relevant best management practices (e.g., bioengineering techniques, biodegradable erosion control measures, revegetation using native plant species, suitable fill materials, and disposal of debris/construction materials preventing runoff) and resources that can assist with compliance.
- Prior to work commencing, EPA recommends that project proponents notify the appropriate Tribal Environmental Office, if applicable.
- In the case of a spill, EPA recommends that the project proponent notify EPA Region 1 at 1-888-372-7341 within 8 hours from discovery. For emergency spills, EPA recommends that the project proponent contact the EPA's National Response Center at 1-800-424-8802 as well as the appropriate personnel identified in the project's Spill Prevention Control and Countermeasures, or similar plan, if applicable.
- If you have any questions regarding this certification, please contact r1cwa401@epa.gov.

Certification Decisions

Waiver of Certification

On behalf of the Wabanaki Tribal Nations in Maine and LEFJ in Maine, EPA Region 1 is expressly waiving its authority to act on the CWA § 401 request for certification for NWPs 1, 9, 10, 11, 28 and 55.

Grants of Certification with Conditions

EPA is granting certification with conditions for NWPs # 3, 4, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 27, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 46, 48, 51, 52, 53, 54, 57, 58, 59 and A. For NWPs that EPA grants certification with conditions, EPA has determined that the activity will comply with the applicable water quality requirements, including any limitation, standard, or other requirement under sections 301, 302, 303, 306, and 307 of the CWA; any Federal and state or Tribal laws or regulations implementing those sections; and any other water quality-related requirement of state or Tribal law, subject to the conditions listed under the NWPs below, pursuant to CWA Section 401(d).

Condition 1: Plan Development and Implementation for Projects that require Pre-Construction Notification (PCN)

Prior to construction for projects that require a PCN, the project proponent shall develop a plan that includes a copy of the PCN and the following information (if not already included in the PCN):

- Time stamped photo-documentation of the baseline conditions (*i.e.*, 50 feet upstream of the project area, within the project area, and 100 feet downstream of the project area).
- Identifies on a site map, as applicable:
  - Project site with all waters of the U.S. demarcated. Identify all locations where the project will cross jurisdictional waterbodies and identify the ordinary high-water mark and/or wetland boundaries; the planned work area where wetlands/aquatic resources will be removed, disturbed, and/or protected; buffer zones; and areas to be restored/reclaimed, as well as site access points and other approved work areas.
  - Staging areas and stockpiling of materials and equipment, including locations for containment booms and/or absorbent materials, and/or hazardous materials. Stockpiles (*e.g.*, sediment, soil, or other construction materials) shall be stored at least 50 feet from where it may enter waters of the U.S.
  - Construction access points.
  - Disturbance limits.
  - Locations where site dredging and placement of dredged material activities will occur.
  - Locations where dewatering activities will occur including as applicable locations of cofferdams, temporary berms, piling, and/or dikes.
  - Locations of undergrounding or directional drilling (including bore pits).
  - Locations where hazardous materials are stored. Identify where containment booms and/or absorbent materials are located for corrective action if needed. Hazardous materials shall be stored in leak-proof containers with appropriate secondary containment measures (*e.g.*, spill berms, dikes, spill containment pallets, absorbent materials).
  - Any silt/sediment fencing.

- Photo-reference sites. The project proponent shall indicate the directional view and location where photos were taken on the site map.

- A description of how the site will be restored to pre-construction conditions, as applicable, including measures that will be used to promote and maintain:
  - stream hydrology and stability.
  - aquatic resource composition.
  - diversity of native species existing on site and as introduced via restoration activities.
  - stability of soils.
  - establishment of vegetation at the same percent cover as pre-construction activities.
- The timeframe/schedule for revegetation following completion of construction. Revegetation should occur at the earliest practicable date following completion of construction. Drill seeding is the preferred method, where applicable.
- Non-native and invasive species shall not be used for restoration activities.
- Includes the following, as applicable:
  - Cofferdams, temporary berms, pilings, and/or dikes: Describe installation and maintenance practices for any cofferdams, temporary berms, pilings, and/or dikes.
  - Dredging: Describe how contaminated materials will be managed (*e.g.*, sediment testing data and information to identify whether sediments are clean or contaminated), if included in the project dredged area. Describe methods for minimizing dredging impacts (*i.e.*, sedimentation resuspension) in the water column.
  - Erosion and sediment control: Identify the types and locations of sediment and erosion control features that shall be used onsite, including sediment control fences, haybales, heavy mud mats, and/or other structures. Biodegradable blankets and/or loose-weave mesh shall be used for erosion control matting. If using velocity dissipation structures (e.g., riprap aprons, check dams etc.), structures shall be constructed to include both peak flow rates and total stormwater volume, and provide protection from the erosive potential of high-velocity flows to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points. The project proponent shall ensure all erosion and sediment control measures are in place prior to the onset of construction.
  - Bank stabilization and channel modification. If the project requires bank stabilization or stream channel modification, include pre-construction cross sections. If the project includes steep bank slopes of 3:1 or greater, include revetment cross sections. Bioengineering techniques suitable for steep slope disturbances are preferred (e.g., vegetated toe, bioengineered boulder toe, etc.) Slopes of disturbed banks shall be designed and installed to not reduce the bottom width of the stream.
  - Dewatering: Work shall be completed in the dry unless coordinated with EPA Region 1. Describe methods for dewatering, including the equipment that would be used to conduct the dewatering activities. Identify the locations and timing, including length of time the area is to be dewatered. Explain removal method of the temporary structures and/or fill and what measures will be taken to minimize downstream turbidity and adaptive management measures that will be taken and employed to prevent the draining of waters of U.S., including wetlands.
  - Ditching and trenching: Explain ditching/trenching and material placement techniques and stabilization methods to be employed, as well as timing. In wetlands, the top 6 to 12 inches of

the ditch/trench shall be backfilled with topsoil from the trench, unless other techniques are approved. Include activity timing needs for ditching and stabilization.
    - Undergrounding or directional drilling: Describe measures taken to prevent, contain and cleanup any inadvertent return of drilling fluid to the surface (i.e., "frac-outs").
- Submit the plan to EPA Region 1 at r1cwa401@epa.gov at least 30 days prior to commencing construction activities.

During construction for projects that require a PCN, the project proponent shall:

- Visually inspect construction activities daily.
- Prevent sediment, debris, silt, sand, cement, concrete, oil or petroleum, organic materials, or other construction debris or wastes from entering waters of the U.S. The discharge of unset cement, concrete, grout, or water that has contacted uncured concrete or cement, or related washout to waters of the U.S. is prohibited.
- Maintain documentation onsite that all equipment was cleaned of dirt, mud, and other materials prior to arriving on the project site.
- Inspect all equipment daily and prior to entering any waters of the U.S. for oil, gas, diesel, anti-freeze, hydraulic fluid, and other petroleum leaks. If the project proponent detects a leak from any equipment, they shall immediately remove the equipment from waters of the U.S.; and within 24 hours of detection of a leak, repair the equipment in a staging area or move it offsite.
- Limit vegetation clearing and disturbance to waters. Limit the clearing and grubbing of vegetation and disturbance to areas demarcated on the site map submitted as part of the vegetation restoration and monitoring plan. The boundaries of vegetation to protect shall be flagged in the field prior to beginning construction activities.
- Limit restoration of the channel bed to pre-existing contours and conditions. Any proposed deviations must be specified in advance. For example, if any improvements will be made using natural channel design.
- Photo-document any failures or increased turbidity due to construction activities.
    - Within 24 hours of observing a failure or marked increase in turbidity associated with construction, the project proponent shall remedy and implement any additional adaptive management measures to stabilize the activity and prevent further unauthorized discharges into waters of the U.S. The project proponent shall photo-document the failure (*i.e.*, 50 feet upstream of failure, at the incident site, and at least 100 feet downstream of the failure) and the adaptive management measures taken immediately following implementation. The project proponent shall take remediation condition photos at the same location(s) and direction(s) as in the failure condition photos.
    - Within 48 hours of observing any failure, the project proponent shall provide EPA Region 1 with the required photo-documentation, and descriptions of all observed failures and implemented remedies.
    - Within three weeks of observing a failure, the project proponent shall provide EPA Region 1 with a description of the impacts and effectiveness of the employed adaptive management measures.
- Carry out as applicable:
    - Erosion control: Inspect sediment and erosion control measures daily during project implementation and within 12 hours of precipitation events. After construction is complete, remove sediment and erosion control structures once vegetation is established to the same

percent cover as pre-construction conditions, unless they are needed for long term stabilization purposes.
    - Dewatering: Assess all dewatering measures within 24 hours after a severe storm event.

Post construction for projects that require a PCN, the project proponent shall, as applicable:

- Submit a post-construction report, as defined below, within 90 days of completing construction activity to EPA Region 1 at r1cwa401@epa.gov or, if the Corps requires a post-construction report for the project activity, the applicant may submit that report to EPA to fulfill this post-construction requirement. The project proponent shall include the following items in the post-construction report:
    - Construction dates.
    - As-built drawings.
    - Documentation of site restoration activities using photographs and any field data sheets showing that the site was restored to pre-existing conditions or better. Include photographs of the site restoration areas on a map.
    - Any water quality data gathered before, during, and post-construction and associated maps showing the sample locations.
    - A description of any adaptive management strategies that were employed during construction, with a focus on strategy effectiveness.
    - Details on the removal of any sediment and erosion control structures, unless they are needed for long term stabilization purposes.
    - Effectiveness of the plan developed and implemented as required under this condition, and recommendations to remedy any deficiencies in plan development and implementation where employed measures were ineffective.
- For activities that require dredging, submit a copy of the as-builts and a post dredged and disposal report within 45 days of each dredging or disposal event to EPA Region 1 at r1cwa401@epa.gov. The project proponent shall include the following items in the post-dredged and disposal report:
    - Dredging and disposal dates.
    - Updated site map displaying the disposal location(s).
    - Dredging and disposal volumes.
    - Water quality monitoring data.
    - Post-dredged bathymetry.
    - Updated site maps displaying any new ditches, spoil piles, widths, and depths.

Why this condition is necessary: This condition is necessary to minimize suspended particulates /turbidity caused by construction activities and is necessary to ensure water quality is not degraded by toxic pollutants in toxic amounts, including construction materials, oil, grease, gasoline, or other types of fluids used to operate and maintain equipment used to complete the project, or discharges from dust abatement activities as well as contaminants in dredged material. This condition also appropriately minimizes impacts from access roads, staging areas, and stockpiling to further ensure that construction activities will result in no more than minimal individual and cumulative adverse environmental effects. This condition will protect water quality because it ensures that the project proponent is using planning and construction practices that will maintain the integrity of the site hydrology and maintain the aquatic resource functions and values, and ensures that appropriate revegetation measures are used to re-establish riparian/wetland vegetation to minimize the adverse

impacts of discharges of sediment and pollutants that enter waterways. Limiting the amount of vegetation that is disturbed will minimize the adverse environmental impacts of any potential discharges. Monitoring for at least three growing seasons, or until replanted areas meet monitoring success criteria, will provide an adequate indication that the restoration effort is able to demonstrate restoration is successful.

The general conditions in the Corps' NWP package do not address concerns about resuspension and turbidity caused by construction and dredging activities, thereby justifying the inclusion of this condition. GC 32 only requires agency coordination in certain circumstances. Additionally, GC 11 (equipment), GC 12 (soil erosion and sediment controls), and GC 13 (removal of temporary structures and fills) provide some aquatic resource protections, but greater specificity is needed to determine what measures are suitable to comply with applicable water quality requirements.

Citations: 33 U.S.C. 1341(a)(4); 40 CFR 230.10(c)-(d);40 CFR 230.10(d); 40 CFR 230.21(a); 40 CFR 230.70; 40 CFR 230.71; 40 CFR 230.72; 40 CFR 230.74; 40 CFR 230.75

Condition 2: Special Aquatic Resources

Projects or activities expected to have potential discharges into the below special aquatic resources areas on Tribal lands in Maine are not covered by this certification and applicants must request a project-specific CWA Section 401 certification from EPA Region 1 consistent with 40 CFR 121.5.

- **Wetlands classified as peatlands**: For the purposes of this condition, peatlands are permanently or seasonally waterlogged areas containing organic soils classified as a Histosol with a specific thickness of an accumulation of peat (i.e., organic matter) and include fens, bogs, and salt marshes.[2]
- **Natural Springs**: Within 100 feet of the water source in natural spring areas. For the purposes of this condition, a spring water source is defined as any location where there is flow emanating from a distinct point at any time during the growing season. Some examples of spring-fed wetlands are hanging gardens. Some examples of spring-fed headwater slopes are peat-accumulating wet meadows and fens. These resources may

[2] It is a general rule that a soil is classified as an organic soil (Histosol) if more than half of the upper 80 cm (32 inches) of the soil is organic or if organic soil material of any thickness rests on rock or on fragmental material having interstices filled with organic materials. Generally, organic soil materials have organic carbon content by weight of 12 percent or more. See the following for more information on what constitutes "organic soil material", limits between Histosols and soils of other orders, problematic hydric soils situations, and other indicators to identify peatlands: Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436. https://www.nrcs.usda.gov/resources/guides-and-instructions/soil-taxonomy; United States Department of Agriculture, Natural Resources Conservation Service. 2025. Hydric soils of problematic conditions and altered materials, Version 1.0. https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/11824; United States Department of Agriculture, Natural Resources Conservation Service. 2024. Field Indicators of Hydric Soils in the United States, Version 9.0. https://www.nrcs.usda.gov/sites/default/files/2024-09/Field-Indicators-of-Hydric-Soils.pdf

be identified using U.S. Fish and Wildlife Service's online digital National Wetland Inventory maps[3], or other aquatic resource mapping tools.

- **Riffle and Pool Complexes**: For the purposes of this condition, riffle and pool complexes are steep gradient sections of streams recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. Pools are characterized by a slower stream velocity, a steaming flow, a smooth surface, and a finer substrate.
- **State-listed Special Aquatic Resources**: For the purposes of this condition, State-listed aquatic resources are those aquatic habitats (rivers and streams, great ponds, freshwater wetlands and coastal wetlands) that are resources of state significance within Maine's Natural Resources Protection Act (NRPA), 38 M.R.S. §§480-A – 480-KK.

Why this condition is necessary: This condition is necessary to ensure a case-by-case review of any point source discharges into waters of the United States that are proposed in these specific aquatic resource site types which are inherently difficult to replace and have important ecological functions and values. Discharges into these systems have the potential to alter water circulation patterns and hydroperiods, release nutrients causing shifts in native to non-native species composition, release chemicals that adversely impact biota (plants and animals), increase turbidity levels, reduce light penetration and photosynthesis, or otherwise change the capacity of these systems to support aquatic life uses and other beneficial uses of these special aquatic sites, including impairing their diverse and unique communities of aquatic organisms, including fish, wildlife and the habitats upon which they depend. Project specific information is needed to ensure compliance with water quality requirements.

Citations: 40 C.F.R. 230.1(d); 40 C.F.R. 230.10(a)(3); 40 C.F.R. 230.10(c); 40 C.F.R. 230.10(d); 40 C.F.R. 230.20-24; 40 C.F.R. 230.21-22; 40 CFR 230.41; 40 C.F.R. 230.45; 40 C.F.R. 230.75(c); Subpart E of 40 CFR Part 230, 404(b)(1); Maine's Natural Resources Protection Act (NRPA), 38 M.R.S. §§480-A – 480-KK

Condition 3: Specific condition for NWP 7

Outfall design and placement shall include an appropriate energy dissipation structure (e.g., rip rap aprons) and shall be sized to prevent high pressure discharge. For intake structures, project proponents shall use an intake screen that reduces the size of aquatic organisms that can be entrained (e.g., a Johnson-type screen/intake), where feasible. Intake velocities shall not exceed 0.5 feet per second.[4]

Why this condition is necessary: This condition is necessary to ensure that outfall structures and intakes are constructed such that they provide localized erosion control at the point(s) of discharge while minimizing habitat degradation and assimilative capacity of the waterbody. Erosion from outfall

[3] National Wetlands Inventory mapper can be found at https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper

[4] Additional guidance on water intakes is available from the U.S. Fish and Wildlife Service: https://www.fws.gov/sites/default/files/documents/water-intake-recommendations.pdf

structures due to improperly designed and placed structures increases sedimentation that alters stream and wetland hydrology (e.g., scouring and deposition) and uncontrolled stormwater contaminants harm aquatic organisms and habitat. Impingement controls for intake structures reduce the size of aquatic organisms that can be entrained and minimize impacts to aquatic species.

Citations: 40 CFR 230.10(c)-(d); 40 CFR 230.30; 40 CFR 230.70; 40 CFR 230.73; 40 CFR 230.74; 40 CFR 230.75;

Condition 4: Specific Condition for NWP 13

For projects using gabions, the project proponent shall visually inspect and repair any damage to gabions and the gabion installation area after construction is completed at least once a year after spring flows.

Why this condition is necessary: This condition is necessary to reduce the individual and cumulative adverse environmental effects caused by hard bank stabilization structures on aquatic biodiversity, habitat, and aquatic resource functions and services. This condition is also necessary to minimize the potential for gabion failure and corresponding water quality impacts. Gabion failure leads to erosion and sediment release, which can significantly affect aquatic ecosystem diversity, productivity and stability, and can potentially release wire into the environment that can impact aquatic habitat. Rock released from damaged gabions can impact channel flow, which can interfere with aquatic habitat processes and infrastructure.

Citations: 40 CFR 230.10(c)-(d); 40 CFR 230.72; 40 CFR 230.74

Condition 5: Specific Condition for NWP 16

The project proponent shall provide EPA Region 1 with a description of the return water from the upland disposal area prior to discharge, including a description of the nature of the dredged material and a description of any contaminants present in the discharge. The project proponent shall also provide an analysis of how the return water may impact the physiochemical conditions of the receiving water prior to discharge, including a description of how the project proponent will ensure controls are in place to ensure compliance with applicable water quality requirements.

Why this condition is necessary: This condition is necessary to ensure any return water meets applicable water quality requirements and does not degrade receiving waters. Dredged material from industrial and urban areas, stormwater and agricultural runoff, as well as from areas of natural deposits of minerals and other natural substances, often contain contaminants from these sources and may have the potential to alter the chemistry of receiving waters, including but not limited to, nutrients, metals, organic carbon, and invasive species. To ensure that all appropriate and practicable measures to minimize harm to the aquatic ecosystem from contaminants are addressed, the project proponent should consider the unique nature of dredged material and the related contaminant pathway to understand the physicochemical conditions of each disposal site under consideration.

Citation: 40 CFR 230.10(b)-(d); 40 CFR 230.11; 40 CFR 230.12; 40 CFR 230.22; 40 CFR 230.31; 40 CFR 230.32; 40 CFR 230.61

Condition 6: Specific Condition for NWP 40

The project proponent shall ensure that any return water flows back into waters of the U.S. does not contain levels of toxic and priority pollutants in excess of effluent limitation guidelines established under Section 307 of the Clean Water Act.

Rationale: This condition is necessary to ensure that return water to waters of the U.S. meets water quality requirements. Agricultural runoff can degrade receiving waters due to contaminants, including toxic and priority pollutants that are subject to effluent limitations pursuant to Section 307 of the Clean Water Act. Project specific information is needed to consider the contaminants proposed for discharge and the aquatic environment at the proposed discharge site to ensure that all appropriate and practicable measures to minimize harm to the aquatic ecosystem are addressed.

Citations: 33 U.S.C. 1317(a)(1); 40 CFR 401.15; 40 CFR 230.10(c); 40 CFR 230.31; 40 CFR 230.32;

Denials of Certification

EPA is denying certification NWP 45.

NWP 45 – Repair of Uplands Damaged by Discrete Events.

This denial of certification applies to the water quality-related impacts from activities subject to NWP 45 that occur within Tribal lands and lands of exclusive federal jurisdiction surrounded by the State of Maine.

The State of Maine is denying certification for NWP 45 on the grounds that NWP 45 does not align with the Maine Department of Environmental Protection Chapter 310 Wetlands and Waterbodies Protection rules[5]. EPA is taking the same approach and denying certification for NWP 45. Applicable water quality requirements on federally recognized Tribal lands in Maine are currently set by the State of Maine[6]. Maine Department of Environmental Protection, Land Use Planning Commission, and Maine Coastal Program have denied water quality certification for the proposed NWP 45, and thus it would be incongruous and inconsistent for EPA to certify NWP 45 on Tribal lands, where Maine's state Water Quality Standards also currently apply, given that the State has determined it is denying certification for NWP 45.

[5] Maine DEP Chapter 310 Wetlands and Waterbodies Protection rules clarify "a yard or other developed area may not be extended closer to the water as part of a shoreline stabilization project."

[6] Letter from Curt Spalding, EPA Region 1 Administrator, to Patricia Aho, Maine DEP Commissioner (February 2, 2015) (referencing EPA's analysis of Maine's Water Quality Standards applied to waters of Indian lands in Maine). Maine Water Quality Standards are spread across multiple statutes and regulations. Maine's Water Classification Program can be found in Title 38 Chapter 3 of Maine Revised Statutes (MRS) Sections 464-470. For a complete list of statutes and regulations covering Maine's WQS, see EPA's website at: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-maine. Additionally, EPA has promulgated certain federal standards applicable to Indian Lands in Maine, *see* 40 CFR 131.43, where the listed federal standards are more stringent than state standards.

Citations: 40CFR 131.43 Maine; Title 38 Chapter 3 of Maine Revised Statutes (MRS) Sections 464-470 Maine Land Use Districts and Standards 01-672 C.M.R. ch. 10 (Chapter 10), included by not limited to Sections 10.25(A), 10.25(P)(1)(b), 10.25(P)(1)(c), 10.25(T), and 10.27(F)(6). 38 M.R.S. §§ 480-A – 480-KK; 06-096 C.M.R. ch. 310; 01-672 C.M.R. ch. 10

Attachment: Tribal Environmental Office Points of Contact

Compiled by EPA Region 1

Updated 12/17/2025

Houlton Band of Maliseet Indians	Susan Young, ogs1@maliseets.com Sharri Venno, envplanner@maliseets.com Rhonda Cochran, rcochran@maliseets.com Carolyn Merriam, cmerriam@maliseets.com Sam St. John, samstjohn7@yahoo.com
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Passamaquoddy Tribe of Indians Pleasant Point Reservation	Marvin Cling, marvin@wabanaki.com William (Billy) Longfellow, wlongfellow@wabanaki.com Bruce Doughty, bdoughty@wabanaki.com Chris Soctomah, chrissoctomah@wabanaki.com Ralph Dana, ralphdana@wabanaki.com
Wampanoag Tribe of Gay Head (Aquinnah)	Brett Stearns, isa@wampanoagtribe-nsn.gov Beckie Finn, envcoord@wampanoagtribe-nsn.gov
Mashpee Wampanoag Tribe	Dale Oakley, Dale.OakleyJr@mwtribe-nsn.gov Jason Steiding, Jason.Steiding@mwtribe-nsn.gov
Narragansett Indian Tribe	Dinalyn Spears, DSpears@nitribe.org Steven Smith ssmith@nitribe.org
Mohegan Tribe	Ken Janus kjanus@moheganmail.com Jean Mcinnis, jmcinnis@moheganmail.com
Mashantucket Pequot Tribal Nation	Michael Boland, mboland@mptn-nsn.gov

Environmental Summary Sheet

WIN: 25335.00 **Date Submitted: 7/7/2026**
Town: Sanford
CPD Team Leader: Danielle Tetreau
ENV Field Contact: Nick Koltai

NEPA Complete: Section 326 Categorical Exclusion (CE) 23 CFR 771.117.c.3 issued on 3/27/2024

Section 106
Review Complete: No Effect - No Properties - SHPO Concurrence 7/18/2022
Section 106 Resources: none

Section 4(f) and 6(f)

Section 4(f)
Review Complete - de minimis use 3/26/2024
Gateway Park
Number One Pond Recreation Area
Gowen Memorial Park
Sanford Dog Park

Section 6(f)
Review Complete - No properties, no takes

Section 7 – Endangered Species Act
Species of Concern: northern long-eared bat: No Effect not in modeled habitat.

Essential Fish Habitat
No Effect - no work in mapped EFH.

Maine Department of Inland Fisheries and Wildlife
Not Applicable Timing Window: Not Applicable

Maine Department of Agriculture, Conservation, and Forestry
Public Lands, Submerged Land Lease: Not Applicable
Maine Land Use Planning Commission: Not Applicable

Maine Department of Environmental Protection
Not Applicable – Exempt per 480-Q-2-d

Army Corps of Engineers: Clean Water Act.
Nationwide Permit Verification - NWP 14 – NAE-2026-00783
**See SP 105 for documentation and requirements.*

Stormwater Review
Chapter 500 MOA - compliance complete
MS4 Community – compliance complete

Hazardous Material Review
General Note-Proximity to documented contaminant or spill

☒ **Special Provisions Required**

Standard Specification 656-Erosion Control Plan	N/A☐	Applicable☒
Standard Specification 105.8.8-Protected Species	N/A☐	Applicable☒
Special Provision 105-Environmental Requirements	N/A☐	Applicable☒
General Note for Hazardous Waste	N/A☐	Applicable☒
Special Provision 203-Hazardous Waste	N/A☒	Applicable☐
Special Provision 656-Minor Soil Disturbance	N/A☒	Applicable☐
Special Provision 203-Dredge Spec	N/A☒	Applicable☐

**All permits and approvals based on plans/scope as of: 3/18/2024*

MaineDOT

Environmental Summary Sheet

WIN: 26306.00 **Date Submitted: 7/7/2026**
Town: Sanford
CPD Team Leader: Danielle Tetreau
ENV Field Contact: Nick Koltai

NEPA Complete: Section 326 Categorical Exclusion (CE) 23 CFR 771.117.d.4 issued on 3/20/2024

Section 106

Review Complete: No Adverse Effect - SHPO Concurrence 1/29/2024
Section 106 Resources: St. George's Episcopal Church – 3 Emerson Street

Section 4(f) and 6(f)

Section 4(f)
Review Complete - no use

Section 6(f)
Review Complete - No properties, no takes

Section 7 – Endangered Species Act
Species of Concern: northern long-eared bat: No Effect not in modeled habitat.

Essential Fish Habitat
No Effect - no work in mapped EFH.

Maine Department of Inland Fisheries and Wildlife
Not Applicable Timing Window: Not Applicable

Maine Department of Agriculture, Conservation, and Forestry
Public Lands, Submerged Land Lease: Not Applicable
Maine Land Use Planning Commission: Not Applicable

Maine Department of Environmental Protection
Not Applicable – no resource impacts

Army Corps of Engineers: Clean Water Act.
Not Applicable - no resource impacts
**See SP 105 for documentation and requirements.*

Stormwater Review
Chapter 500 MOA - compliance complete based on stormwater design
MS4 Community – compliance complete based on stormwater design

Hazardous Material Review
General Note-Proximity to documented contaminant or spill

☒ **Special Provisions Required**

Standard Specification 656-Erosion Control Plan	N/A☐	Applicable☒
Standard Specification 105.8.8-Protected Species	N/A☐	Applicable☒
General Note for Hazardous Waste	N/A☐	Applicable☒
Special Provision 105-Environmental Requirements	N/A	Applicable
Special Provision 203-Hazardous Waste	N/A☒	Applicable☐
Special Provision 656-Minor Soil Disturbance	N/A☒	Applicable☐
Special Provision 203-Dredge Spec	N/A☒	Applicable☐

**All permits and approvals based on plans/scope as of: 1/11/2024*

Environmental Summary Sheet

WIN: 28342.00 **Date Submitted: 3/17/2026**
Town: Sanford, Route 202
CPD Team Leader: Joshua Brown
ENV Field Contact (Regional Coordinator): Justin Sweitzer

NEPA Complete: NEPA certified pursuant to 23 CFR 771.117(c)(26), on 3/17/2026

Section 106

Review Complete: PA-B
Section 106 Resources: none

Section 4(f) and 6(f)

Section 4(f)	Section 6(f)
No ROW/no use	No ROW no takes

Maine Department of Inland Fisheries and Wildlife Essential Habitat

Essential Habitat not mapped within the projects site

Section 7

Species of Concern: NA

Essential Fish Habitat

EFH not mapped within the project site

Maine Department of Agriculture, Conservation, and Forestry

Public Lands, Submerged Land Lease: NA
Maine Land Use Planning Commission: NA, exempt activity

Maine Department of Environmental Protection

NA, not within jurisdiction

Army Corps of Engineers: Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

NA, not within jurisdiction

Stormwater Review

NA, based on scope

Hazardous Materials Review

NA, based on scope

Special Provisions Required

Special Provision 203 – Streambed Material	N/A☒	Applicable☐
Special Provision 105-Environemntal Requirements	N/A☒	Applicable☐
Standard Specification 656-Erosion Control Plan	N/A☐	Applicable☒
Special Provision 610 – Rock Bands and Banklines	N/A☒	Applicable☐
Special Provision 203-Dredge Spec	N/A☒	Applicable☐

Based on plans/scope as of: 6/17/2025