Updated 05/15/2020

FEDERAL PROJECT

Effective May 15, 2020
Supersedes April 22, 2020

BIDDING INSTRUCTIONS

FOR ALL PROJECTS:

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

For a Paper Bid:

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

For an Electronic Bid:

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

a) a completed Bid using Expedite® software and submitted via the Bid Express™ web-based service, b) an electronic Bid Guaranty (if required) or a faxed copy of a Bid Bond (with original to be delivered within 72 hours), and c) any other Certifications or Bid requirements listed in the Bid Documents as due by Bid opening.

3. Include prices for all items in the Schedule of Items (excluding non-selected alternates).
4. Bid Guaranty acceptable forms are:
   a) a properly completed and signed Bid Bond on the Department's prescribed form (or on a form that does not contain any significant variations from the Department's form as determined by the Department) for 5% of the Bid Amount or
   b) an Official Bank Check, Cashier's Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors or
   c) an electronic bid bond submitted with an electronic bid.

5. If a paper Bid is to be sent, "FedEx First Overnight" delivery is suggested as the package is delivered directly to the DOT Headquarters Building located at 16 Child Street in Augusta. Other means, such as U.S. Postal Service's Express Mail has proven not to be reliable.

IN ADDITION, FOR FEDERAL AID PROJECTS:

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

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

For complete bidding requirements, refer to Section 102 of the Maine Department of Transportation, Standard Specifications, March 2020 Edition.

April 28, 2017
Supersedes November 05, 2014

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 Rebecca Snowden at rebecca.snowden@maine.gov or Diane Barnes at diane.barnes@maine.gov.

NOTICE

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

Bid Enclosed - Do Not Open
PIN:
Town:
Date of Bid Opening:
Name of Contractor with mailing address and telephone number:

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

Double Envelope: Bid Enclosed
PIN:
Town:
Date of Bid Opening:
Name of Contractor:
This should not be much of a change for those of you who use Federal Express or similar services.

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

Bid Enclosed: Do Not Open
PIN:
Town:
Name of Contractor:

October 16, 2001

STATE OF MAINE DEPARTMENT OF TRANSPORTATION

Bid Guaranty-Bid Bond Form

KNOW ALL MEN BY THESE PRESENTS THAT_____

_____, of the City/Town of_____and State of_____

as Principal, and_____as Surety, a

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

Business in_____and hereby held and firmly bound unto the Treasurer of

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

themselves, their heirs, 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:

_____

_____

_____

PRINCIPAL:

By_____

By:_____

By:_____

WITNESS

_____

_____

_____

SURETY:

By_____

By:_____

Name of Local Agency: _____

NOTICE

Bidders:

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

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

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

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

Disadvantaged Business Enterprise Proposed Utilization

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

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

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form should be used.

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

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

MDOTs DBE Directory of Certified firms can also be obtained at https://www.maine.gov/mdot/civilrights/dbe/

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

The Contractor Shall Extend equal opportunity to MaineDOT certified DBE firms (as listed in MaineDOT's DBE Directory of Certified Businesses) in the selection and utilization of Subcontractors and Suppliers.

SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

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

Calculate and provide percentage of your bid that will be allocated to DBE firms, Federal Project Identification Number, and location of the Project work.

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

Revised 1/12

DBE GOAL NOTICE FFY 2019-2021
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.

For FFY 2019-21 (October 1, 2018 through September 30, 2021) MaineDOT has established an annual DBE participation goal of **2.4%** to be achieved through race/gender neutral means. This goal has been approved by the Federal Highway Administration and remains in effect through September 30, 2021. Maine DOT must meet this goal each federal fiscal year. If the goal is not met, MaineDOT must provide a justification for not meeting the goal and provide a plan to ensure the goal is met, which may include placing contract goals on certain projects that contractors will be required to meet.

MaineDOT asks all contractors, consultants and subcontractors to seek certified DBE firms for projects and to work to meet the determined 2.4% goal without the need to impose contract goals. DBE firms are listed on the MaineDOT website at:

https://www.maine.gov/mdot/civilrights/docs/dbe/WeeklyDBEVendorList.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

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MaineDOT CONTRACTOR'S DBE/SUBCONTRACTOR PROPOSED UTILIZATION FORM

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

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

Contact Person: _____ **Fax:** _____

E-mail: _____

BID DATE: _____

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

TOTAL ANTICIPATED DBE____% PARTICIPATION FOR THIS CONTRACT

WBE	DBE	Non DBE	Firm Name	Item Number & Description of Work	Quantity	Cost Per Unit/Item	Anticipated $ Value
						Subcontractor Total>	
						DBE Total >	

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

Equal Opportunity Use:

Form received:___/___/___Verified by: _____

FHWA ☐ FTA ☐ FAA ☐

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

Rev. 01/15

Maine Department of Transportation Civil Rights Office

Directory of Certified Disadvantaged Business Enterprises

Listing can be found at:

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

For additional information and guidance contact:

Civil Rights Office at (207) 624-3066

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

Vendor Registration

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

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
NOTICE TO CONTRACTORS

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper "Bids for **Highway Rehabilitation** in the Town of **Kingfield**" 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 August 5, 2020 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 No. 1728001, WIN. 018245.01

Location: In Franklin County, project is located on Rte's 16/27 beginning at the southern intersection of High St. and extending northerly 2.32 miles.

Outline of Work: Highway Rehabilitation and other incidental work.

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

The basis of award will be a combination of Section 1 and the contractor chosen Alternate (Section 2 or 3.)

For general information regarding Bidding and Contracting procedures, contact George Macdougall at (207) 624-3410. Our webpage at http://www.maine.gov/mdot/contractors/ contains a copy of the Schedule of Items, Plan Holders List, written portions of bid amendments, drawings, bid results and an electronic form for RFI submittal. For Project-specific information fax all questions to **Project Manager** Rhobe Moulton 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.

Plans, specifications and bid forms may be seen at the MaineDOT Building in Augusta, Maine and at the Department of Transportation's Regional Office in Wilton. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Full size plans $267.00 ($278.00 by mail). Half size plans $133.50 ($137.75 by mail), Bid Book $10 ($13 by mail), Single Sheets $2, payment in advance, all non-refundable.

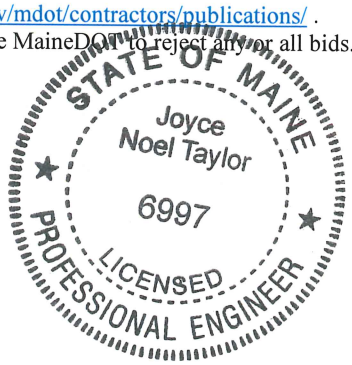
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of **$300,000.00** payable to Treasurer, State of Maine as a Bid guarantee. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each in the amount of 100 percent of the Contract price, will be required of the successful Bidder.

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

All work shall be governed by *State of Maine, Department of Transportation, Standard Specifications, March 2020 Edition*, price $10 [$15 by mail], and *Standard Details, March 2020 Edition*, price $10 [$15 by mail]. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 a.m. to 4:30 p.m. *Standard Detail* updates can be found at http://www.maine.gov/mdot/contractors/publications/ .

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

Augusta, Maine
July 15, 2020



Joyce Noel Taylor

JOYCE NOEL TAYLOR P. E.
CHIEF ENGINEER

NOTICE

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

SPECIAL PROVISION 102.7.3
ACKNOWLEDGMENT OF BID AMENDMENTS

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

Amendment Number	Date

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

CONTRACTOR

Date

Signature of authorized representative

(Name and Title Printed)

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 018245.01 Project(s): 018245.01

SECTION: 1 Project Items

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
0010	201.11 CLEARING	3.500 AC	_____.____	_____.____
0020	201.23 REMOVING SINGLE TREE TOP ONLY	87.000 EA	_____.____	_____.____
0030	201.24 REMOVING STUMP	85.000 EA	_____.____	_____.____
0040	202.15 REMOVING EXISTING MANHOLE OR CATCH BASIN	14.000 EA	_____.____	_____.____
0050	202.203 PAVEMENT BUTT JOINTS	625.000 SY	_____.____	_____.____
0060	203.20 COMMON EXCAVATION	26,550.000 CY	_____.____	_____.____
0070	203.24 COMMON BORROW	50.000 CY	_____.____	_____.____
0080	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	19,753.000 CY	_____.____	_____.____
0090	403.2081 12.5 MM POLYMER MODIFIED HOT MIX ASPHALT	5,050.000 T	_____.____	_____.____
0100	403.209 HOT MIX ASPHALT 9.5 MM (SIDEWALKS, DRIVES, INCIDENTALS)	1,095.000 T	_____.____	_____.____
0110	403.211 HOT MIX ASPHALT (SHIMMING)	100.000 T	_____.____	_____.____
0120	409.15 BITUMINOUS TACK COAT - APPLIED	2,025.000 G	_____.____	_____.____

Proposal ID: 018245.01 Project(s): 018245.01

SECTION: 1 Project Items

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
0130	507.0841 STEEL PIPE HAND RAILING	LUMP SUM	LUMP SUM		_____	_____
0140	603.159 12 INCH CULVERT PIPE OPTION III	272.000 LF	_____	_____	_____	_____
0150	603.16 15 INCH CULVERT PIPE OPTION I	705.000 LF	_____	_____	_____	_____
0160	603.165 15 INCH REINFORCED CONCRETE PIPE CLASS III	56.000 LF	_____	_____	_____	_____
0170	603.169 15 INCH CULVERT PIPE OPTION III	124.000 LF	_____	_____	_____	_____
0180	603.175 18 INCH REINFORCED CONCRETE PIPE CLASS III	260.000 LF	_____	_____	_____	_____
0190	603.179 18 INCH CULVERT PIPE OPTION III	472.000 LF	_____	_____	_____	_____
0200	603.199 24 INCH CULVERT PIPE OPTION III	342.000 LF	_____	_____	_____	_____
0210	603.205 30 INCH REINFORCED CONCRETE PIPE CLASS III	64.000 LF	_____	_____	_____	_____
0220	603.55 CONCRETE PIPE TIES	24.000 GP	_____	_____	_____	_____
0230	604.072 CATCH BASIN TYPE A1-C	20.125 EA	_____	_____	_____	_____
0240	604.092 CATCH BASIN TYPE B1-C	10.125 EA	_____	_____	_____	_____

Proposal ID: 018245.01 Project(s): 018245.01

SECTION: 1 Project Items

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
0250	604.16 ALTERING CATCH BASIN TO MANHOLES	1.000 EA	_____.____	_____.____
0260	604.247 CATCH BASIN TYPE F5-C	2.000 EA	_____.____	_____.____
0270	604.249 CATCH BASIN TYPE F6-C	1.000 EA	_____.____	_____.____
0280	605.09 6 INCH UNDERDRAIN TYPE B	9,635.000 LF	_____.____	_____.____
0290	605.11 12 INCH UNDERDRAIN TYPE C	2,300.000 LF	_____.____	_____.____
0300	605.12 15 INCH UNDERDRAIN TYPE C	975.000 LF	_____.____	_____.____
0310	605.13 18 INCH UNDERDRAIN TYPE C	96.000 LF	_____.____	_____.____
0320	606.1301 31” W-BM GR, MID-WAY SPLICE-SGL FACED	5,050.000 LF	_____.____	_____.____
0330	606.1303 31” W-BM GR, MID-WAY SPLICE-15' RAD AND LESS	12.500 LF	_____.____	_____.____
0340	606.1304 31” W-BM GR, MID-WAY SPLICE-OVER 15' RAD	25.000 LF	_____.____	_____.____
0350	606.1305 31” W-BM GR, MID-WAY SPLICE FLARED TERMINAL	3.000 EA	_____.____	_____.____
0360	606.1721 BRIDGE TRANSITION - TYPE 1	1.000 EA	_____.____	_____.____

Proposal ID: 018245.01 Project(s): 018245.01

SECTION: 1 Project Items

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
0370	606.2591 ANCHORAGE ASSEMBLY FOR DRIVEWAY RADIUS	2.000 EA				
0380	606.353 REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	12.000 EA				
0390	606.356 UNDERDRAIN DELINEATOR POST	19.000 EA				
0400	606.47 SINGLE WOOD POST	13.000 EA				
0410	606.52 MAILBOX REMOVE & RESET	13.000 EA				
0420	607.24 REMOVE AND RESET FENCE	50.000 LF				
0430	608.26 CURB RAMP DETECTABLE WARNING FIELD	340.000 SF				
0440	609.11 VERTICAL CURB TYPE 1	3,246.000 LF				
0450	609.110 SPECIAL GRANITE CURB - 18"	435.000 LF				
0460	609.1112 SPECIAL GRANITE CURB - 60"	130.000 LF				
0470	609.112 SPECIAL GRANITE CURB - - 1' Wide Curb	145.000 LF				
0480	609.12 VERTICAL CURB TYPE 1 - CIRCULAR	20.000 LF				

Proposal ID: 018245.01 Project(s): 018245.01

SECTION: 1 Project Items

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
0490	609.221 TERMINAL CURB TYPE 1	540.000 LF				
0500	609.222 TERMINAL CURB TYPE 1 - CIRCULAR	24.000 LF				
0510	609.31 CURB TYPE 3	3,105.000 LF				
0520	609.34 CURB TYPE 5	90.000 LF				
0530	609.35 CURB TYPE 5 - CIRCULAR	25.000 LF				
0540	610.08 PLAIN RIPRAP	960.000 CY				
0550	610.16 HEAVY RIPRAP	1,520.000 CY				
0560	610.18 STONE DITCH PROTECTION	31.000 CY				
0570	613.319 EROSION CONTROL BLANKET	5,050.000 SY				
0580	615.07 LOAM	2,650.000 CY				
0590	618.13 SEEDING METHOD NUMBER 1	121.000 UN				
0600	618.14 SEEDING METHOD NUMBER 2	190.000 UN				
0610	619.12 MULCH	310.000 UN				

Proposal ID: 018245.01 Project(s): 018245.01

SECTION: 1 Project Items

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
0620	620.54 STABILIZATION/REINFORCEMENT GEOTEXTILE	2,000.000 SY				
0630	620.58 EROSION CONTROL GEOTEXTILE	2,905.000 SY				
0640	626.11 PRECAST CONCRETE JUNCTION BOX	6.000 EA				
0650	626.21 METALLIC CONDUIT	300.000 LF				
0660	626.22 NON-METALLIC CONDUIT	7,500.000 LF				
0670	626.38 GROUND MOUNTED CABINET FOUNDATION	2.000 EA				
0680	626.421 24 INCH DIAMETER FOUNDATION	56.000 LF				
0690	627.733 4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	50,700.000 LF				
0700	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	1,280.000 SF				
0710	627.78 TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	100,000.000 LF				
0720	629.05 HAND LABOR, STRAIGHT TIME	40.000 HR				

Proposal ID: 018245.01 Project(s): 018245.01

SECTION: 1 Project Items

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
0730	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	20.000 HR	_____.____	_____.____
0740	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	40.000 HR	_____.____	_____.____
0750	631.20 STUMP CHIPPER (INCLUDING OPERATOR)	10.000 HR	_____.____	_____.____
0760	631.32 CULVERT CLEANER (INCLUDING OPERATOR)	10.000 HR	_____.____	_____.____
0770	634.2041 LUMINAIRES	56.000 EA	_____.____	_____.____
0780	634.2065 LIGHT STANDARD WITH BANNER ARM	8.000 EA	_____.____	_____.____
0790	634.2066 LIGHT STANDARD WITHOUT BANNER ARM	48.000 EA	_____.____	_____.____
0800	639.18 FIELD OFFICE TYPE A	1.000 EA	_____.____	_____.____
0810	642.17 CAST-IN-PLACE CONCRETE STEPS	1.000 CY	_____.____	_____.____
0820	642.183 GRANITE STEP	LUMP SUM	LUMP SUM	_____.____
0830	645.106 DEMOUNT REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	45.000 EA	_____.____	_____.____

Proposal ID: 018245.01 Project(s): 018245.01

SECTION: 1 Project Items

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
0840	645.116 REINSTALL REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	45.000 EA				
0850	652.31 TYPE I BARRICADE	8.000 EA				
0860	652.33 DRUM	50.000 EA				
0870	652.34 CONE	150.000 EA				
0880	652.35 CONSTRUCTION SIGNS	520.000 SF				
0890	652.36 MAINTENANCE OF TRAFFIC CONTROL DEVICES	420.000 CD				
0900	652.38 FLAGGER	21,000.000 HR				
0910	652.41 PORTABLE CHANGEABLE MESSAGE SIGN	4.000 EA				
0920	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM	LUMP SUM			
0930	658.20 ACRYLIC LATEX COLOR FINISH, GREEN	100.000 SY				
0940	659.10 MOBILIZATION	LUMP SUM	LUMP SUM			
0950	660.21 ON-THE-JOB TRAINING (BID)	1,000.000 HR				

Proposal ID: 018245.01 Project(s): 018245.01

SECTION: 1 Project Items

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
0960	801.03 TEST PITS	1.000 EA	_____.____	_____.____
0970	806.50 CONTROL PANEL AND RELATED ITEMS	2.000 EA	_____.____	_____.____
0980	812.162 ADJUSTING SEWER MANHOLE TO GRADE	6.000 EA	_____.____	_____.____
0990	812.163 MODIFY SEWER MH, ADJUST FRAME & COVER	5.000 EA	_____.____	_____.____
1000	822.33 6 INCH CLASS 52 DUCTILE IRON PIPE	50.000 LF	_____.____	_____.____
1010	822.34 8 INCH CLASS 52 DUCTILE IRON PIPE	2,350.000 LF	_____.____	_____.____
1020	823.3251 8 INCH GATE VALVE WITH BOX	6.000 EA	_____.____	_____.____
1030	823.33 6 INCH GATE VALVE WITH BOX	2.000 EA	_____.____	_____.____
1040	823.332 GATE VALVE BOX, ADJUST TO GRADE	13.000 EA	_____.____	_____.____
1050	824.30 FIRE HYDRANT	1.000 EA	_____.____	_____.____
1060	824.31 REMOVE FIRE HYDRANT	1.000 EA	_____.____	_____.____
1070	824.32 REMOVE/RESET HYDRANT	1.000 EA	_____.____	_____.____

Proposal ID: 018245.01 Project(s): 018245.01

SECTION: 1 Project Items

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
1080	825.311 3/4 INCH CORPORATION	19.000 EA				
1090	825.312 3/4 INCH CURB STOP	19.000 EA				
1100	825.32 2 INCH CORPORATION	1.000 EA				
1110	825.41 3/4 COPPER SERVICE	800.000 LF				
1120	825.420 2" COPPER SERVICE - LONGSIDE	50.000 EA				
1130	825.5411 TEMPORARY WATER MAIN	 LUMP SUM	 LUMP SUM			
1140	827.301 ROCK EXCAVATION WATER MAIN	50.000 CY				
1150	827.302 UNSUITABLE SOIL EXCAVATION - BELOW GRADE	50.000 CY				
1160	827.33 TRENCH INSULATION	50.000 LF				
1170	832.06 TESTING AND DISINFECTING WATERMAIN	 LUMP SUM	 LUMP SUM			

Section: 1 Total: _____

Proposal ID: 018245.01 Project(s): 018245.01

SECTION: 2 Alternate 1 Items

Alt Set ID: 01 Alt Mbr ID: 1

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
1180	202.202 REMOVING PAVEMENT SURFACE	7,900.000 SY				
1190	307.332 FULL DEPTH RECYCLED PAVEMENT(W EMULSIFIED ASPHALT STABILIZER) 5 IN. DEPTH	32,000.000 SY				
1200	403.213 HOT MIX ASPHALT 12.5 MM BASE	6,800.000 T				
	Section: 2		Total:			

SECTION: 3 Alternate 2 Items

Alt Set ID: 02 Alt Mbr ID: 2

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
1210	202.202 REMOVING PAVEMENT SURFACE	41,050.000 SY				
1220	304.14 AGGREGATE BASE COURSE - TYPE A	4,800.000 CY				
1230	403.213 HOT MIX ASPHALT 12.5 MM BASE	10,835.000 T				
	Section: 3		Total:			
			Total Bid:			

CONTRACT AGREEMENT, OFFER & AWARD

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

_____

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

_____

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

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, WIN. **018245.01**, for **Highway Rehabilitation** in the town of **Kingfield, County of Franklin, Maine.** The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

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

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

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **October 1, 2022.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

C. Price.

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

Section 1 $_____

Section 2 Alt. 1 $_____

Section 3 Alt. 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 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the *Standard Specifications March 2020 Edition* (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.

2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications March 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **WIN. 018245.01 - Highway Rehabilitation – in the town of Kingfield,** State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items."

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

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items," which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the *Standard Specifications, March 2020 Edition*, and as addressed in the contract documents.

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

Third: To begin the Work as stated in Section 107.2 of the *Standard Specifications March 2020 Edition* and complete the Work within the time limits given in the Special Provisions of this Contract.

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

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

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

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

CONTRACTOR

_____ _____

Date (Signature of Legally Authorized Representative of the Contractor)

_____ _____

Witness (Name and Title Printed)

G. Award.

Your offer is hereby accepted for (see checked boxes):

Section 1 ❑
Section 2 ❑
Section 3 ❑

Contract Amount: _____

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

MAINE DEPARTMENT OF TRANSPORTATION

_____ _____

Date By: Bruce A. Van Note, Commissioner

_____

Witness

CONTRACT AGREEMENT, OFFER & AWARD

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

_____

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

_____

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

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, WIN. **018245.01**, for **Highway Rehabilitation** in the town of **Kingfield, County of Franklin, Maine.** The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

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

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

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **October 1, 2022.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

C. Price.

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

Section 1 $_____

Section 2 Alt.1 $_____

Section 3 Alt. 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 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the *Standard Specifications March 2020 Edition* (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.

2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications March 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **WIN. 018245.01 - Highway Rehabilitation – in the town of Kingfield,** State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items."

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

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items," which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the *Standard Specifications, March 2020 Edition*, and as addressed in the contract documents.

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

Third: To begin the Work as stated in Section 107.2 of the *Standard Specifications March 2020 Edition* and complete the Work within the time limits given in the Special Provisions of this Contract.

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

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

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

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

CONTRACTOR

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

G. Award.

Your offer is hereby accepted for (see checked boxes):

Section 1 ❑
Section 2 ❑
Section 3 ❑

Contract Amount: _____

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

MAINE DEPARTMENT OF TRANSPORTATION

_____	_____
Date	By: Bruce A. Van Note, Commissioner
_____	
Witness	

CONTRACT AGREEMENT, OFFER & AWARD

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

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

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No.01**12345.00**, for the **Hot Mix Asphalt Overlay** in the town/city of **South Nowhere,** County of **Washington**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

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

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

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **November 15, 2006.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

C. Price.

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

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, *Standard Specifications, March 2020 Edition, Standard Details March 2020 Edition*, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the *Standard Specifications March 2020 Edition* (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.

2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications, March 2020 Edition, Standard Details March 2020 Edition*, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

PIN 012345.00 South Nowhere, Hot Mix Asphalt Overlay ,

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

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

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items," which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the *Standard Specifications, March 2020 Edition*, and as addressed in the contract documents.

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

Third: To begin the Work as stated in Section 107.2 of the *Standard Specifications March 2020 Edition* and complete the Work within the time limits given in the Special Provisions of this Contract.

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

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

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

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

CONTRACTOR

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

G. Award.

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

MAINE DEPARTMENT OF TRANSPORTATION

_____	_____
Date	By: Bruce A. Van Note, Commissioner
_____	
(Witness)	

BOND # _____

CONTRACT PERFORMANCE BOND
(Surety Company Form)

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

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

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

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

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

BOND # _____

CONTRACT PAYMENT BOND
(Surety Company Form)

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

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

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

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

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

March 26, 2020

NOTICE

(COVID-19 Pandemic)

The Department considers the COVID-19 Pandemic an Uncontrollable Event as defined in Section 101.2 of the Department's Standard Specifications.

Accordingly, any documented delay to the project's Critical Path due to COVID-19 related issues, such as impacted workforce, subcontracts, or material supply, will be considered an Excusable Delay as defined in Section 109.5(A)(3) of the Department's Supplemental Specifications.

As an Excusable Delay, the Contractor is entitled to an extension of time provided that other associated notification, documentation, and procedural requirements set forth in the Contract are met.

"General Decision Number: ME20200035 05/08/2020

Superseded General Decision Number: ME20190035

State: Maine

Construction Type: Highway

County: Franklin County in Maine.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.80 for calendar year 2020 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, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.80 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate,if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2020
1	04/17/2020
2	05/08/2020

* ENGI0004-022 04/01/2018

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Grader/Blade, Milling Machine	$ 22.61	12.50

SUME2014-030 06/23/2017

	Rates	Fringes
CARPENTER, Includes Form Work	$ 18.34	2.84
HIGHWAY/PARKING LOT STRIPING: Laborer	$ 14.80	1.27
IRONWORKER, REINFORCING	$ 16.27	0.00
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and		

Distributor	$ 15.40	2.69
LABORER: Common or General	$ 14.45	2.16
LABORER: Landscape	$ 18.69	2.70
LABORER: Wheelman	$ 15.64	4.29
OPERATOR: Backhoe/Excavator/Trackhoe	$ 18.80	4.16
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 21.66	4.91
OPERATOR: Broom/Sweeper	$ 19.09	5.20
OPERATOR: Bulldozer	$ 17.30	3.50
OPERATOR: Loader	$ 18.59	5.53
OPERATOR: Mechanic	$ 22.07	8.73
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 21.46	8.78
OPERATOR: Screed	$ 19.02	4.82
OPERATOR: Roller (Earth)	$ 16.43	3.40
OPERATOR: Roller Asphalt	$ 21.97	7.81
TRAFFIC CONTROL: Flagger	$ 9.38	0.00
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper	$ 17.47	4.80
TRUCK DRIVER: Dump Truck	$ 15.07	5.15
TRUCK DRIVER: TackTruck	$ 20.18	7.75

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

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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 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) (ii)).

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

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

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

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

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

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010

08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

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

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

Administrative Review Board
U.S. Department of Labor

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

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

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END OF GENERAL DECISION"

THIS DOCUMENT MUST BE CLEARLY POSTED AT ALL CONSTRUCTION SITES FUNDED IN PART WITH STATE FUNDS

State of Maine
Department of Labor
Bureau of Labor Standards
Augusta, Maine 04333-0045
Telephone (207) 623-7906

Wage Determination - In accordance with 26 MRS §1301 et. seq., this is a determination by the Bureau of Labor Standards, of the fair minimum wage rate to be paid to laborers and workers employed on the below titled project.

2020 Fair Minimum Wage Rates
Highway & Earth Franklin County

Occupation Title	Minimum Wage	Minimum Benefit	Total	Occupation Title	Minimum Wage	Minimum Benefit	Total
Asphalt Raker	$15.00	$0.00	$15.00	Laborers (Incl.Helpers & Tenders)	$16.00	$0.71	$16.71
Backhoe Loader Operator	$20.00	$2.60	$22.60	Laborer - Skilled	$18.63	$0.77	$19.40
Boom Truck (Truck Crane) Operator	$25.00	$4.94	$29.94	Loader Operator - Front-End	$20.96	$3.23	$24.19
Bulldozer Operator	$21.00	$5.81	$26.81	Mechanic- Maintenance	$23.00	$3.46	$26.46
Carpenter	$22.46	$2.19	$24.65	Millwright	$29.82	$7.73	$37.55
Cement Mason/Finisher	$16.00	$4.04	$20.04	Painter	$18.00	$0.45	$18.45
Crane Operator =>15 Tons)	$30.00	$7.76	$37.76	Paver Operator	$21.63	$0.00	$21.63
Crusher Plant Operator	$20.50	$5.33	$25.83	Pipelayer	$23.78	$1.60	$25.38
Driller - Rock	$12.00	$8.82	$20.82	Plumber (Licensed)	$26.00	$4.50	$30.50
Electrician - Licensed	$28.00	$6.27	$34.27	Reclaimer Operator	$22.91	$13.25	$36.16
Electrician Helper/Cable Puller	$18.00	$1.84	$19.84	Roller Operator - Earth	$16.00	$0.24	$16.24
Elevator Constructor/Installer	$20.00	$1.78	$21.78	Roller Operator - Pavement	$18.00	$1.40	$19.40
Excavator Operator	$23.00	$3.11	$26.11	Screed/Wheelman	$18.43	$1.24	$19.67
Fence Setter	$18.00	$1.30	$19.30	Stone Mason	$20.00	$0.42	$20.42
Flagger	$13.00	$0.00	$13.00	Truck Driver - Light	$16.00	$0.44	$16.44
Grader/Scraper Operator	$20.00	$0.65	$20.65	Truck Driver - Medium	$19.00	$2.34	$21.34
Highway Worker/Guardrail Installer	$19.00	$1.71	$20.71	Truck Driver - Heavy	$17.50	$1.02	$18.52
Hot Top Plant Operator	$22.91	$13.25	$36.16	Truck Driver - Tractor Trailer	$17.15	$0.00	$17.15
Ironworker - Reinforcing	$29.23	$7.18	$36.41	Truck Driver - Mixer (Cement)	$17.25	$2.26	$19.51
Ironworker - Structural	$26.01	$22.27	$48.28				

The Laborer classifications include a wide range of work duties. Therefore, if any specific occupation to be employed on this project is not listed in this determination, call the Bureau of Labor Standards at the above number for further clarification.

Welders are classified in the trade to which the welding is incidental.

Apprentices – The minimum wage rate for registered apprentices are those set forth in the standards and policies of the Maine State Apprenticeship and Training Council for approved apprenticeship programs.

Title 26 §1310 requires that a clearly legible statement of all fair minimum wage and benefits rates to be paid the several classes of laborers, workers and mechanics employed on the construction on the public work must be kept posted in a prominent and easily accessible place at the site by each contractor and subcontractor subject to sections 1304 to 1313.

Appeal – Any person affected by the determination of these rates may appeal to the Commissioner of Labor by filing a written notice with the Commissioner stating the specific grounds of the objection within ten (10) days from the filing of these rates.

A true copy

Attest: Scott R. Cotnoir
Scott R. Cotnoir
Wage & Hour Director
Bureau of Labor Standards

SPECIAL PROVISION
SECTION 104
(WAGE RATES)

When two or more wage rate schedules appear in the bid Book, the highest rate shall prevail for each classification.

SPECIAL PROVISIONS
SECTION 104
Utilities

UTILITY COORDINATION

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

THE CONTRACTOR SHALL PLAN AND CONDUCT WORK ACCORDINGLY.

MEETING

A Pre-Utility 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 table 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 shall be furnished a project booklet and a plan set electronically.

Utility Overview & Contact Information				
Utility	**Aerial**	**Subsurface**	**Contact Person**	**Contact Phone**
TDS Telecom	X		Jason Tibbetts	431-2311 office
Central Maine Power	X		Tim Laney	629-9555 office
Spectrum_Charter Communications	X		Nils Bryant	620-3451 office
Kingfield Water District		X	Alan Stewart	265-4628 office
Town of Kingfield_sewer		X	Travis Targett	491-6564 office
MaineDOT M&O Traffic		X	Aaron Buotte	215-8103 office

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

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

Unless otherwise specified, any subsurface 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. Subsurface 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. Subsurface 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 clearing and tree removal in areas where utilities are involved must be completed before the utilities are able to relocate their facilities.

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

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

The contractor shall notify all utility companies **ten (10) working days** prior to beginning any work on this project. The intent of this early notification, with the utility representatives, is to begin communicating the contractor's construction schedule/sequence.

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

AERIAL

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

The aerial utilities have existing service lines crossing the highway corridor at intermediate locations through-out the project length, prior to the project start and after the project end. Each of the existing service lines provide a source of power or communication to the surrounding residents and commercial facilities.

Summary:

Utility	Summary of Work				Estimated Working Days
	Pole Sets	New Wire/Cable	Trans. Wire/Cable	Remove Poles	
TDS Telecom	X	X	X	X	65
Central Maine Power		X	X		20
Spectrum_Charter Communications		X			20
MaineDOT M&O Traffic			X		1
				Total:	106

Utility Specific Information:

TDS Telecom (TDS):

TDS Telecom has two (2) aerial communication lines existing along the corridor. These aerial communication lines shall be permanently transferred to new pole sets, the entire length of the project. TDS shall be performing the new pole sets (62 total) and removing the existing pole sets (66 total). The contractor is responsible for coordinating the locations of the new pole sets with the TDS representative. All new pole shall be 45-foot length. See the pole list table below for specific stationing and offset locations of the new pole sets. TDS shall require **ten (10) working days** notification to schedule their work. The contractor needs to understand that TDS shall not be performing a continuous sequence of their utility scope. TDS shall be the last utility to connect aerial lines to the new pole sets. TDS is responsible for removing the existing pole sets after all the new pole connections have occurred. See the above table for TDS estimated work days.

Central Maine Power (CMP):

Central Maine Power has three-phase and two-phase aerial lines existing along the corridor. These aerial power lines shall be permanently transferred to new pole sets, the entire length of the project. CMP shall be coordinating an acceptable date with TDS for when they can begin transferring aerial lines. The intent should be that TDS shall be entirely complete of the new pole sets or allowing enough separation between utilities before CMP begins any transfers. CMP shall require **ten (10) working days** notification to schedule their work. See the above table for CMP estimated work days.

Spectrum_Charter Communications:

Spectrum-Charter Communications has an aerial communication line existing along the corridor. The aerial communication line shall be permanently transferred to new pole sets, the entire length of the project. Spectrum shall be coordinating an acceptable date with CMP for when they can begin transferring aerial lines. Spectrum shall require **ten (10) working days** notification to schedule their work. See the above table for Spectrum estimated work days.

MaineDOT M&O Traffic:

MaineDOT M&O Traffic has an active traffic counter system in the existing pavement and attached to existing CMP pole #36 (coordinate 44.971900/-70.166388). The Contractor is responsible for confirming with the MaineDOT representative the present condition of the existing equipment prior to performing any excavation or paving activities. This equipment consists of loop sensor cables placed within the existing pavement in saw-cuts (width 5/16” max.) approximately 2” to 3” deep; routed to an existing junction box off the edge of the existing pavement; and the saw-cuts are covered by backer rod and waterproof bond sealant. This sensor equipment feeds the adjacent cabinet which holds the traffic counting equipment. The MaineDOT wants to retrieve the existing traffic counting equipment and cabinet for installation at a different location. The new location and installation shall be coordinated outside the scope of this MaineDOT project. See the above table for MaineDOT M&O estimated work days.

Pole List:

	Existing Pole Description (CMP#/TDS#)	Existing Pole Centerline Station	Left/ Right		Existing Offset from Centerline (ft)	New Pole Station	Left/ Right		New Offset from Centerline (ft)	Cut/ Fill (ft) +/-	Comments
			LT	RT			LT	RT			
Pole List Starts											
1	13/13	1006+62	X		28	1006+88	X		26	-0.5	new pole #1
2	12S/12S	1007+25		X	26.6						remove pole
3	12/12	1007+27									remove pole
4	11/11	1008+35	X		16.2	1008+37	X		22	0	new pole #2
5	10/9500/10	1009+59	X		16.8	1009+58	X		22	-0.5	new pole #3
6	9/9	1011+02	X		21.6	1011+01	X		22	+0.5	new pole #4
7	9.1/9.1	1011+62		X	36.72						
8	8/8	1011+96	X		20	1011+95	X		23	0	new pole #5
9	7/7	1013+29	X		20.8	1013+95	X		22	0	new pole #6
10	6/6	1014+32	X		20	1014+31	X		22	+0.5	new pole #7
11	5/5	1015+24	X		20.6	1015+21	X		22	0	new pole #8
12	4old/4old	1016+66	X		18.7						remove pole
13	4new/4new	1016+67	X		20.8	1016+66	X		22	0	new pole #9
14	4S/4S	1016+70	X		105.7						
15	3/3	1017+44		X	27.7	1017+44		X	26	0	new pole #10
16	2/2	1018+79		X	39.2						
17	1/1	1019+74		X	39.3	1019+75		X	39	0	new pole #11
18	9000/11	1020+52		X	41.9	1020+53		X	42	+1	new pole #12
19	1/9200/1	1020+84		X	128.7						
20	2/10	1022+25		X	31.6	1022+25		X	32	+0.5	new pole #13 (cut/kick)
21	185/9602/1	1022+83	X		106.1						
22	9600/1	1023+67	X		72.9	1023+72	X		76	0	new pole #14
23	3/9	1023+71		X	18.2	1023+70		X	21	0	new pole #15
24	9600/2	1024+26	X		170.5						
25	10.01/8	1024+87		X	19.8	1024+88		X	21	0	new pole #16
26	10/9600/1-1	1025+33	X		23.7	1025+38		X?	23	+0.5	new pole #17
27	7	1026+89		X	20.3	1026+91		X	20	-1	new pole #18
28	7/6	1027+70		X	23.4	1027+72		X	23	-1	new pole #19
29	7S/6S	1027+76	X		12	1027+78	X		22	-1.5	new pole #20
30	8S/5S	1028+97	X		8.4	1028+99	X		23	-8	new pole #21
31	8/5	1028+98		X	32.4	1029+00		X	27	-1	new pole #22
32	9S/4S	1030+34	X		11.3	1030+35	X		22	-1	new pole #23
33	9/4	1030+36		X	27	1030+36		X	27	-1	new pole #24
34	10/3	1032+29		X	33.2	1032+31		X	33	0	new pole #25
35	10/2	1033+73		X	24.2	1033+85		X	21	0	new pole #26
36	12/1	1035+08	X		43.5						
37	STC 0	1036+29	X		62.6						
38	13	1036+79	X		62.44						
39	-----	1038+76		X	59.5						
40	14	1038+94	X		47.3						
41	15	1040+71		X	33.1						
42	3	1041+63		X	28.8						
43	16.1	1041+88	X		30.5						
44	17S	1043+29	X		33						
45	17	1043+29		X	22						
46	18	1045+11		X	21.6						

47	19	1046+63		X	21						
48	20	1048+16		X	21.4						
49	21	1049+59		X	21.1						
50	9	1050+32		X	21.4						
51	9S	1050+32		X	21.4						
52	9S	1050+34	X		22.9						
53	22	1050+95		X	21.7						
54	21	1050+97	X		22.4						
55	23	1052+43		X	21.5						
56	-----	1052+48		X	29.4						
57	------	1053+74	X		31.8						
58	24	1053+84		X	22.5						
59	-----	1055+20		X	23.7						
60	26	1056+62		X	23.5						
61	27	1057+94		X	23.4						
62	28	1059+16		X	23						
63	29	1060+82		X	21.2						
64	30/18	1062+25		X	21.1	1062+27	X		31	-1.5	new pole #27
65	31/19	1063+55		X	24.5	1063+57		X	29	0	new pole #28
66	31/20	1066+19		X	21.1	1066+18		X	29	-2.5	new pole #29
67	20	1066+20		X	32.9						remove pole
68	31½/21	1068+13		X	24.3	1068+15		X	29	-1	new pole #30
69	31½S/21S	1068+14	X		27	1068+16	X		29	0	new pole #31
70	32/22	1069+25		X	25.9	1069+26		X	29	-1	new pole #32
71	33.1/23.1	1070+87	X		35						
72	33/23	1071+33		X	27	1071+32		X	29	0	new pole #33
73	34/24	1073+94		X	25	1073+90		X	29	0	new pole #34
74	1/9160/1	1074+04	X		108.4						
75	34½/26	1075+86		X	24.8	1075+87		X	30	-3.5	new pole #35
76	35/27	1077+70		X	23.7	1077+70		X	30	-3	new pole #36
77	35.1/27.1	1078+25	X		30						remove pole
78	36/28	1080+26		X	23	1080+27		X	29	-2.5	new pole #37
79	37/29	1082+43		X	22.9	1082+44		X	29	-1	new pole #38
80	38/30	1084+57		X	26.2	1084+58		X	29	0	new pole #39
81	39/31	1086+66		X	26.2	1086+67		X	22	-1	new pole #40
82	40/32	1088+74	X		22	1088+77	X		29	0	new pole #41
83	1/2	1089+68	X		44.8						
84	1200/1	1090+16	X		71.8						
85	1	1090+22	X		57.9						
86	55/34	1090+91	X		23.8	1091+12	X		31	-1	new pole #42
87	2	1091+86	X		172.2						
88	56/35	1093+65	X		24.2	1093+66	X		31	-1	new pole #43
89	57/36	1095+69	X		26.8	1095+19	X		29	-4	new pole #44
90	57H/36.5	1096+56	X		26	1096+56	X		29	0	new pole #45
91	58/37	1097+73	X		27.6	1097+78	X		33	-2	new pole #46
92	59/38	1100+23	X		29.5	1100+26	X		31	-3.5	new pole #47
93	-----	1102+82		X	25.9						
94	60/39	1102+83	X		24.6	1102+84	X		29	-3	new pole #48
95	60S/39S	1102+83		X	25	1102+84		X	21	-1	new pole #49
96	61/40	1105+84	X		30.5	1105+85	X		29	-2	new pole #50
97	41/1	1108+71	X		115.3						
98	62/41	1108+75	X		20.9	1108+74	X		29	-1	new pole #51

99	4	1110+24	X		123.9						
100	42.1	1111+62	X		108.5						
101	63/42	1111+63	X		21.7	1111+62	X		29	-2	new pole #52
102	64/43	1113+91	X		21	1113+92	X		29	-2	new pole #53
103	64½/44	1115+77	X		27.7	1115+78	X		35	-5	new pole #54
104	65.2	1116+82	X		130.2						
105	65.1	1117+14	X		94.5						
106	65S/45S	1117+60	X			1117+58		X	22	-1	new pole #55
107	65/45	1117+65	X		25.3	1117+64	X		29	-1	new pole #56
108	65.01	1117+91	X		92.3						
109	66/46	1119+79	X		22	1119+80	X		29	-4.5	new pole #57
110	67/47	1121+86	X		26	1121+85	X		29	0	new pole #58
111	68/48	1124+47	X		23.6	1124+48	X		29	-2	new pole #59
112	68½/49	1126+71	X		24.5	1126+72	X		29	-1	new pole #60
113	69S/50S	1128+94		X	27	1128+70		X	22	-1	new pole #61
114	69/1000/50	1128+96	X		25.8	1128+97	X		29	0	new pole #62
Pole List Ends											

SUBSURFACE

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

Summary:

Utility	Summary of Work	Estimated Working Days
Kingfield Water District	install new water main w/ service piping and fire hydrants (approximately 2100 feet); adjustments to existing water valve covers; removing/adjusting existing fire hydrants (KWD self-performing adjustment to existing fire hydrant)	55
Town of Kingfield_sewer	adjusting/modifying existing sewer rims/frames	8
	Total:	63

Utility Specific Information:

Kingfield Water District (KWD):

Kingfield Water District operates/owns the existing subsurface water system (8" diameter main pipe) within the limits of the project, terminating at approximately 1091+00 (Tuft's Pond Road intersection) from station 1005+50 (project start). This water system has a loop-system which means that water main piping exists on both sides of the corridor from approximately station 1069+00 to approximately station 1082+00. All the existing subsurface facilities are active and serve the surrounding area.

KWD shall partner with this MaineDOT highway project to replace a portion of its existing water main from approximately station 1046+50, left to approximately station 1069+00, left (+/- 2100 feet). To state visual landmarks in the project limits, new connections shall occur between the Kingfield Road intersection to the farthest north Narrow-Gauge Street intersection. This new segment of water main shall receive new water services and relocate/new fire hydrants. All this water scope shall be constructed from plan sheets and specifications created by Wright-Pierce (consulting firm of record). See sheets U1 to U3 at the end of the MaineDOT plan set; and appendix sections in the project booklet for the water scope specifications.

The contractor is responsible for coordinating with KWD and MaineDOT the vertical elevation for the transition (approximately station 1051+85, left) of the new water main from the travel way to behind the new sidewalk. This horizontal transition of the new water main needs to allow for a 12" minimum vertical separation between the bottom of the new water main pipe to the top of the MaineDOT 12" underdrain pipe.

KWD has additional work scope relating to existing water facilities which involve adjusting thirteen (13) water valve covers; complete removal of an existing fire hydrant at station 1027+90, left; and adjust a second existing fire hydrant at station 1043+30, left. This adjustment to this second existing fire hydrant at station 1043+30, left shall be self-performed by KWD. See the appendix sections, in the project booklet, for the additional water scope specifications.

KWD shall inspect/direct the contractor performing the utility work activities (labor/materials/ equipment) necessary for the new water main install, adjustments to the existing water valve covers, and the removal of the existing fire hydrant. The contractor shall be responsible for coordinating quality control/acceptance of the utility work scope with KWD

KWD shall require **ten (10) working days** prior notice to schedule their work. See the above table for KWD estimated work days.

Town of Kingfield_Sewer Department:
Town of Kingfield operates/owns the existing subsurface sewer system within the limits of the project from station 1005+50 (project start) to station 1027+50 (Pinkham property); and from station 1041+00 (West Branch intersection) to station 1006+50 (Kingfield Road intersection). This existing sewer system collects/directs sewage via gravity/pump stations to septic fields located at intermediate locations surrounding the town. At intermediate locations along this corridor, the town has twelve (12) existing sewer manhole rims/frames needing adjustments and one existing sewer manhole needing to be modified (station 1008+30, right).

The Town of Kingfield shall inspect/direct the contractor performing the utility work activities (labor/materials/equipment) necessary for the adjustments/modification to the existing sewer manhole rims/frames. The contractor shall be responsible for coordinating quality control/acceptance of the utility work scope with the town. See appendix sections, in the project booklet, for the sewer scope specifications.

The town shall require **ten (10) working days** prior notice to schedule their work. See the above table for the town's estimated work days.

Two (2) "utility receivable agreement" have been developed/signed; one between the Kingfield Water District and the other with the Town of Kingfield. Both agreements are with MaineDOT for the utility work activities relating to the existing water system and existing sewer system. As stated above, KWD is partnering with MaineDOT for the utility water work, whereas the town of Kingfield has chosen the option of the "opt-out approach" as stated in the agreement. A determination shall not occur until after the bids are opened to whether the Town of Kingfield shall participate in this MaineDOT highway project.

All utility adjustment work activities shall be completed in accordance with the contract documents, and the existing facilities shall remain fully functional at all times. To allow safe and proper vehicular movement during this project, the contractor shall be responsible for protecting all existing utility facilities along this corridor. The payment associated for the activities of protecting these existing facilities, shall be incidental to the paving bid item.

MAINTAINING UTILITY LOCATION MARKINGS

The Contractor shall be responsible for maintaining the buried utility location markings following the initial application 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.

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 PROVISION
SECTION 105
General Scope of Work
(Contract Supplied Equipment)

Replace the following Standard Specification:

105.6.2.4 Department Verification The Contractor shall furnish **2** Global Navigation Satellite System (GNSS) or Global Positioning System (GPS) Rovers and/or Robotic Total Stations (RTS) equipment to the Department with the same capabilities as those used by the Contractor or other approved method, such as reference staking, to allow the Department to independently verify the accuracy of the work, as approved by the Department.

This equipment referred to above shall be compatible with the system(s) used by the Contractor and be provided to the Project Resident prior to the Contractor commences Work using electronic layout methods. This equipment shall stay in the possession of the Department for the duration of the project and shall be returned, in good condition, to the Contractor upon final acceptance of the field work. Any augmented features (such as laser refinement) used by the Contractor shall be included in the features available on the equipment provided to the Department.

The Contractor shall provide manufacturer-certified training on the use of the GNSS, GPS, and/or RTS equipment and the Contractor's systems to Department project personnel prior to beginning any Work. This training is for the purpose of providing Department project personnel with an understanding of the equipment, software, and electronic data being used by the Contractor.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Firm Name
Firm Address
Firm status (DBE or non-DBE)
Age of firm (years)
And the annual gross receipts amount as indicated by defined brackets, i.e. $500,000 to $800,000, rather than requesting exact figures.

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

MaineDOT DBE Project Attainment Target (PAT)
for this Project is 5%

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 5, 2011
Supersedes December 1, 2010

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

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

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

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

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

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

SPECIAL PROVISION 105
OVERLIMIT PERMITS

Title 29-A § 2382 MRSA Overlimit Movement Permits.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SPECIAL PROVISION 105
CONSTRUCTION AREA

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

(a) (Rte.16/27) The section of highway under construction beginning at Sta. 1005+50.00 and ending at Sta. 1129+82.00 of the construction centerline plus approaches.

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

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

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

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

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

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

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

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

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

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

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

SPECIAL PROVISION
SECTION 107
Prosecution and Progress
(Contract Time)

1. Contract Completion date is October 1, 2022.

2. No work shall occur on the following Saturdays June 26 and July 17 of 2021 and June 25 and July 16 of 2022.

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

The November 2014 Revision of the Standard Specifications, Section 202-Removing Structures and Obstructions, subsection 202.061-Removing Pavement Surface, has been removed and replaced in its entirety by the following:

202.061 Removing Pavement Surface The equipment for removing the bituminous surface shall be a power operated milling machine or grinder capable of removing bituminous concrete pavement to the required depth, transverse cross slope, and profile grade using an automated grade and slope control system. The controls shall automatically increase or decrease the pavement removal depth as required, and readily maintain desired cross slope, to compensate for surface irregularities in the existing pavement course. The equipment shall be capable of accurately establishing profile grades by referencing from a fixed reference such as a 30 foot minimum contact ski (floating beam), 24 foot non-contact ski (floating beam) with 3 or more sensors; or 3 non-contact sensors directly affixed at the fore, mid, and aft points of the milling machine. Systems designed to incorporate a contact sensor located at the mid-point of the milling machine in lieu of the non-contact sensor will be permitted. Grade control sensors shall all be located on the same side. A single sensor, contact or otherwise, shall not be permitted unless otherwise approved by the Department.

The rotary drum shall be a minimum of 7 feet in width and utilize carbide tip tools at a minimum triple wrap configuration. The difference in height from the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed ¼ 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 $^{3}/_{8}$ inch under a 10 foot string line or straightedge placed transversely to centerline will be corrected. All corrections will be made with approved methods and materials. Any areas that require corrective measures will be subject to the same acceptance tolerances. Excess material that becomes bonded to the milled surface will be removed to the Resident's satisfaction before the area is accepted.

On roadways with adjoining lanes carrying traffic, the Contractor shall remove the pavement surface in each lane per the conditions in Table 1, unless otherwise noted by the Department in Special Provision, Section 105 – Limitations of Operations.

TABLE 1: MILLING CONDITIONS FOR ADJOINING LANES

Depth (At Centerline)	Milling Conditions
Vertical Longitudinal Joint	
2” and less	The Contractor may remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before the end of the following calendar day.
Greater than 2”	The Contractor shall remove the pavement over the full width of the traveled way section being paved that day.
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
2” and less	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.

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

Basis of Payment

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

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

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

Pay Item	Pay Unit
202.202 Removing Pavement Surface	S.Y.
202.20201 Removing Pavement Surface (Hourly)	Hour

SPECIAL PROVISION
SECTION 403
HOT MIX ASPHALT

Desc. Of Course	Grad Design.	Item Number	Total Thick	No. Of Layers	Comp. Notes
4" HMA Overlay Areas					
Travelway & Shoulders (As Indicated in Typicals)					
Wearing	12.5 mm	403.2081	1 ½"	1	5,7,19,24,26,28,30,31
Base	12.5 mm	403.213	2 ½"	1	5,7,24,26,28,31
4" HMA Overlay Areas					
Side Roads & Parking Areas (As Indicated in Typicals)					
Wearing	12.5 mm	403.2081	1 ½"	1	5,7,24,28,30
Base	12.5 mm	403.213	2 ½"	1	5,7,24,28
Spot Shims (As Directed)					
Shim	9.5 mm	403.211	Variable	1/more	2,4,10,14
Sidewalks, Driveways, Misc. (As Indicated in Typicals)					
Wearing	9.5 mm	403.209	2 - 3"	1	2,4,10,14,16

COMPLEMENTARY NOTES

2. The incentive/disincentive provisions for density shall not apply. Rollers shall meet the requirements of this special provision. The use of an oscillating steel roller shall be required to compact all mixtures pavements placed on bridge decks.
4. The design traffic level for mix placed shall be <3 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
5. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
7. Section 106.6 Acceptance, (1) Method A.
10. Section 106.6 Acceptance, (2) Method D.
14. The combined aggregate gradation required for this item shall be classified as a 9.5mm Thin Lift Mixture (TLM) mixture, using the Aggregate Gradation Control Points as defined in 703.09.
16. 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.
19. 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.
24. The entire roadway (from curb to curb, including parking areas and bike lanes) shall be considered mainline travelway for density testing purposes according to the specified testing method.

26. Centerline joint density testing shall be applied to the specified HMA layer. See Special Provision 401 – Hot Mix Asphalt Longitudinal Joint Density for project specifics.
28. The mixture shall meet the minimum requirements of Special Provision 401 – HMA Hamburg Wheel Tracker Specification.
30. The required PGAB shall be a storage-stable, homogeneous, polymer modified asphalt binder that meets **PG 64E-28** grading requirements in AASHTO M 332. All polymer modified asphalt grades utilized on the Project shall be treated with an approved liquid anti-strip. PG binders shall be treated either at the asphalt source terminal with the required dose rate on the delivery documentation, or at the hot mix asphalt plant utilizing a system integrated with the plants controls that will introduce a minimum 0.50 percent anti-strip by weight of asphalt binder used unless a rate is otherwise recommended by the anti-strip manufacturer. The PGAB and anti-strip blend shall meet the **PG 64E-28** requirements. The Contractor shall provide supporting test data showing the PGAB and anti-strip blend meet the required criteria.
31. The Contractor must profile the bridge and approaches every 10 ft. along the roadway center line and edge of travel-way, out to a match point at a minimum 75 feet from the bridge joints, to incorporate the increase/removal of XX inches of pavement thickness at the bridge, to determine the approach pavement taper. Pavement taper profile and length must be approved by the Resident.

Tack Coat

A tack coat of emulsified asphalt, RS-1, RS-1h, CRS-1 or CRS-1h, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.030 gal/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 403
HOT MIX ASPHALT

Desc. Of Course	Grad Design.	Item Number	Total Thick	No. Of Layers	Comp. Notes
6 ½" HMA Overlay Areas					
Travelway & Shoulders (As Indicated in Typicals)					
Wearing	12.5 mm	403.2081	1 ½"	1	5,7,19,24,26,28,30,31
Intermediate	12.5 mm	403.213	2 ½"	1	5,7,15,24,26,28,31
Base	12.5 mm	403.213	2 ½"	1	4,7,15
4" HMA Overlay Areas					
Side Roads & Parking Areas (As Indicated in Typicals)					
Wearing	12.5 mm	403.2081	1 ½"	1	5,7,24,28,30
Intermediate	12.5 mm	403.213	2 ½"	1	5,7,24,28
Spot Shims (As Directed)					
Shim	9.5 mm	403.211	Variable	1/more	2,4,10,14
Sidewalks, Driveways, Misc. (As Indicated in Typicals)					
Wearing	9.5 mm	403.209	Variable	1	2,4,10,14,16

COMPLEMENTARY NOTES

2. The incentive/disincentive provisions for density shall not apply. Rollers shall meet the requirements of this special provision. The use of an oscillating steel roller shall be required to compact all mixtures pavements placed on bridge decks.
4. The design traffic level for mix placed shall be <3 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
5. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
7. Section 106.6 Acceptance, (1) Method A.
10. Section 106.6 Acceptance, (2) Method D.
14. The combined aggregate gradation required for this item shall be classified as a 9.5mm Thin Lift Mixture (TLM) mixture, using the Aggregate Gradation Control Points as defined in 703.09.
15. The entire HMA base pavement section (consisting of all base layers) shall be completed before winter suspension. Any surface or base HMA placed after the seasonal limitations shall be considered temporary and removed and replaced the following construction season. The Department will not be responsible for costs or time related to the placement, removal or replacement of temporary pavement.
16. 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.

19. 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.
24. The entire roadway (from curb to curb, including parking areas and bike lanes) shall be considered mainline travelway for density testing purposes according to the specified testing method.
26. Centerline joint density testing shall be applied to the specified HMA layer. See Special Provision 401 – Hot Mix Asphalt Longitudinal Joint Density for project specifics.
28. The mixture shall meet the minimum requirements of Special Provision 401 – HMA Hamburg Wheel Tracker Specification.
30. The required PGAB shall be a storage-stable, homogeneous, polymer modified asphalt binder that meets **PG 64E-28** grading requirements in AASHTO M 332. All polymer modified asphalt grades utilized on the Project shall be treated with an approved liquid anti-strip. PG binders shall be treated either at the asphalt source terminal with the required dose rate on the delivery documentation, or at the hot mix asphalt plant utilizing a system integrated with the plants controls that will introduce a minimum 0.50 percent anti-strip by weight of asphalt binder used unless a rate is otherwise recommended by the anti-strip manufacturer. The PGAB and anti-strip blend shall meet the **PG 64E-28** requirements. The Contractor shall provide supporting test data showing the PGAB and anti-strip blend meet the required criteria.
31. The Contractor must profile the bridge and approaches every 10 ft. along the roadway center line and edge of travel-way, out to a match point at a minimum 75 feet from the bridge joints, to incorporate the increase/removal of XX inches of pavement thickness at the bridge, to determine the approach pavement taper. Pavement taper profile and length must be approved by the Resident.

Tack Coat

A tack coat of emulsified asphalt, RS-1, RS-1h, CRS-1 or CRS-1h, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.030 gal/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 502
STRUCTURAL CONCRETE
(QC/QA Acceptance Methods)

CLASS OF CONCRETE	ITEM NUMBER	DESCRIPTION	P	METHOD
A	608.26	Curb Ramp Detectable Warning Field	-	C
LP	626.421	24” Foundation	-	C
LP	626.38	Ground Mounted Cabinet Foundation	-	C

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:

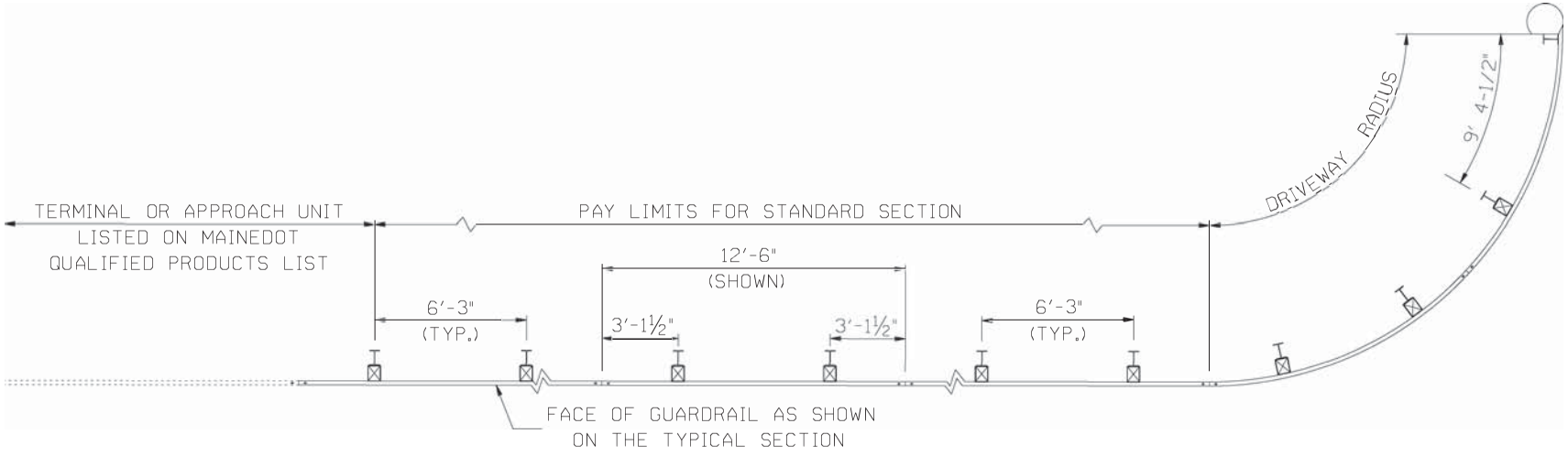
Pay Item		Pay Unit
603.165	15 Inch Reinforced Concrete Pipe Class III	Linear Foot
603.175	18 Inch Reinforced Concrete Pipe Class III	Linear Foot
603.205	30 Inch Reinforced Concrete Pipe Class III	Linear Foot

February 10, 2016

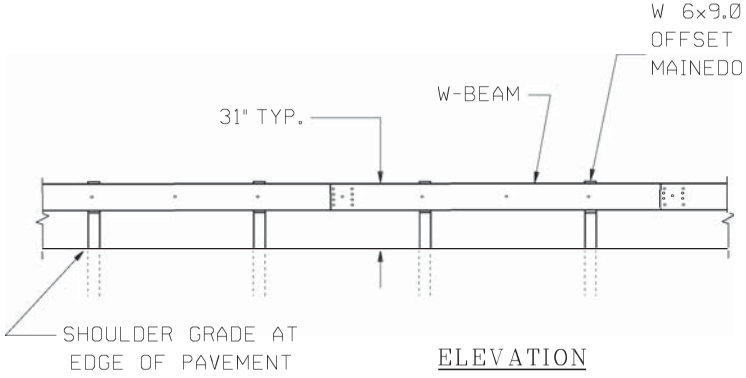
SPECIAL PROVISION
SECTION 606
GUARDRAIL

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

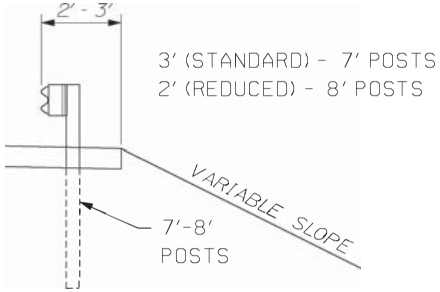
Pay Item		Pay Unit
606.1301	31" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, Single Faced)	Linear Foot
606.1302	31" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, Double Faced)	Linear Foot
606.1303	31" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, 15' Radius and Less)	Linear Foot
606.1304	31" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, Over 15' Radius)	Linear Foot
606.1305	31" W-Beam Guardrail - Mid-Way Splice Flared Terminal (31" Height)	Each
606.1306	31" W-Beam Guardrail - Mid-Way Splice Tangent Terminal (31" Height)	Each
606.1307	Bridge Transition (Asymmetrical) – Type 1	Each
606.1308	Buried-in-Slope Guardrail End, Mid-Way Splice	Each



PLAN



ELEVATION



CROSS SECTION

31" W-BEAM GUARDRAIL - MID-WAY SPLICE

SPECIAL PROVISION
SECTION 606
GUARDRAIL
(Anchorage Assembly for Driveway Radius)

Description This work shall consist of furnishing and installing anchorage assemblies between the last two posts at driveway radii in accordance with current Standard Specifications and the current AASHTO-AGC-ARTBA Joint Cooperative Committee Task Force 13 Report, and as indicated on the plans and in this Special Provision.

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

Timber Preservative	708.05
Metal Beam Rail	710.04
Timber Posts	710.07
Guardrail Hardware	710.08

Anchorage assembly elements shall be per the Components List found on Sheet No. 2 of 2, Drawing SEW02a – Trailing End Terminal-Foundation Tube Option in the Task Force 13 Report noted above.

CONSTRUCTION REQUIREMENTS

Posts Posts shall be laid out at the radius indicated on the plans, as if no anchor were being introduced into the guardrail. The Contractor shall stake the spacing of posts in the field for the approval of the Resident prior to excavating post holes.

Rails The anchorage assembly shall be attached to a full length 12.5 foot rail section, pre-fabricated to the radius specified on the plans.

Anchorage Assembly Installation of the anchorage assembly shall be in accordance with the AASHTO-AGC-ARBTA Joint Committee Task Force 13 Report Drawing SEW02a, except that the rail section may be on a radius, as indicated on the plans.

Method of Measurement Anchorage Assemblies for Driveway Radius will be measured by the unit, each complete in place, and will include one 12.5 ft beam and all components listed in the Task Force 13 Report.

Basis of Payment The accepted quantity of Anchorage Assemblies for Driveway Radius will be paid for at the contract unit price per each, complete in place, and will include one 12.5 ft beam and all components listed in the Task Force 13 Report. Payment shall be full compensation for furnishing and installing all components as shown and for incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
606.2591	Anchorage Assembly for Driveway Radius	Each
606.2592	Anchorage Assembly for Driveway Radius, Powder Coated	Each

SPECIAL PROVISION
SECTION 606
GUARDRAIL
(Mailbox, Remove and Reset)

Description This work consists of removing and resetting an existing mailbox post as directed by the Resident.

Materials The existing mailbox post(s) shall be carefully removed and reset at the location selected by the Resident.

General Subsection 606.06 shall be changed in its entirety to read, "The existing mailbox post shall be carefully relocated at the location selected by the Resident. Any repair or modification of the top of the post deemed necessary by the Resident for the attachment of the mailbox(es) shall be accomplished by the Contractor at the Contractor's expense. Attachment of the mailbox(es) to the post will be the responsibility of the home or business owner."

Method of Measurement Mailbox, Remove and Reset, will be measured by the unit, each.

Basis of Payment The accepted quantity of Mailbox, Remove and Reset will be paid for at the contract unit price per each. Such payment will be full compensation for removing, transporting, reinstalling at the new location, and all other incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
606.52 Mailbox, Remove and Reset	Each

March 9, 2020

SPECIAL PROVISION
SECTION 609
CURBING

609.10 Basis of Payment is amended with the addition of the following:

Pay Item		Pay Unit
609.221	Terminal Curb Type 1	Linear Foot
609.222	Terminal Curb Type1- Circular	Each

SPECIAL PROVISION
SECTION 609
GRANITE CURB

Special Granite Curb – 1’ Wide Curb

Standard Specification Section 609 shall be amended as follows:

Description: Construct granite curb as directed by the Resident or as shown on the plans to the height and embedment depth shown on the details and cross sections, to function as a curb stop and step between parking and sidewalk.

Materials: Special Granite Curb shall meet the requirements of Division 700, Section 712.04, except as indicated on the plans. Height of the units shall be as indicated on the plans.

Backfoot for one foot behind Special Granite Curb shall meet the requirements of Sections 304, Aggregate Subbase Course – Gravel.

Installation: Curb shall be set to follow the profile or as shown on the plans. All of section of Section 609 shall apply to this item. Special Granite Curb may be set in flowable concrete at the Contractor’s option. Cutting or fitting necessary to install curb in the location directed shall be done by the Contractor as needed.

Acceptance: Special Granite Curb may be accepted or rejected based on appearance concerning texture, alignment or both. All damaged or otherwise unacceptable curb shall be removed and replaced at the Contractor’s expense.

Method of Measurement: Special Granite Curb will be measure by the length in linear feet along the front face of the curb at the elevation of finished ground, complete in place and accepted.

Basis of Payment: The accepted quantities of Special Granite Curb will be paid for at the contract unit price per linear foot. There will be no separate payment for cutting, bedding, or backfill, but these will be considered incidental to the work.

Pay Item		Pay Unit
609.112	Special Granite Curb – 1’ Wide Curb	Linear Foot

SPECIAL PROVISION
SECTION 609
GRANITE CURB

Standard Specification Section 609 shall be amended as follows:

Description: Construct granite curb as directed by the Resident or as shown on the plans, to the height and embedment depth shown on the details and cross sections, to function as a low retaining wall.

Materials: Special Granite Curb shall meet the requirements of Division 700, Section 712.04, except as indicated on the plans. Height of the units shall be as indicated on the plans.

Backfill for one foot behind Special Granite Curb shall meet the requirements of Section 304, Aggregate Subbase Course - Gravel.

Installation: Curb shall be set to follow the profile or as shown on the plans. All other sections of Section 609 shall apply to this item. Special Granite Curb may be set in flowable concrete at the Contractor's option. Cutting or fitting necessary to install curb in the locations directed shall be done by the Contractor as needed.

Acceptance: Special Granite Curb may be accepted or rejected based on appearance concerning texture, alignment, or both. All damaged or otherwise unacceptable curb shall be removed and replaced at the Contractor's expense.

Method of Measurement: Special Granite Curb will be measured by the length in linear feet along the front face of the curb at the elevation of the finished ground, complete in place and accepted.

Basis of Payment: The accepted quantities of Special Granite Curb will be paid for at the contract unit price per linear foot. There will be no separate payment for cutting, bedding, or backfill, but these will be considered incidental to the work.

Pay Item		Pay Unit
609.110	Special Granite Curb - 18 Inch	Linear Foot
609.1112	Special Granite Curb - 60 Inch	Linear Foot

SPECIAL PROVISION 626
FOUNDATIONS, CONDUIT, AND JUNCTION BOXES FOR HIGHWAY LIGHTING, TRAFFIC SIGNALS, AND HIGHWAY SIGNING

Standard Specification Section 626 is deleted in its entirety and replaced with the following:

626.01 Description This work shall consist of furnishing, installing, modifying, or removing concrete foundations, conduits, and junction boxes for highway lighting, traffic signals, and highway signing in accordance with these Specifications and in reasonably close conformity with the Contract Documents.

626.02 Materials The materials furnished by the Contractor shall be new. Where an existing system is to be modified, the existing material shall be removed and abandoned or salvaged as shown in the Contract Documents or as directed by the Resident.

All electrical equipment shall conform to NEMA or UL standards, wherever applicable. In addition to these requirements, all materials and workmanship shall conform to the requirements of: NEC, ASTM Standards, the ANSI, the local electrical Utility Company, and any local ordinances that may apply.

Materials shall meet the requirements specified in the following Sections of Division 700, Material Details.

Gravel Borrow	703.20
Reinforcing Steel	709.01
Precast Concrete Units	712.06
Steel Conduit	715.02
Non-metallic Conduit	715.03
Anchor Bolts	720.07

626.021 Miscellaneous Materials

Transformer pads shall conform to the requirements of the local electrical Utility Company.

If grouting is necessary to correct surface irregularities in the top of the concrete foundations a non-shrink material included on the MaineDOT Qualified Product List (QPL) and satisfactory to the Resident shall be used.

All concrete foundations shall be constructed of Class LP concrete in accordance with the applicable requirements of Section 502 – Structural Concrete.

All concrete for concrete encasement of conduit shall be Fill Class concrete in accordance with the applicable requirements of Section 502 – Structural Concrete.

The above ground portion of concrete foundation surfaces shall receive an application of Type 1c penetrating silane concrete sealer from the MaineDOT QPL.

626.022 Equipment List and Drawings Unless otherwise permitted in writing, the Contractor shall within 30 days following execution of the Contract, submit a list of equipment and materials which are to be installed. The list shall include the name of manufacturer, size, and identifying number of each item. The list shall be supplemented by such other data as may be required, including detailed scale drawings of proposed minor deviations from the Contact Documents. If requested, the Contractor shall submit for review, design data and sample articles of the material proposed for use. All of the above data shall be submitted in duplicate except samples for testing. Following checking, correcting, and reviewing, two complete sets of drawings shall be submitted. The Department will not be liable for material purchased, labor performed, or work delayed before such review.

Upon completion of the work, the Contractor shall submit three complete sets of corrected plans showing all construction changes.

626.03 General All work shall conform to NEC and NESC standards as set forth in the NIST Handbook H-32, except when otherwise noted in the Contract Documents or in the Special Provisions.

The Contractor shall be responsible for and shall repair all damage caused to underground drainage structures, utilities or lighting conduit, which are encountered during construction.

The Contractor is responsible for final design of the above-grade components of the highway lighting, traffic signals, and highway signing structure(s) in accordance with Standard Specification Sections 634, 643 and 645, respectively.

626.0301 Electrical Supply Lines and Service Connections The following requirements shall apply to Electric Supply Lines and Service Connections feeding traffic signalization equipment control boxes and lighting breaker boxes.

Whenever possible, the meter and breaker panel feeding traffic signal control boxes or lighting control boxes shall be constructed within 30 feet of the service drop pole.

All underground service connections that are constructed in trenches and carrying Secondary Utility Power to a MaineDOT meter and breaker panel, or, directly to MaineDOT traffic signalization control cabinets or lighting breaker boxes shall be in Rigid Metal Conduit or concrete encased PVC conduit.

Where trenchless technologies are employed to install the service connection conduit, Schedule 120 PVC conduit shall be used for the trenchless bore section of conduit. In addition, concrete encasement shall be used for any PVC conduit placed in trench sections and carrying Secondary Utility Power more than 10 feet before or after the limits of the trenchless bore conduit.

The construction practices described above shall be used for service connections up to a maximum of 600 feet. There may be rare exceptional cases where the service connection must exceed 600 feet. In these cases, the power companies may require primary power be run over 600 feet for the purpose of power consumption and dependable service. These cases will be evaluated on a case-

by-case basis for alternate power feed methods and/or the need for steel or concrete encased conduit.

626.031 Conduit If the trench for conduit is located in wet, spongy or otherwise unsuitable ground, as determined by the Resident, the trench shall be further excavated to a depth sufficient to overcome this condition, as determined by the Resident, and shall be backfilled with approved gravel. The gravel shall be compacted in layers not exceeding 8 inches, loose measure. The grade of the bottom of the trench shall be parallel to the proposed grade of the conduit.

Trenches for conduits shall be excavated to a width that will permit proper installation of the conduit and to a minimum depth of 3 feet below finish grade as measured from the top of the conduit. If deeper depths are required, the conduit shall be installed at the depth shown in the Contract Documents or as directed by the Resident. Conduit shall not interfere with poles, guardrail posts, foundations or other objects.

All junction or pull boxes shall be vehicle rated (22,000 lbs) and concrete junction boxes shall be Class LP concrete, in accordance with the applicable requirements of Section 502 – Structural Concrete and installed as shown in the Contract Documents

Where conduits enter exposed junction boxes, they shall be sloped to drain towards the conduit entrance holes, unless otherwise directed by the Resident. Weep holes of ¼ inch diameter shall be placed in all pull boxes, junction boxes, and fuse boxes.

After the trench has been excavated as specified, the bottom of the trench shall be prepared with a 6-inch thick (minimum) sand bedding material. After placing the conduit, sand shall be placed around the sides and over the top of the conduit, when shown in the Special Details. The entire trench shall then be backfilled with approved material, placed in layers not exceeding 8 inches, and thoroughly tamped. Where concrete encasement is required around the conduit, backfilling with approved material may begin adjacent to and above the encased conduit no sooner than 24 hours after concrete placement.

All conduit ends shall be capped with conduit caps until wiring has begun.

All conduit shall be sealed to prevent rodent ingress after cables have been installed. Any blocking material shall be removable without use of tools.

The size and type of conduit required will be noted in the Contract Documents, except that the minimum size of conduit risers required for traffic signal installations shall be determined by percentage fill in a single conduit, as specified in the latest revision of the NEC. Where more than one conduit is required to be installed in the same location, the conduits may be placed in the same trench.

The weather head on conduit risers on Utility Company poles shall not be less than 1 foot from any utility wires. Conduit risers on Utility Company poles shall be located as required by the Utility Company.

Within 10 days after completion of each section of conduit, the Contractor, in the presence of the Resident, shall rod and pull through each duct a mandrel and brush of a pattern satisfactory to the Resident, but which shall not be more than ⅛ inch smaller than the bore of the ducts. Where obstructions in the ducts prevent passage of the mandrel, the Contractor shall, at their own expense, remove and relay those portions of the ducts necessary to clear the obstruction.

The Contractor shall install a suitable nylon pulling string with a rated 210 lb. tensile strength in all unused conduits. The ends of the string shall be secured in such manner as to prevent accidental withdrawal of the string.

626.032 Metallic Conduit Installation Conduits shall be of the sizes noted in the Contract Documents, which are indicated as the nominal inside diameter. All conduits shall be joined with threaded couplings using approved thread sealant. Conduit shall be installed so that it is continuous and watertight between boxes or equipment. Running threads will not be permitted. When necessary, the Contractor shall use an approved electrical union-type coupling. Conduits shall be protected at all times from the entrance of water or other foreign matter. Conduit runs shall be made with as few couplings as standard lengths will permit. The total angle of all bends in one run and the radius of conduit bends shall conform to the NEC requirements. All field bends and offsets shall be made with approved hickey or conduit benders. Pull boxes shall be used wherever necessary to facilitate the installation of the wires.

In making up a run of conduits, all cut ends shall be reamed to remove rough edges and cut threads shall be painted with an approved thread sealant in such a manner that there will be no unprotected surfaces and joints will be watertight. All conduits shall have electrical continuity and shall be adequately grounded.

Conduits to be placed in the superstructure of bridges and similar structures shall be securely supported and fastened, in order to maintain the conduits' position within the superstructure, as shown in the Contract Documents. Pull boxes shall be located as shown in the Contract Documents. Clearance between conduit runs shall preferably be 2 inches, but at no time shall be less than the maximum size of the aggregate used in the embedding concrete. At all joints where relative movement between adjacent parts of a structure can occur, a double "O"-ring expansion coupling, or other approved expansion device shall be installed.

Exposed conduit shall be rigidly and securely fastened with acceptable fasteners or supports, as indicated in the Contract Documents or approved. Fasteners or supports shall not be placed more than 6 feet apart on centers, except as otherwise authorized. Conduits shall generally be supported by an approved spacer at the point of support, so that there is an air space between the conduit and the supporting surface. Ends of conduit runs terminating in a metallic box without a threaded hub shall be provided with a metallic locknut on the outside of the box, and a metallic locknut and insulated bushings on the inside. A lock washer and a galvanized steel flat washer shall be installed between the outside locknut and face of the box.

626.033 Polyvinylchloride Conduit Installation Polyvinylchloride conduit and High Density Polyethylene, hereafter called PVC conduit, shall be installed in accordance with the applicable methods as specified in Section 626.032 for metallic conduits. In addition, PVC conduit used for

Electrical Supply Lines and Services constructed as underground service connections in trenches and carrying Secondary Utility Power to a MaineDOT meter and breaker panel, or, directly to MaineDOT traffic signalization control cabinets or lighting breaker boxes shall be concrete encased. When trenchless technologies are used to install PVC conduit, concrete encasement shall not be required.

Concrete encasement shall consist of a minimum of 4 inches of concrete above, below and on both sides of the conduit that shall have a minimum compressive strength of 3000 psi and a maximum aggregate size of 1-inch (Fill Class concrete). The concrete encasement may be backfilled no sooner than 24 hours after placement.

Non-Metallic Under Pavement Conduit Installation Where noted in the Contract Documents, non-metallic under pavement conduit of schedule 80 or greater rating shall be provided to facilitate conduit crossing of the existing highway and ramps without disruption to the existing highway and ramp pavement surface. The non-metallic under pavement conduit shall be hydraulically jacked or directional bored below the highway and ramp at a depth of not less than (36 inches). Under pavement conduit shall extend for a distance of (10 feet) beyond the highway or ramp edge at each side.

PVC conduit shall be made watertight by joining with solvent or in accordance with the manufacturer's specifications.

Conduit shall be bent carefully to avoid damage and without the use of an open flame. Bends sharper than 45º [⅛ bend] will not be permitted in PVC conduit. The total angle of all bends in one run and the radius of bends shall conform to the NEC requirements.

Conduits to be placed in the superstructure of bridges and similar structures shall be securely supported and fastened, in order to maintain the conduits' position within the superstructure, as shown in the Contract Documents. Pull boxes shall be located as shown in the Contract Documents. Clearance between conduit runs shall preferably be 2 inches, but at no time shall be less than the maximum size of the aggregate used in the embedding concrete. At all joints where relative movement between adjacent parts of a structure can occur, a double "O"-ring expansion coupling, or other approved expansion device shall be installed.

To allow for expansion and contraction of PVC conduit during installation of long runs, one end shall be left unconnected or a double "O"-ring expansion coupling shall be inserted near one end of the run until final covering of the conduit is in progress.

Where PVC conduit runs are placed parallel to other conduit runs or cross one over another, they shall be separated by a minimum of 3 inches of sand or soil cushion. The bottom of trenches for PVC conduit shall be lined with a 6-inch minimum bedding of tamped sand or soil before laying the conduit. Backfill to a compacted depth of 6 inches above the top of the conduit shall be sand or soil, free from rocks or hard lumps.

No aluminum wire shall be allowed underground. No pre-wired conduit shall be allowed. Conduit and wire sizes shall be as shown in the Contract Documents.

626.034 Concrete Foundations The Department has completed an appropriate test boring program to characterize the subsurface conditions in the general vicinity of proposed foundations for highway lighting, traffic signals, and highway signing foundations. The associated boring log(s), as well as foundation type and size and any other foundation-specific details and information, as designed by the Department, are provided in the Contract Documents. The Contractor shall construct the foundation(s) as shown in the Contract Documents and in accordance with these Specifications, unless otherwise directed by the Resident. Alternate foundations to those designed by the Department and shown in the Contract Documents will not be permitted unless directed by the Department.

Foundations shall consist of cast-in-place, reinforced concrete, drilled shafts in soil or bedrock unless another foundation type (i.e., grouted, rock-anchored foundations; spread footings; or Special Foundations) is specified in the Contract Documents. Reinforcing shall be as specified in the Contract Documents. Precast foundations shall not be allowed except as specified in Section 626.036. Special Foundations shall only be permitted if designated by the Department.

Design computations for the Contractor's design of the above-grade components of the highway lighting, traffic signals, and highway signing structure(s) shall be submitted to the Department and shall include the actual loads (bending moment, shear force, torsion and axial load) at the top of each foundation. These actual loads at the top of each foundation will be used by the Department to check the efficacy of the foundation design shown in the Contract Documents. The Contractor shall not commence foundation construction prior to receiving approval from the Department.

All unsuitable material (including but not limited to peat, organic material, and material that has been disturbed and/or dumped) within the limits of a foundation shall be removed to the minimum limits directed by the Resident. Foundation depths shall be increased as directed by the Department to account for the unsuitable material. Unsuitable material removed from below subgrade for spread footing foundations shall be replaced with compacted material as set forth below for foundation backfill.

In areas where bedrock is encountered above the proposed bottom of the foundation, the Contractor shall notify the Resident and the Department will determine whether: 1.) the bedrock should be removed and the foundation should be constructed at the design depth shown in the Contract Documents, or 2.) the foundation should be constructed using a grouted, rock-anchored foundation system or spread footing. If an alternative grouted, rock-anchored foundation system or spread footing foundation design is required due to shallow bedrock it will be provided by the Department.

Drilled shaft foundation holes, except in bedrock, shall be excavated by auger method to the neat line of the outside dimensions of the shaft without disturbing the soil around or below the proposed shaft. Drilled shafts in bedrock shall be excavated by standard rock drilling method. Drilled shafts shall not be permanently cased except for the top 3.0 feet or as otherwise shown in the Contract Documents. Concrete shall be tremie poured directly against the surrounding soil and/or bedrock. Spread footings shall be founded at least 5.0 feet below the lowest surrounding proposed finished grade for frost protection. The 5.0-foot embedment for spread footings constructed on cleaned

bedrock is waived. If soil conditions differ materially from those described on the boring logs, the Contractor shall stop work on that foundation and contact the Resident.

Concrete for drilled shafts shall be placed (via tremie methods) as soon after excavation as practicable to prevent debris from collecting in the excavated area. The Contractor shall provide temporary dewatering of excavations for foundations such that concrete is placed in the dry. Concrete for drilled shafts shall be placed in accordance with Section 502.10 as temporary casing is withdrawn to prevent debris from contaminating the foundation and to ensure concrete is cast against the surrounding soil. At all times, the level of the concrete inside the temporary casing shall be above the bottom of the casing.

Grout used for rock-anchored foundations shall be non-shrink grout included on the MaineDOT Qualified Product List (QPL) and approved by the Resident.

Backfill for spread footing foundations shall be Gravel Borrow meeting the requirements of Section 703.20 - Gravel Borrow. Gravel Borrow shall be placed in layers not exceeding 8 inches in depth before compaction (i.e., loose lifts). Each layer of backfill shall be thoroughly compacted to at least 95% of the material's maximum dry density as measured in the field by an approved method using a calibrated nuclear device. All backfilling and compacting shall be in accordance with the applicable provisions of Section 206 – Structural Excavation.

Before placing concrete, the required elbows of entrance conduits, reinforcing steel and anchor bolts shall be carefully positioned in accordance with Standard Specification 633. The anchor bolt size and the bolt circle diameter shall be determined from data furnished by the supplier of the above-grade components of the highway lighting, traffic signals, and highway signing structure(s) or as shown in the Contract Documents. Anchor bolts for use with breakaway couplings, longitudinally grooved-type, shall be 1-inch diameter and shall project between 2½ and 3 inches above the top of the foundation. All other anchor bolts shall be a minimum of 1-inch diameter and shall project sufficiently to accommodate the thickness of the base plus all nuts and washers. The bolt length shall also be sufficient to allow clearances of approximately ½ inch below the leveling nut and ¼ inch above the top nut. At least two threads on each anchor bolt shall project beyond the outside of the nuts holding the plumbed pole.

All foundations shall be warrantied against leaning and corrosion for two (2) years after the project is completed. If the lean is greater than 2 degrees from normal or the foundation is spalling within the first two (2) years, the Contractor shall replace the foundation at no extra cost.

The finished ground at each foundation shall be graded flush with the top of the foundation except at locations where the foundation is protected by guardrail, by curb, or is outside the clear zone in which case the foundation shall have a 3-inch reveal. 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 in accordance with the requirements of Section 615 and Section 618.

The concrete portion of the foundations exposed to view shall have a troweled finish. A drainage groove shall be formed in the horizontal surface of the foundation. The top of the concrete foundation shall be horizontal.

The above ground portion of concrete foundation surfaces shall receive an application of Type 1c penetrating silane concrete sealer from the MaineDOT QPL. The application rate and method of application shall be in accordance with the manufacturer's published recommendations. On surfaces to be treated, all voids shall be filled with mortar and the entire surface shall be dressed by dry rubbing to remove marks and blemishes to present a neat appearance. The silane application shall not be done until a minimum of 14 days after casting and the surfaces shall be free of laitance, oil, grease, dirt, dust, curing compound or any other deleterious material. The temperature of the concrete shall be above 40^{o}F and below 90^{o}F at the time of application, or per the manufacturer's published recommendations.

When the anchor bolt template is removed, the threads of the anchor bolts shall be greased and protected with a metal sleeve, held in position with nuts and washers to be furnished with the bolts. This thread protection shall remain in place until the pole or other equipment is installed.

A copper-clad steel ground rod shall be installed when shown in the Contract Documents.

626.035 Foundations to be Modified or Removed Concrete foundations designated to be modified or removed shall be modified or removed as shown in the Contract Documents. Debris resulting from the modification or removal shall be removed from the project. Once removal has been completed, the area shall be brought to grade by addition of granular material and loam, or by loam only, depending on the extent of modification or removal as directed by the Resident. The area shall then be seeded in accordance with Section 618.

626.036 Precast Foundations In the absence of foundation type and size and any other foundation-specific details and information, as designed by the Department, provided in the Contract Documents, precast foundations will be permitted for 18- and 24-inch diameter foundations for structures less than 30-feet tall with no projecting arms. No foundation design will be required for precast 18- and 24-inch diameter foundations for structures less than 30-feet tall with no projecting arms. A foundation design prepared by a Professional Engineer licensed in the State of Maine will be required for all other foundations. Where precast foundations are permitted flowable concrete fill shall be used as backfill in the annular space and placed from the bottom up. Construction of precast foundations shall conform to the Standard Details and all requirements of Section 712.061 except that the concrete shall have a minimum permeability of 17 kOhm-cm and the use of calcium nitrite will not be required.

The construction requirements of Section 626.034 apply to precast foundations used by the Contractor and their Subcontractor(s).

626.04 Method of Measurement Precast Concrete Junction Box, and Remove or Modify Concrete Foundation will be measured by each unit.

All conduit will be measured by the number of linear feet.

Drilled shaft foundations in soil, bedrock, or anchored to bedrock will be measured by Linear Foot. Spread footing foundations will be measured by Cubic Yard. Grouted, rock-anchored foundations will be measured by Cubic Yard. Modified or removed concrete foundations will be measured by Each unit. Special Foundations will be measured by Each unit.

The quantity of structural earth excavation to be measured for payment below grade will be the amount actually excavated from 1 foot below the bottom of the foundation to the required foundation bottom elevation, provided the maximum allowable horizontal dimensions do not exceed those bounded by vertical surfaces 9 inches each side of the installation, as shown in the Contract Documents. The quantity of structural rock excavation to be measured for payment will be the number of cubic yards actually removed, provided the maximum allowable horizontal dimensions do not exceed those bounded by vertical surfaces specified herein.

626.05 Basis of Payment The accepted quantity and/or volume of foundations will be paid for at the Contract Unit Price for each type of foundation. This payment shall include: all excavation, bedrock removal, unsuitable soil excavation, concrete, anchor bolts, reinforcing steel, conduit within the foundation and extending 12 inches from the foundation, backfill, loam, seeding, mulching and all labor, equipment, and materials, necessary to complete the work. If a design is required by the Contractor, payment shall include the test boring(s), structural, and geotechnical design.

The accepted quantity of junction boxes will be paid for at the Contract Unit Price Each. Payment for junction boxes shall include furnishing and installing precast concrete or bituminized fiber boxes as designated, including that portion of conduit extending 12 inches outside the box.

Excavating and backfilling for junction boxes, foundations, and excavating, backfilling and sand bedding for conduit ducts will be considered incidental in the respective Contract Unit Prices and no separate payment will be made, except as hereafter provided.

Excavating and backfilling as shown in the Contract Documents, or as required to overcome soft or otherwise unsuitable material, or for excavating rock will be paid for as provided in Section 206. Required backfill material, except sand bedding as shown on the detail Plan, will be paid for as provided in Section 304.

Payment will be made for the total number of linear feet of prewired conduit actually furnished, installed, and accepted at the Contract Price per Linear Foot. This price shall include the cost of hand digging, trenching, or plowing; furnishing and installing the prewired conduit; and all labor, equipment and incidentals necessary to complete the work.

The accepted quantity of ground mounted cabinet foundations will be paid for at the Contract Unit Price Each, which payment shall include conduit within the foundation and extending 12 inches from the foundation and for loam, seeding, mulching and all incidentals necessary to complete the work.

The accepted quantity of Remove or Modify Concrete Foundations will be paid for at the Contract Unit Price Each. Such price shall include disposing of concrete removed, backfilling with granular material, loaming, seeding, and all incidentals necessary to complete the work.

Payment for restoration of roadway pavement, sidewalks, grass areas and resetting curbing removed in conjunction with this work shall be considered incidental to the respective Contract Unit Prices for each related item except as otherwise provided.

Payment will be made for the total number of linear feet of under pavement conduit actually furnished, installed and accepted at the Contract Price per Linear Foot. This price shall include the cost of: furnishing and installing the conduit; excavating; furnishing special backfilling materials, pull wire, fittings, grounding and bonding; test cleaning interiors of conduits and all materials, labor, equipment and incidentals necessary to complete the work.

	Pay Item	Pay Unit
626.11	Precast Concrete Junction Box	Each
626.21	Metallic Conduit	Linear Foot
626.22	Non-metallic Conduit	Linear Foot
626.221	Non-metallic Conduit, Concrete Encased	Linear Foot
626.251	Non-Metallic Under Pavement Conduit (Schedule 80 or greater rating)	Linear Foot
626.35	Controller Cabinet Foundation	Each
626.36	Remove or Modify Concrete Foundation	Each
626.37	Special Foundation	Each
626.38	Ground Mounted Cabinet Foundation	Each
626.411	18-inch Diameter Foundation	Linear Foot
626.421	24-inch Diameter Foundation	Linear Foot
626.43	30-inch Diameter Foundation	Linear Foot
626.44	36-inch Diameter Foundation	Linear Foot
626.451	42-inch Diameter Foundation	Linear Foot
626.46	48-inch Diameter Foundation	Linear Foot
626.47	54-inch Diameter Foundation	Linear Foot
626.48	60-inch Diameter Foundation	Linear Foot
626.501	Spread Footing Foundation	Cubic Yard
626.60	Grouted, Rock-Anchored Foundation	Cubic Yard

SPECIAL PROVISIONS
SECTION 634
HIGHWAY LIGHTING
(Ornamental Lighting)

Description. The Contractor shall furnish and install all materials and equipment required for complete, functioning and accepted ornamental light standards with light emitting diode luminaires, as shown on the plans and as directed.

General. Light standards with LED luminaires for highway lighting and sidewalk lighting on this project shall be as manufactured by Holophane Lighting and specified on the plans and in this special provision. Contact:

Acuity Brands Lighting, Inc.
Northeast Sales Support Team
Attention: Jim Bailey
West Gardiner, Maine 04345
Tel.: 1-207-582-5106
E-mail: JBailey@holophane.com

All materials and installation requirements for Ornamental Lighting shall comply with Section 634 of the Standard Specifications except as modified on the project plans or in this Special Provision.

Method of Measurement. Ornamental Lighting, satisfactorily installed and accepted, will be measured for payment by the single unit each.

Basis of Payment. The accepted quantity of Ornamental Lighting will be paid for at the contract unit price each. Payment for each shall be full compensation for the ornamental light standard, ornamental pole base, bracket arm, decorative arm fitter, weather-resistant (WR) receptacles, ornamental fixture housing with house side shield, light emitting diode luminaire fixture and incidentals necessary for installation of the pole and fixture. Conduit for power to Ornamental Lighting, foundations, and junction boxes will be paid separately under applicable Section 626 pay items of the contract. All other work and materials necessary to provide the highway and sidewalk lighting system shown on the plans, will be paid by lump sum payment under Item 634.160 Highway Lighting.

Payment will be made under:

	Pay Item	Pay Unit
634.2065	Lighting Standard with Banner Arm	Each
634.2066	Lighting Standard without Banner Arm	Each

SPECIAL PROVISION
SECTION 642
STEPS
(Granite Steps)

Standard Specification Section 642 shall be amended as follows:

Description: Construct granite steps as directed by the Resident or as shown on the plans, to the height and embedment depth shown on the details and cross sections.

Materials: Granite Steps shall meet the requirements of Division 700, Section 712.04, except as indicated on the plans.

Construction Requirements:

- Construct granite steps on bed of compacted 6" depth of crushed stone.
- Rise of steps shall be of uniform height, 4 inches minimum and 7 inches maximum.
- Tread depth shall be uniform, 11 inches minimum.
- Lump sum payment under Item 642.183 shall include all work and materials required for construction of Granite Steps, including excavation for, furnishing, placement and compaction of crushed stone bedding.

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

Pay Item		Pay Unit
642.183	Granite Steps	Lump Sum

August 25, 2011

SPECIAL PROVISION
SECTION 801
TEST PITS

Description. This work shall consist of excavating test pits for buried site features. At least 10 CY of material must be excavated to qualify as a test pit. Only one test pit payment per specific site will be made.

Method of Measurement. Test Pits will be measured by the unit each, complete.

Basis of Payment. Payment for test pits shall include clearing, excavation, dewatering, backfill and compaction in locations as shown on the plans or as directed.

Pay Item		Pay Unit
801.03	Test Pits	Each

SPECIAL PROVISIONS
SECTION 806
LIGHTING CONTROL
PANEL & RELATED
ITEMS

Description. The Contractor shall furnish and install all materials and equipment required for complete, functioning and accepted lighting control panels, as shown on the plans and as directed.

General. Lighting control panels shall be in accordance with

1. Underwriter's Laboratory, Inc. listed.
2. National Electrical Manufacturers Association Standard 250-1991.
3. American National Standards Institute.
4. National Electrical Code.

Stock cabinets shall be manufactured by Hoffman Engineering Company or equivalent. Custom fabricated enclosures shall be equal in quality, appearance and performance to stock enclosures.

All control panels shall have proper NEMA rating for the areas in which they will be installed. Control stations shall be heavy duty oil-tight/watertight and shall consist of operators with contact blocks and indicator lights, mounted in steel enclosures. Acceptable manufacturers include Allen Bradley, General Electric and Square D.

All operators used in heavy duty oil-tight/water tight control stations shall be Square D type K and shall be suitable for cover mounting in a 1-7/32 inch diameter notch type cover hole and shall be held in place by the locking thrust washer. Push buttons and selector-push buttons shall have removable inserts in eight different colors for function color coding. Push-button inserts and selector switch knobs shall be removable from the front of the control station without disturbing the wiring or mounting of the control units. Selector switches shall have removable knobs in eight different colors for function color coding. Operators for selector switches shall be bat wing type.

Contact blocks used in heavy duty oil-tight control stations shall be Square D Type K single-pole, single-throw (SPST) or single-pole, double-throw (SPDT) and shall be suitable for mounting side by side and/or in tandem to the base of the operator. Contact block mounting screws shall be captive with a drilled and tapped head to permit easy tandem mounting of contact blocks. Terminals shall be pressure wire type with a self-lifting pressure clamp that will compensate for wire of different size ranging from #12-#18 solid or stranded. Contacts shall be double break. Contact tips shall be silver.

Control circuit fuses shall be 3AB ceramic body fuses rated for at least 125 volts at the current ratings shown on the Drawings. Blow time shall be: 110%, 4 hours minimum; 135%, 1 hour maximum; 200%, 15 seconds maximum for 1/8-12 amp fuses and 60 seconds maximum for 15-30 amp fuses. Fuses shall be Littlefuse or equal.

Method of Measurement. Lighting control panel, satisfactorily installed and accepted, will be measured for payment by the single unit each.

Basis of Payment. The accepted quantity of Lighting Control Panels will be paid for at the contract unit price each. Payment for each shall be full compensation for the electrical service, main circuit

breaker panel, main lighting panel, lighting time clock, lighting photocell, lighting contactor and lighting control panel, lighting control enclosure, meter cabinet, timeclock-photcell selector switch weather-resistant (WR) receptacle and incidentals necessary for installation of the cabinet. Conduit for power to Lighting Control Panel, foundations, and junction boxes will be paid separately under applicable Section 626 pay items of the contract.

Payment will be made under:

	Pay Item	Pay Unit
806.50	Lighting Control Panel and Related Items	Each

SPECIAL PROVISION
SECTION 812
SEWER MANHOLE

Adjust Sewer Manhole to Grade

Description: This work shall consist of the adjustment of existing sewer manholes as indicated in the Bid Book, Plans, or as directed by the Resident.

Adjust Sewer Manhole to Grade shall consist of adjusting a manhole rim/frame to the required final grade, including any lowering and any other adjustments that shall be necessary prior to setting the final grade and in the accordance with this Section 812, Section 604 – Manholes, Inlets and Catch Basins, and standard details section 604.

Method of Adjustment: The Contractor shall saw cut the existing pavement at a minimum of two feet surrounding the edge of the existing frame.

The existing rim/frame with bricks/mortar or the existing structural material used shall be removed down to a flush/clean top surface on the existing concrete sewer manhole cone. The existing rim/frame shall be salvaged and reused unless directed differently by resident.

All hot mixed asphalt (HMA) shall be used to patch the disturbed area surrounding the adjusted existing rim/frame. The HMA shall meet the gradation requirements of a 9.5mm or 12.5mm mixture. The contractor shall place the HMA material in lifts not to exceed 3” or directed by the resident; and compact the HMA material using a minimum of a 150 pound plate compactor. The HMA material being furnished and installed are considered incidental to the respective pay item for adjusting sewer manholes to grade.

All existing materials, not reused, shall be the responsibility of the Contractor to dispose of properly and per the laws of the State of Maine.

All work scope associated with the adjustment of the existing manhole rim/frame shall be cleaned of all accumulated silt, debris and other foreign matter before the final acceptance of the work, and such cleaning shall be considered incidental to this item.

Final placement of the existing rims/frames shall meet a finish grade tolerance of 0” above and 3/8” below finish pavement grade.

Method of Measurement: Measurement shall be in accordance with each unit price; complete and in place.

Basis of Payment: Payment shall be full compensation for all equipment, labor, brick/mortor, pavement and incidental materials necessary to adjust the existing sewer rims/frames to grade as specified above.

Pay Item		Pay Unit
812.162	Adjust Sewer Manhole to Grade	Each

SPECIAL PROVISION
SECTION 812
SEWER MANHOLE

Modify Sewer Manhole and Adjust Frame and Cover to Grade

Description: This work shall consist of making modifications to sewer manhole and adjusting frame and cover to grade as indicated in the Bid Book, Plans, or as directed by the Resident.

Modify Sewer Manhole shall consist of removing the frame and cover, removing/re-installing up to 5 courses of brick or accepted materials, reset the existing concrete manhole cone section, and adjust the existing manhole frame to the required final grade, slope and height including any temporary lowering for milling or recycling and any other adjustments that may be necessary prior to setting the final grade and in accordance with this Section and Section 604 - Manholes, Inlets, and Catch Basins.

Method of Adjustment: The Contractor shall saw cut the existing pavement for removal (minimum of 3' radius from center of cover) to allow clearance for modifying manhole and compacting gravel and pavement in accordance with the Standard Specifications and Standard Details.

The existing sewer frame/cover and up to 5 courses of brick shall be removed (thoroughly cleaned), reset the existing concrete manhole cone section as necessary to meet new field conditions, and add new brick as necessary to reset to the new grade using Portland Type II cement mortar, clay bricks or concrete masonry blocks or other materials approved by the Resident.

Unless otherwise provided on the plans, mortar for these structures shall meet the requirements of Section 705.02 – Joint Mortar.

Protection from traffic shall be maintained until the mortar is properly cured.

Hot Bituminous Pavement will be replaced full depth (maximum of 8 inches) in lifts not to exceed 2 inches. A plate compactor shall be used to provide density. Approved highway job mix shall be used unless otherwise specified by Resident. All surfaces on each layer shall be tacked as directed.

All salvaged material not reused (frames, grates, covers and granite curb) for adjustments shall remain the property of the town unless otherwise directed.

Each manhole that is modified shall be cleaned of all accumulated silt, debris and other foreign matter before final acceptance of the work and such cleaning shall be considered incidental to the adjust item.

Manhole frame finish grade tolerance shall be 0" above and 3/8" below finished pavement grade.

Method of Measurement: Modify Sewer manhole will be measured by the unit price each, complete and in place. Hot Bituminous Pavement shall be measured by the Ton and quantities agreed upon by the Resident. Bituminous Tack Coat shall be incidental to the pavement item.

Basis of Payment: Modify Sewer Manhole item shall be full compensation for all equipment, labor, brick and incidental materials (excluding pavement) necessary to modify sewer manhole and adjust frame and cover to grade as specified above. Hot Bituminous Pavement will be paid under the Special Provision 403 – Bit Box.

Pay Item:		Pay Unit
812.163	Modify Sewer Manhole and Adjust Frame and Cover to Grade	Each

SPECIAL PROVISION
SECTION 823
GATE VALVE BOXES

Description: This work shall consist of the adjustment/installation of gate valve boxes as indicated in the Bid Book, Plans, or as directed by the Resident.

Gate Valve Box, Adjust to Grade shall consist of adjusting a gate valve box to the required final grade, including any lowering and any other adjustments that may be necessary prior to setting the final grade. All existing gate valve boxes shall be salvaged and reused, unless directed differently be the resident.

Gate Valve Box, Install Only shall consist of removing an existing gate valve box, installing a replacement gate valve box, and adjusting the replacement gate valve box as specified above.

Materials: The utility company owning/operating the existing water main system shall provide all replacement gate valve boxes necessary for the Gate Valve Box, Adjust to Grade item. Any new or existing gate valve boxes damaged by improper construction methods or handling by the Contractor, as determined by the Department, shall be replaced at the Contractor's expense. When new gate valve boxes are used and installed, they shall meet "Buy America" clause requirements as specified in the Maine Standard Specification Division 100, section 3.

Method of Measurement: Gate Valve Box, Adjust to Grade and Gate Valve Box, Install Only shall be measured by the each unit price; complete and in place.

Basis of Payment: Payment for Gate Valve Box, Adjust to Grade shall be full compensation for all equipment, labor, and incidental materials necessary to adjust a gate valve box as specified above.

Pay Item		Pay Unit
823.332	Gate Valve Box, Adjust to Grade	Each

SPECIAL PROVISION
SECTION 824
REMOVE FIRE HYDRANT

Description: This work shall consist of the removing existing fire hydrants as indicated in the Bid Book, Plans, or as directed by the Resident.

Removing the existing fire hydrant shall consist of excavating/backfilling; removing the existing hydrant; salvaging the existing hydrant to the district; cutting/capping the existing hydrant service pipe an 18" min. from existing valve (horizontally); and installing a thrust-block (15" width x 12" high x 24" length min. dimensions) behind the new cap.

Materials: All new materials are the responsibility of the Contractor. Any new or existing materials damaged by improper construction methods or handling by the Contractor, as determined by the Department, shall be replaced at the Contractor's expense. When new materials are used and installed, they shall meet the "Buy America" clause requirements as specified in the Maine Standard Specification Division 100, section 3.

Method of Measurement: Remove fire hydrant shall be measured by each unit price, complete.

Basis of Payment: Payment to remove fire hydrant shall be full compensation for all materials, labor, equipment and incidentals necessary as specified above.

Pay Item		Pay Unit
824.31	Remove Fire Hydrant	Each

ROUTE 16/27 UTILITY IMPROVEMENTS
MDOT WIN 18245.00
KINGFIELD WATER DISTRICT
KINGFIELD, MAINE

SUPPLEMENTAL BIDDING AND CONTRACT REQUIREMENTS AND SPECIFICATIONS FOR WATER MAINS

JUNE 2020

14278A

WRIGHT-PIERCE
Engineering a Better Environment

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END OF SECTION

USDA
Form RD 400-6
(Rev. 4-00)

Form Approved
OMB No. 0575-0018

COMPLIANCE STATEMENT

This statement relates to a proposed contract with _____

_____,
(Name of borrower or grantee)

who expects to finance the contract with assistance from either the Rural Housing Service (RHS), Rural Business-Cooperative Service (RBS), or the Rural Utilities Service (RUS) or their successor agencies, United States Department of Agriculture (whether by a loan, grant, loan insurance, guarantee, or other form of financial assistance).I am the undersigned bidder or prospective contractor, I represent that:

1. I ☐ have, ☐ have not, participated in a previous contract or subcontract subject to Executive 11246 (regarding equal employment opportunity) or a preceding similar Executive Order.

2. If I have participated in such a contract or subcontract, I ☐ have, ☐ have not, filed all compliance reports that have been required to file in connection with the contract or subcontract.

If the proposed contract is for $50,000 or more and I have 50 or more employees, I also represent that:

3. I ☐ have, ☐ have not previsouly had contracts subject to the written affirmative action programs requirements of the Secretary of Labor.

4. If I have participated in such a contract or subcontract, I ☐ have, ☐ have not developed and placed on file at each establishment affirmative action programs as required by the rules and regulations of the Secretary of Labor.

I understand that if I have failed to file any compliance reports that have been required of me, I am not eligible and will not be eligible to have my bid considered or to enter into the proposed contract unless and until I make an arrangement regarding such reports that is satisfactory to either the RHS, RBS or RUS, or to the office where the reports are required to be filed.

I also certify that I do not maintain or provide for my employees any segregated facilities at any of my establishments, and that I do not permit my employees to perform their services at any location, under my control, where segregated facilities are maintained. I certify further that I will not maintain or provide for my employees any segregated facilities at any of my establishments, and that I will not permit my employees to perform their services at any location, under my control, where segregated facilities are maintained. I agree that a breach of this certification is a violation of the Equal Opportunity clause in my contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and wash rooms, restaurants and other eating areas time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. I further agree that (except where I have obtained identical certifications for proposed subcontractors for specific time periods) I will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause; that I will retain such certifications in my files; and that I will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods): (See Reverse).

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENTS FOR CERTIFICATIONS OF NON-SEGREGATED FACILITIES

A certification of Nonsegregated Facilities, as required by the May 9, 1967, order (32F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e. quarterly, semiannually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

DATE _____ _____

(Signature of Bidder or Prospective Contractor)

_____

Address (including Zip Code)

CERTIFICATION FOR CONTRACTS, GRANTS AND LOANS

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. 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 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 or Federal loan, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant or loan.

2. 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 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 or loan, the undersigned shall complete and submit Standard Form - LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including contracts, subcontracts, and subgrants under grants and loans) and that all subrecipients shall certify and disclose accordingly.

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 section 1352, title 31, U.S. Code. 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.

_____ _____

(name) (date)

_____

(title)

oOo

(08-21-91) PN 171

This form is available electronically.

Form Approved – OMB No. 0505-0027
Expiration Date: 04/30/2022

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion Lower Tier Covered Transactions

AD-1048

The following statement is made in accordance with the Privacy Act of 1974 (5 U.S.C. § 552a, as amended). This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, and 2 C.F.R. §§ 180.300, 180.335, Participants' responsibilities. The regulations were amended and published on August 31, 2005, in 70 Fed. Reg. 51865-51880. Copies of the regulations may be obtained by contacting the Department of Agriculture agency offering the proposed covered transaction.

According to the Paperwork Reduction Act of 1995 an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0505-0027. The time required to complete this information collection is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The provisions of appropriate criminal and civil fraud privacy, and other statutes may be applicable to the information provided.

(Read instructions on page two before completing certification.)

A. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency;

B. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

ORGANIZATION NAME	PR/AWARD NUMBER OR PROJECT NAME

NAME(S) AND TITLE(S) OF AUTHORIZED REPRESENTATIVE(S)	
SIGNATURE(S)	DATE

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint (https://www.ascr.usda.gov/filing-program-discrimination-complaint-usda-customer) and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442.

Instructions for Certification

(1) By signing and submitting this form, the prospective lower tier participant is providing the certification set out on page 1 in accordance with these instructions.

(2) 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 or debarment.

(3) The prospective lower tier participant shall provide immediate written notice to the person(s) to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(4) The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549, at 2 C.F.R. Parts 180 and 417. You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

(5) The prospective lower tier participant agrees by submitting this form 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.

(6) The prospective lower tier participant further agrees by submitting this form that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

(7) A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the System for Award Management (SAM) database.

(8) Nothing contained in the foregoing shall be construed to require establishment of a system of records to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(9) Except for transactions authorized under paragraph (5) 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.

EXAMPLE OF A MANUFACTURER'S CERTIFICATION LETTER OF COMPLIANCE WITH PROVISIONS OF THE AMERICAN IRON AND STEEL (AIS) REQUIREMENTS OF SECTION 746 OF TITLE VII OF THE CONSOLIDATED APPROPRIATIONS ACT OF 2017 (DIVISION A - AGRICULTURE, RURAL DEVELOPMENT, FOOD AND DRUG ADMINISTRATION, AND RELATED AGENCIES APPROPRIATIONS ACT, 2017) AND SUBSEQUENT STATUTES MANDATING DOMESTIC PREFERENCE

Date:

Company Name:

Company Address:

Subject: AIS Step Certification for Project (X), Owner's Name, and Contract Number

I, (company representative), certify that the (melting, bending, galvanizing, cutting, etc.) processes for (manufacturing or fabricating) the following products and/or material shipped or provided for the subject project is in full compliance with the AIS requirement as mandated by Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference.

Item, Products and/or Materials, and location of delivery (City, State):

1.
2.

Such processes for AIS took place at the following location:

_____
(City, State)

This certification is to be submitted upon request to interested parties (e.g. municipalities, consulting engineers, general contractors, etc.)

If any of the above compliance statements change while providing materials to this project, please immediately notify the person(s) who is requesting to use your product(s).

_____
Authorized Company Representative Signature
(Note: *Authorized signature shall be manufacturer's representative not the material distributor or supplier*)

GENERAL CONTRACTOR RESPONSIBILITY

The prime contractor, sub-contractor and all lower-tier subcontractors shall submit certifications associated with these requirements:

American Iron and Steel (AIS) Requirements: Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference applies an American Iron and Steel requirement to this project. Additional information can be found at the web site for Rural Development: www.rd.usda.gov.

Specific requirements are presented in RUS Bulletin 1780-35 which is incorporated and made a part hereof. The complete RUS Bulletin 1780-35 can be found at http://www.rd.usda.gov/sites/default/files/UWP_Bulletin_1780-35.pdf

All listed iron and steel products used in this project must be produced in the United States.

The term "iron and steel products" means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

The term "construction materials" means the following products: wire rod, bar, angles; concrete reinforcing bar, wire, wire cloth; wire rope and cables; tubing; framing; joists; trusses; fasteners (i.e. nuts and bolts); welding rods; decking; grating; railings; stairs; access ramps; fire escapes; ladders; wall panels; dome structures; roofing; ductwork; surface drains; cable hanging systems; manhole steps; fencing and fence tubing; guardrails; doors; and stationary screens.

Excerpts from RUS Bulletin 1780-35

ABBREVIATIONS

AIS – American Iron and Steel
ANTHC – Alaska Native Tribal Health Consortium
AWWA – American Water Works Association
CFR – Code of Federal Regulations
EO – Executive Order
NIST – National Institute of Standards and Technology
NSF – National Sanitation Foundation
OGC – Office of General Counsel
PL – Public Law
PER – Preliminary Engineering Report
RAVG – Rural Alaska Village Grant
RD – Rural Development
RUS – Rural Utilities Service
USC – United States Code
USDA – United States Department of Agriculture
WEP – Water and Environmental Programs
WWD – Water and Waste Disposal

DEFINITIONS

"Assistance recipient" is the entity that receives funding assistance from programs required to comply with Section 746 Division A Title VII of the Consolidated Appropriations Act of 2017 (Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference. This term includes owner and/or applicant.

"Certifications" means the following:

- *Manufacturers'* certification is documentation provided by the manufacturer or fabricator to various entities stating that the iron and steel products to be used in the project are produced in the United States in accordance with American Iron and Steel (AIS) Requirements. If items are purchased via a supplier, distributor, vendor, etc. vs. from the manufacturer or fabricator directly, then the supplier, distributor, vendor, etc. will be responsible for obtaining and providing these certification letters to the parties purchasing the products.
- *Engineers*' certification is documentation that plans, specifications, and bidding documents comply with AIS.
- *Contractors'* certification is documentation submitted upon substantial completion of the project that all iron and steel products installed were produced in the United States.

"Coating" means a covering that is applied to the surface of an object. If a coating is applied to the external surface of a domestic iron or steel component, and the application takes place outside of the United States, said product would be considered a compliant product under the AIS requirements. Any coating processes that are applied to the external surface of iron and steel components that would otherwise be AIS compliant would not disqualify the product from meeting the AIS requirements regardless of where the coating processes occur, provided that final assembly of the product occurs in the United States. This exemption only applies to coatings on the *external surface* of iron and steel components. It does not apply to coatings or linings on internal surfaces of iron and steel products, such as the lining of lined pipes. All manufacturing processes for lined pipes, including the application of pipe lining, must occur in the United States for the product to be compliant with AIS requirements.

"Construction materials" are those articles, materials, or supplies made primarily of iron and steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered "structural steel". See Exhibit F for examples.

Note: Mechanical and electrical components, equipment and systems are not considered construction materials. See definition of mechanical and electrical equipment.

"Consulting engineer" is an individual or entity with which the owner has contracted to perform engineering/architectural services for water and waste projects funded by the programs subject to AIS requirements).

"De minimis incidental components" are various miscellaneous low-cost components that are essential for, but incidental to, the construction and are incorporated into the physical structure of

the project. Examples of incidental components could include small washers, screws, fasteners (such as "off the shelf" nuts and bolts), miscellaneous wire, corner bead, ancillary tube, signage, trash bins, door hardware etc.

Costs for such de minimis incidental components cumulatively may comprise no more than a total of five percent of the total cost of the materials used in and incorporated into a project; the cost of an individual item may not exceed one percent of the total cost of the materials used in and incorporated into a project.

"General contractor" is the individual or entity with which the applicant has contracted (*or is expected to*) to perform construction services (or for water and waste projects funded by the programs subject to AIS requirements). This includes bidders, contractors that have received an award from the applicant and any party having a direct contractual relationship with the owner/applicant. A general contractor is often referred to as the prime contractor.

"Iron and steel products" are defined as the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials. Only items on the above list made primarily of iron or steel, permanently incorporated into the project must be produced in the United States. For example trench boxes, scaffolding or equipment, which are removed from the project site upon completion of the project, are not required to be made of U.S. Iron or Steel.

"Manufacturers" meaning a supplier, fabricator, distributor, materialman, or vendor is an entity with which the applicant, general contractor or with any subcontractor has contracted to furnish materials or equipment to be incorporated in the project by the applicant, contractor or a subcontractor.

"Manufacturing processes" are processes such as melting, refining, forming, rolling, drawing, finishing, and fabricating. Further, if a domestic iron and steel product is taken out of the United States for any part of the manufacturing process, it becomes foreign source material. However, raw materials such as iron ore, limestone and iron and steel scrap are not covered by the AIS requirement, and the material(s), if any, being applied as a coating are similarly not covered.
Non-iron or steel components of an iron and steel product may come from non-US sources. For example, for products such as valves and hydrants, the individual non-iron and steel components do not have to be of domestic origin. Raw materials, such as iron ore, limestone, scrap iron, and scrap steel, can come from non-U.S. sources.

"Mechanical equipment" is typically that which has motorized parts and/or is powered by a motor. "Electrical equipment" is typically any machine powered by electricity and includes components that are part of the electrical distribution system. AIS does not apply to mechanical equipment.

"Minor components" are components *within* an iron and/or steel product otherwise compliant with the American Iron and Steel requirements. This is different from the de minimis definition where de minimis pertains to the entire project and the minor component definition pertains to a single product. This waiver, would allow non-domestically produced miscellaneous minor

components comprising up to five percent of the total material cost of an otherwise domestically produced iron and steel product to be used. However, unless a separate waiver for a product has been approved, all other iron and steel components in said product must still meet the AIS requirements. This waiver does not exempt the whole product from the AIS requirements only minor components within said product and the iron or steel components of the product must be produced domestically. Valves and hydrants are also subject to the cost ceiling requirements described here. Examples of minor components could include items such pins and springs in valves/hydrants, bands/straps in couplings, and other low cost items such as small fasteners etc.

"Municipal castings" are cast iron or steel infrastructure products that are melted and cast. They typically provide access, protection, or housing for components incorporated into utility owned drinking water, storm water, wastewater, and solid waste infrastructure. See Exhibit E for examples.

"National Office" refers to the office responsible for the oversight and administration of the program nationally. The National Office sets policy, develops program regulations, and provides training and technical assistance to help the state offices administer the program. The National Office is located in Washington, D.C.

"Owner" is the individual or entity with which the general contractor has contracted regarding the work, and which has agreed to pay the general contractor for the performance of the work, pursuant to the terms of the contract for water and waste projects funded by the programs subject to AIS requirements. For the purpose of this Bulletin, this term is synonymous with the term "applicant" as defined in 7 CFR 1780.7 (a) (1), (2) and (3) and is an entity receiving financial assistance from the programs subject to the AIS requirements.

"Pass through Entities" is an entity that provides a subaward to a loan and/or grant recipient to carry out part of a Federal program. Examples are grantees utilizing the Revolving Loan Program and Household Water Well Program and Alaska Native Tribal Health Consortium (ANTHC) or the State of Alaska from the RAVG Program.

"Primarily iron or steel" is defined as a product made of greater than 50 percent iron or steel, measured by cost. The cost should be based on the material costs. An exception to this definition is reinforced precast concrete (see Definitions). All technical specifications and applicable industry standards (e.g. NIST, NSF, AWWA) must be met. If a product is determined to be less than 50 percent iron and steel, the AIS requirements do not apply.

For example, the cost of a fire hydrant includes:
(1) The cost of materials used for the iron portion of a fire hydrant (e.g. bonnet, body and shoe); and
(2) The cost to pour and cast to create those components (e.g. labor and energy).

Not included in the cost are:
(1) The additional material costs for the non-iron and steel internal workings of the hydrant (e.g. stem, coupling, valve, seals, etc.); and
(2) The cost to assemble the internal workings into the hydrant body.

“Produced in the United States” means that the production in the United States of the iron or steel products used in the project requires that all manufacturing processes must take place in the United States, with the exception of metallurgical processes involving refinement of steel additives.

“Project” is the total undertaking to be accomplished for the applicant by consulting engineers, general contractors, and others, including the planning, study, design, construction, testing, commissioning, and start-up, and of which the work to be performed under the contract is a part. A project includes all activity that an applicant is undertaking to be financed in whole or part by programs subject to AIS requirements. The intentional splitting of projects into separate and smaller contracts or obligations to avoid AIS requirements is prohibited.

“Reinforced Precast Concrete” may not consist of at least 50 percent iron or steel, but the reinforcing bar and wire must be produced in the United States and meet the same standards as for any other iron or steel product. Additionally, the casting of the concrete product must take place in the United States. The cement and other raw materials used in concrete production are not required to be of domestic origin. If the reinforced concrete is cast at the construction site, the reinforcing bar and wire are considered to be a construction material and must be produced in the United States.

“Steel” means an alloy that includes at least 50 percent iron, between 0.02 and 2 percent carbon, and may include other elements. Metallic elements such as chromium, nickel, molybdenum, manganese, and silicon may be added during the melting of steel for the purpose of enhancing properties such as corrosion resistance, hardness, or strength. The definition of steel covers carbon steel, alloy steel, stainless steel, tool steel, and other specialty steels.

“Structural steel” is rolled flanged shapes, having at least one dimension of their cross-section three inches or greater, which are used in the construction of bridges, buildings, ships, railroad rolling stock, and for numerous other constructional purposes. Such shapes are designated as wide-flange shapes, standard I-beams, channels, angles, tees, and zees. Other shapes include but are not limited to, H-piles, sheet piling, tie plates, cross ties, and those for other special purposes.

“Ultimate recipient” is a loan or grant recipient receiving funds from a pass-through entity. Examples include: (1) a loan recipient from the Revolving Loan Fund; (2) a loan recipient from the Household Water Well Program; and (3) a grant recipient from ANTHC or the State of Alaska from the RAVG Program.

“United States” means each of the several states, the District of Columbia, and each Federally Recognized Indian Tribe.

1 BACKGROUND

a Section 746 Division A Title VII of the Consolidated Appropriations Act of 2017 (Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference, applies a new American Iron and Steel (AIS) requirement to the following programs:

(1) Water and Waste Disposal Loan and Grant program;

(2) Guaranteed Loan Funds;

(3) Revolving Loan Funds;

(4) Emergency Community Water Assistance Grants;

(5) Section 306C Colonias and Tribal Set-Aside Grants;

(6) Rural Alaskan Native Village Grants;

(7) Household Water Well System Grants; and

(8) Rural Economic Area Partnership Zone projects.

b The basic concept of this new requirement is that all iron and steel products used in projects funded by RUS WEP must be produced in the United States. Iron and steel products are specifically defined and does not include every item consisting of any quantity of iron and/or steel.

c Statutory Language: SEC. 746 Division A Title VII the Consolidated Appropriations Act of 2017.
(a)(1) No Federal funds made available for this fiscal year for the rural water, waste water, waste disposal, and solid waste management programs authorized by sections 306, 306A, 306C, 306D, 306E, and 310B of the Consolidated Farm and Rural Development Act (7 U.S.C. 1926 et seq.) shall be used for a project for the construction, alteration, maintenance, or repair of a public water or wastewater system unless all of the iron and steel products used in the project are produced in the United States.
(2) In this section, the term “iron and steel products” means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Secretary of Agriculture (in this section referred to as the "Secretary") or the designee of the Secretary finds that—
(1) applying subsection (a) would be inconsistent with the public interest;
(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality; or
(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Secretary or the designee receives a request for a waiver under this section, the Secretary or the designee shall make available to the public on an informal basis a copy of the request and information available to the Secretary or the designee concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Secretary or the designee shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Department.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Secretary may retain up to 0.25 percent of the funds appropriated in this Act for "Rural Utilities Service—Rural Water and Waste Disposal Program Account" for carrying out the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) Subsection (a) shall not apply with respect to a project for which the engineering plans and specifications include use of iron and steel products otherwise prohibited by such subsection if the plans and specifications have received required approvals from State agencies prior to the date of enactment of this Act.

(g) For purposes of this section, the terms "United States" and "State" shall include each of the several States, the District of Columbia, and each federally recognized Indian tribe.

d American Iron and Steel (AIS) refers to requirements mandated by Section 746 Division A Title VII of the Consolidated Appropriations Act of 2017 (Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference.

e The statute refers to Section 746 Division A Title VII of the Consolidated Appropriations Act of 2017 (Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference.

2 APPLICABILITY

a The requirements of AIS apply only to projects that construct, alter, enlarge, extend, maintain, repair or otherwise improve rural water, sanitary sewage, solid waste disposal, and storm wastewater disposal facilities.

b The requirements apply to projects using funds from programs listed in Section 1 a of this Bulletin. Any amount of funding from these programs requires compliance with the AIS requirements. Use of funds from these programs is not allowed unless the requirements for AIS are met for the entire project. Projects that leverage funds from other funding sources are also subject the requirements.

c The requirements apply in the United States as defined in Section 746 (g) of the statute and therefore do not apply to projects located in Puerto Rico, the Virgin Islands, or the Western Pacific Territories.

d The requirements apply to any used AIS products to be constructed in the project. e

The requirements do not apply to projects for which any funds were obligated on or before May 5, 2017. The requirements therefore do not apply to subsequent obligations of funds for projects which had an initial obligation of funds on or before May 5, 2017.

f The requirements do not apply to contracts which were executed prior to or on May 5, 2017, regardless of the date of obligation.

g The requirements do not apply to projects for which contracts were executed and/or construction is already underway and/or completed prior to applying to USDA funding.

h The requirements do not apply to products primarily composed of iron and/or steel (composed of more than 50 percent) if they are not listed in the statute.

i The requirements do not apply to raw materials used in the production of iron or steel such as iron ore, limestone, scrap iron and scrap steel.

j The requirements do not apply to any items that are at the construction site temporarily, such as scaffolding, trench boxes, or equipment temporarily used or stored on site.

k The requirements do not apply when the sole purpose of the loan and/or grant is to fund non-construction activities such as capacity/connection fees or the acquisition of a system.

l The requirements supersede any regulation on full and open competition stated in 7 CFR 1780.70 (b) and 2 CFR Part 200.319. For example, if an iron and steel product that is compliant with AIS is made by only one manufacturer provided documentation is submitted and verified, sole source procurement of said product may be used.

m The requirements only apply to the final product as delivered to the work site and incorporated into the project. The need for compliance of an item with AIS depends on whether or not the final assembled product is listed. Components of a final product even if they are listed, do not need to comply with the AIS requirements. In the case of an assembled product where the primary component is not listed in the 2017 Consolidated Appropriations Act and includes components/appurtenances that are specifically listed, said assembled product is not subject to AIS (e.g. pump assembly).

3 CONSTRUCTION CONTRACTOR RESPONSIBILITIES

a Construction contractors must use and install iron and steel products that are compliant with AIS as part of the permanent work.

(1) Bid submittal: for proposed equals and substitutes, ***provide*** manufacturers' certification letter (see Exhibit D) to verify the products comply with AIS.
(2) Award: ***Obtain*** copies of manufacturers' certification letters (see Exhibit D) from the consulting engineer for approved sole source products specified by the consulting engineer.
(3) Shop drawing submittal: For proposed equals, substitutes and any iron and steel product subject to AIS, ***provide*** manufacturers' certification letters (see Exhibit D) to verify the products comply with AIS.
(4) Prior to construction: ***Ensure*** that copies of manufacturers' certification letters including those from others (e.g. consulting engineer, owner, etc.) for any AIS products to be used in the project is in the project file on site prior to installation.
(5) Change Order: For any AIS products proposed in a change proposal, ***provide*** manufacturers' certification letter (see Exhibit D) to the consulting engineer to verify the products comply with AIS.
(6) ***Acknowledge*** responsibility for compliance with AIS requirements by signing change orders (i.e. C-941 of EJCDC) and partial payment estimates (i.e. C-620 of EJCDC).
(7) ***Keep*** all manufacturer certification letters (including those from the engineer, general contractor and any manufacturer providing AIS products) on site during construction in the construction project file.
(8) Substantial completion of the project: ***Provide*** the general contractor's certification (see Exhibit C) letter to the engineer that all iron and steel products installed comply with AIS. This certification is to be submitted upon substantial completion of the project to the project engineer.

4 MANUFACTURER, SUPPLIER, DISTRIBUTOR RESPONSIBILITIES

(1) If iron and steel products are produced in the United States as defined in this Bulletin, ***prepare*** (*applicable to manufacturers and fabricators) or* ***obtain*** (*applicable to suppliers, distributors, vendors, etc.)* manufacturers' certification letters (see Exhibit D) and make available upon request to consulting engineers, general contractors, etc.

5 PURCHASE OF EQUIPMENT AND MATERIALS

Irrespective of who purchases AIS products, owner, contractor or other parties must ensure that the products were produced in the United States as defined in this Bulletin. It is the manufacturers' responsibility to provide manufacturers' certification letters to ensure compliance with AIS requirements. The AIS requirements supersede any regulation on full and open competition stated in 7 CFR 1780.70(b) and (d) and 2 CFR Part 200.319. For example, if an iron and steel product that is compliant with AIS is made by only one manufacturer, sole source procurement of said product may be used.

6 NON-COMPLIANCE

No Federal funds made available for the rural water, waste water, waste disposal, and solid waste management programs authorized by sections 306, 306A, 306C, 306D, 306E, and 310B of the Consolidated Farm and Rural Development Act (7 U.S.C. 1926 et seq.) shall be used for a project for the construction, alteration, maintenance, or repair of a public utility system unless all of the iron and steel products used in the project are produced in the United States.

Noncompliance occurs when funds are used from these programs for construction, alteration, maintenance, or repair using non-domestic iron or steel products and the product is not covered by either a project-specific or a national waiver. Loan and grant recipients should avoid noncompliance at all times as it is a violation of a Federal statute.

Process for Noncompliance

(1) Identify the noncompliant product.
(2) The loan or grant recipient or pass through entity notifies appropriate USDA RD State or National Office contact.
(3) If USDA RD State Office is notified, the Program Director will notify the National Office, Director of EES.
(4) USDA will apply remedies for noncompliance as per 2 CFR 200 §§338 – 342.

7 USE OF EXHIBITS

The following explains the purpose of each Exhibit to this Bulletin:

a GENERAL (PRIME) CONTRACTOR'S CERTIFICATION OF COMPLIANCE:
Exhibit C consists of a letter to be completed and signed by the general contractor certifying that he/she will ensure that all iron and steel products installed for this project by their company and by any and all subcontractors and manufacturers their company has contracted with comply with the AIS requirements. This certification letter is to be submitted upon substantial completion of the project to the project engineer.

b EXAMPLE OF A MANUFACTURER'S CERTIFICATION LETTER OF COMPLIANCE: Exhibit D is an example of a letter to be completed and signed by the manufacturer certifying that he/she will ensure that all iron and steel products and/or materials shipped or provided for the subject project are in full compliance with the American Iron and Steel requirement. This includes listing each individual item/product/material provided to the project and providing the location of this/these item(s) being manufactured including assembly. All manufacturers' certification letters must be kept in the engineer's project file and on site during construction.

c EXAMPLES OF MUNICIPAL CASTINGS: Exhibit E provides a sample list of iron and steel products that are subject to the AIS requirements. This list is not exhaustive and is meant to provide examples.

d EXAMPLES OF CONSTRUCTION MATERIALS: Exhibit F provides a sample list of construction materials that are subject to the AIS requirements. This list is not exhaustive and is meant to provide examples.

e EXAMPLES OF NON-CONSTRUCTION MATERIALS: Exhibit G provides a sample list of items that are not subject to the AIS requirements. This list is not exhaustive and is meant to provide examples.

Exhibit C
Page 1

GENERAL (PRIME) CONTRACTOR'S CERTIFICATION OF COMPLIANCE WITH PROVISIONS OF THE AMERICAN IRON AND STEEL REQUIREMENTS OF SECTION 746 OF TITLE VII OF THE CONSOLIDATED APPROPRIATIONS ACT OF 2017 (DIVISION A - AGRICULTURE, RURAL DEVELOPMENT, FOOD AND DRUG ADMINISTRATION, AND RELATED AGENCIES APPROPRIATIONS ACT, 2017) AND SUBSEQUENT STATUTES MANDATING DOMESTIC PREFERENCE

DATE:

RE: PROJECT NAME APPLICANT CONTRACT NUMBER

I hereby certify that to the best of my knowledge and belief all iron and steel products installed for this project by my company and by any and all subcontractors and manufacturers my company has contracted with for this project comply with Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference or are the subject of a waiver approved by the Secretary of Agriculture or designee.

This certification is to be submitted upon completion of the project to the project engineer.

_____
Name of Construction Company (PRINT)

_____
By Authorized Representative (SIGNATURE)

_____
Title

Exhibit D
Page 1

EXAMPLE OF A MANUFACTURER'S CERTIFICATION LETTER OF COMPLIANCE WITH PROVISIONS OF THE AMERICAN IRON AND STEEL (AIS) REQUIREMENTS OF SECTION 746 OF TITLE VII OF THE CONSOLIDATED APPROPRIATIONS ACT OF 2017 (DIVISION A - AGRICULTURE, RURAL DEVELOPMENT, FOOD AND DRUG ADMINISTRATION, AND RELATED AGENCIES APPROPRIATIONS ACT, 2017) AND SUBSEQUENT STATUTES MANDATING DOMESTIC PREFERENCE

Date:

Company Name:

Company Address:

Subject: AIS Step Certification for Project (X), Owner's Name, and Contract Number

I, (company representative), certify that the (melting, bending, galvanizing, cutting, etc.) processes for (manufacturing or fabricating) the following products and/or material shipped or provided for the subject project is in full compliance with the AIS requirement as mandated by Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference.

Item, Products and/or Materials, and location of delivery (City, State): 1.
2.

Such processes for AIS took place at the following location:

_____
(City, State)

This certification is to be submitted upon request to interested parties (e.g. municipalities, consulting engineers, general contractors, etc.)

If any of the above compliance statements change while providing materials to this project, please immediately notify the person(s) who is requesting to use your product(s).

_____
Authorized Company Representative Signature
(Note: *Authorized signature shall be manufacturer's representative not the material distributor or supplier*)

EXAMPLES OF MUNICIPAL CASTINGS (*includes but not limited to*):

Access Hatches;
Ballast Screen;
Benches (Iron or Steel);
Bollards;
Cast Bases;
Cast Iron Hinged Hatches, Square and Rectangular;
Cast Iron Riser Rings;
Catch Basin Inlet; Cleanout/Monument
Boxes; Construction Covers and
Frames; Curb and Corner Guards;
Curb Openings;
Detectable Warning Plates;
Downspout Shoes (Boot, Inlet);
Drainage Grates, Frames and Curb Inlets;
Inlets;
Junction Boxes;
Lampposts;
Manhole Covers, Rings and Frames, Risers;
Meter Boxes;
Service Boxes;
Steel Hinged Hatches, Square and Rectangular;
Steel Riser Rings;
Trash receptacles;
Tree Grates;
Tree Guards; Trench
Grates; and
Valve Boxes, Covers and Risers.

EXAMPLES OF CONSTRUCTION MATERIALS (*includes but not limited to*):

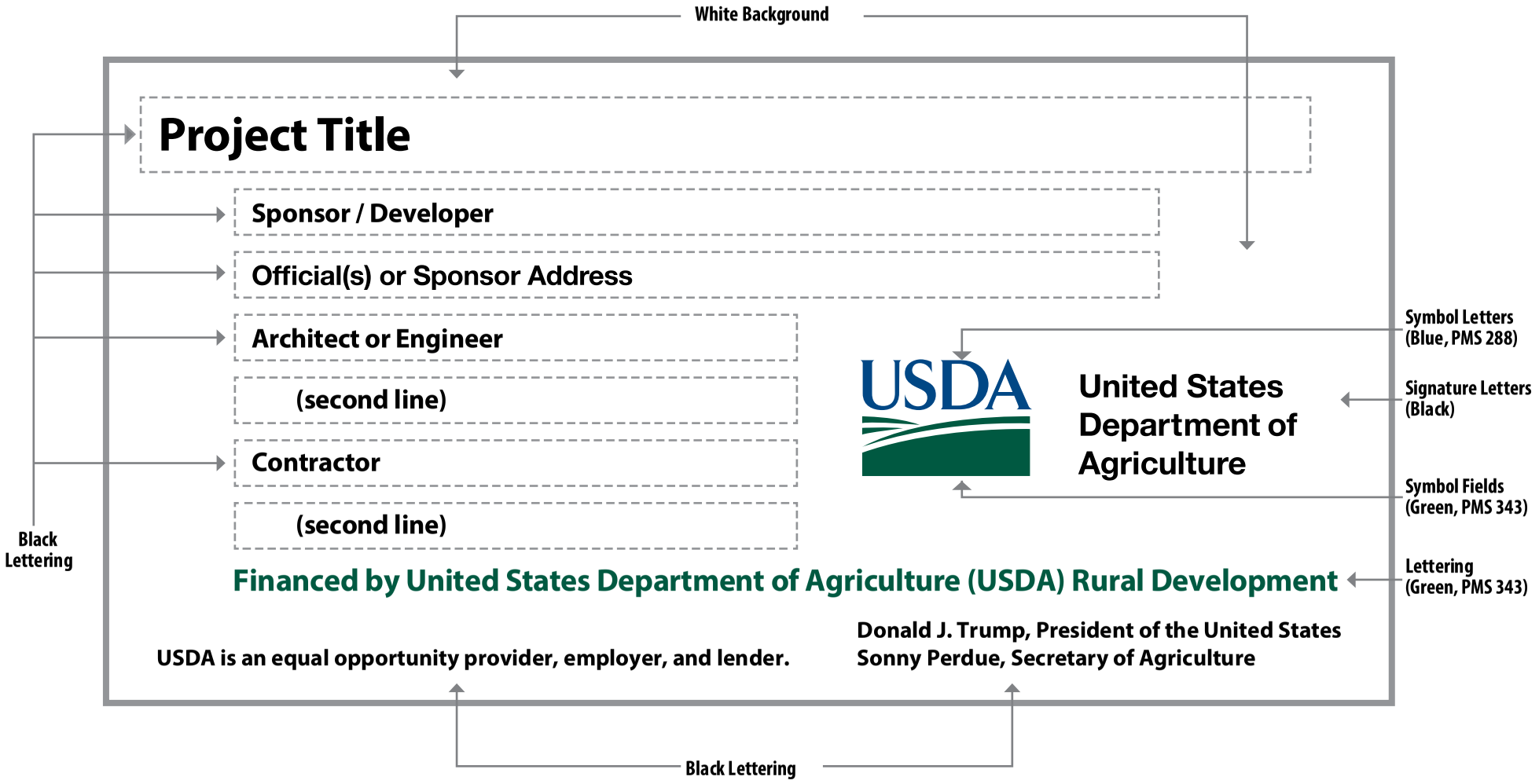
Wire rod, bar, angles
Concrete reinforcing bar, wire, wire cloth
Wire rope and cables
Tubing
Framing
Joists
Trusses
Fasteners (i.e., nuts and bolts)
Welding rods
Decking
Grating
Railings
Stairs
Access ramps
Fire escapes
Ladders
Wall panels Dome
structures Roofing
Ductwork Surface
drains
Cable hanging systems
Manhole steps
Fencing and fence tubing
Guardrails
Doors
Stationary screens

EXAMPLES OF NON-CONSTRUCTION MATERIALS – (*includes but not limited to*): (NOTE: *includes appurtenances necessary for their intended use and operation and are not subject to AIS*)

Pumps
Motors
Gear reducers
Drives (including variable frequency drives (VFDs)
Electric/pneumatic/manual accessories used to operate valves (such as electric valve actuators)
Mixers
Gates (e.g. sluice and slide gates)
Motorized screens (such as traveling screens)
Blowers/aeration equipment
Compressors
Meters (flow and water meters)
Sensors
Controls and switches
Supervisory Control Data acquisition (SCADA)
Membrane bioreactor systems
Membrane filtration systems (includes RO package plants)
Filters
Clarifier arms and clarifier mechanisms
Rakes
Grinders Disinfection
systems
Presses (including belt presses)
Conveyors
Cranes
HVAC (excluding ductwork
Water heaters
Heat exchangers
Generators
Cabinetry and housings (such as electrical boxes/enclosures)
Lighting fixtures
Electrical conduit
Emergency life systems
Metal office furniture
Shelving
Laboratory equipment
Analytical instrumentation
Dewatering equipment.

TEMPORARY CONSTRUCTION SIGN FOR RURAL DEVELOPMENT PROJECTS

Recommended Fonts: Helvetica, Arial, or Myriad Pro



SIGN DIMENSIONS: 1200 mm x 2400 mm x 19 mm (approx. 4′ x 8′ x ¾″)
PLYWOOD PANEL (APA RATED A-B GRADE–EXTERIOR)

SECTION 01010B

SUMMARY OF WORK (HORIZONTAL)

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Location: The Work location includes, but are not limited to, locations within the right-of-ways on Route 27.

B. Work Included: Replacing the water main on Route 27 from Station 1046+00 to Station 1069+00 associated with the MaineDOT road work.

1. The work includes:
    a. Water main, valves and hydrants
    b. Water services
    c. Disinfection of water mains and appurtenances
    d. Removal and disposal or abandonment of existing water main, valves and services.
2. Remove and/or relocated equipment as indicated on the Drawings.
3. Testing of water mains, and valves for proper installation and performance.
4. All related site work including trench excavation, ledge excavation, groundwater dewatering, disposal of excess excavated materials, filter fabric, bedding, backfill, compaction, road/drive subbase, load/seed and landscaping.
5. Other miscellaneous work shown in the Specifications for a complete and operational system.

C. Related Work Specified Elsewhere

1. Site work, piping, structures, testing requirements are specified in elsewhere in these specifications.

D. Removals, Relocations and Rearrangements

1. Examine the existing site for the work of all trades which will influence the cost of the work under the bid. This work shall include removals, relocations and rearrangements which may interfere with, disturb or complicate the performance of the work under the general bid involving systems, equipment and related service lines, which shall continue to be utilized as part of the finished project. The Contractor is responsible for all coordination in this regard.
2. Provide in the bid a sufficient amount to include all removals, relocations, rearrangements and reconnections herein specified, necessary or required to provide approved operation and coordination of the combined new and existing systems and equipment.
3. Provide in the bid a sufficient amount to include all temporary facilities required to maintain flows during the construction period, including bypass pumping, temporary piping, temporary metering, etc. The cost shall include the cost for all labor, tools, equipment and materials necessary.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 MAINTAIN EXISTING WORKS

A. Existing Operations;
   1. Uninterrupted service shall be provided at all times during construction except for planned shutdown events.

B. Continuous Operations Criteria:
   1. The Contractor shall at all times conduct his operations so as to interfere as little as possible with existing works. The Contractor shall develop a program, in cooperation with the Owner, Water District Engineer, MaineDOT water customers and interested officials, which shall provide for the construction and putting into service of the new works in the most orderly manner possible. This program shall be adhered to except as deviations therefrom are expressly permitted.
   2. The Contractor is responsible for providing temporary water service to the customers as shown on the plans.
   3. Service shut-downs will require 72 hour notice to Kingfield Water District. Shut-downs will be limited to 8 hours.

3.2 CONSTRUCTION SEQUENCE

A. Construction of the proposed facilities will disrupt the existing structures and operations. To maintain continuous operations, the construction must be divided into phases or sequenced appropriately.

B. The Contractor shall submit to the Engineer for review and acceptance a complete schedule of his proposed sequence of construction operations prior to commencing any work. This schedule shall include the Contractor's plans for doing the work.

C. The Contractor must submit to the Engineer a written request to deviate from the above sequence, provided he can demonstrate to the Engineer that the continuity and degree of treatment will not be adversely affected.

END OF SECTION

SECTION 01150B

MEASUREMENT AND PAYMENT FOR WATER MAINS

PART 1 - GENERAL

1.1 DESCRIPTION

A. For lump sum items, payment shall be made to the contractor in accordance with an accepted progress schedule and schedule of values on the basis of actual work completed.

B. For unit-price items, payment shall be based on the actual amount of work accepted and for the actual amount of materials in place, as shown by final measurements.

1. All units of measurement shall be standard United States convention as applied to the specific items of work by tradition and as interpreted by the Engineer.
2. At the end of each day's work, the Contractor's Superintendent or other authorized representative of the Contractor shall meet with the Resident Project Representative and determine the quantities of unit price work accomplished and/or completed during the workday.
3. The Resident Project Representative will then prepare two "Daily Progress Reports" which shall be signed by both the Resident Project Representative and Contractor's Representative.
4. Once each month the Resident Project Representative will prepare two "Monthly Progress Summation" forms from the month's accumulation of "Daily Progress Reports" which shall also be signed by both the Resident Project Representative and Contractor's Representative.
5. These completed forms will provide the basis of the Engineer's monthly quantity estimate upon which payment will be made. Items not appearing on both the Daily Progress Reports and Monthly Progress Summation will not be included for payment. Items appearing on forms not properly signed by the Contractor will not be included for payment.
6. After the work is completed and before final payment is made, the Engineer will make final measurements to determine the quantities of various items of work accepted as the basis for final settlement.
7. As administrator to the construction contract, MaineDOT’s on-site Resident shall be responsible for authorizing all payments relating to the utility Work, issuing all directives to the Project’s Contractor and making the final determination in the event of any disagreements. The Utilities’ Project Representative shall provide to MaineDOT’s Resident all the Daily Progress Summation Reports. The reports will be used by Maine DOT to authorize payment to the project Contractor.

1.2 SCOPE OF PAYMENT

A. Payments to the Contractor will be made for the actual quantities of the Contract items performed and accepted in accordance with the Contract Documents. Upon completion of construction, if these actual quantities show either an increase or decrease from the quantities given in the Proposal Form, the Contract Unit Prices will

still prevail.

B. The Contractor shall accept in compensation, as herein provided, in full payment for furnishing all materials, labor, tools, equipment, and incidentals necessary to the completed work and for performing all work contemplated and embraced by the Contract; also for all loss or damage arising from the nature of the Work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the Work and until its final acceptance by the Engineer, and for all risks of every description connected with the prosecution of the work, except as provided herein, also for all expenses incurred in consequence of the suspension of the Work as herein authorized.

C. The payment of any partial estimate or of any retained percentage except by and under the approved final invoice, in no way shall affect the obligation of the Contractor to repair or renew any defective parts of the construction or to be responsible for all damage due to such defects.

1.3 PAYMENT FOR INCREASED OR DECREASED QUANTITIES

A. When alterations in the quantities of work not requiring supplemental agreements, as hereinbefore provided for, are ordered, and performed, the Contractor shall accept payment in full at the Contract price for the actual quantities of work done. No allowance will be made for anticipated profits. Increased or decreased work involving supplemental agreements will be paid for as stipulated in such agreements.

1.4 INCIDENTAL WORK

A. Incidental work items for which separate payment will not be made includes, but is not limited to, the following items:
   1. Pre-Construction photographs or videos.
   2. Project Record Documents
   3. Clean-up and restoration of property related to water work.
   4. Restoration of fences and other structures related to water work.
   5. Cooperation and coordination with other Contractors and utility companies including related inspection costs and other costs
   6. Utility crossings and relocations, unless otherwise paid for.
   7. Temporary utility services to buildings, as required to maintain service during construction.
   8. Minor Items-such as relocation of signposts, guard rails, rock wall, mailboxes, curbs, traffic loop detectors, pavement markings, etc., damaged as a result of construction activities related to water work.
   9. Trench boxes, steel and/or wood sheeting as required, including that left in place.
   10. Maintenance of all existing sewer flows and repair of existing sewer pipes.
   11. Dewatering as necessary.
   12. Quality assurance testing.
   13. Final cleaning of sewers, force mains and storm drains.
   14. Construction schedules, bonds, insurance, shop drawings, warranties, guarantees, certifications, and other submittals required by the Contract Documents.

15. Repair and replacement of water lines under 2-inches in size, culverts, underdrains, rock lined drainage trenches in streets and other utilities damaged by construction activities and corresponding proper disposal of removed materials unless otherwise paid for.
16. Temporary construction necessary for construction sequencing and other facilities not permanently incorporated into the work.
17. Weather protection.
18. Permits not otherwise paid for or provided by the Owner.
19. Visits to the project site or elsewhere by personnel or agents of the Contractor, including manufacturer's representatives, as may be required.
20. All excavation except the test pits specifically shown or ordered by the Engineer to establish sewer line and water line locations, earth excavation below grade and rock excavation.
21. Contract administration and insurance.
22. Test pits to establish in place field soils density, groundwater conditions, or requirements for dewatering related to water work.
23. Pipe markings-water line buried utility markings.
24. Earthwork (Except Rock)
25. Test Pits for the Contractor’s Benefit
26. Sewer service risers.
27. Temporary resetting or replacement of existing street and traffic signs and temporary traffic signals where necessary.
28. Raising and lowering of existing frames and covers of buried utilities to grade unless payment is otherwise provided for.
29. Cutting, capping, and abandonment of existing water main.
30. Disconnecting and reconnecting traffic signal power to accommodate the work
31. Removing and resetting of existing steps, guard rails, fences, walls and non-paved brick or paver walkways disturbed during construction, other than those identified on the Drawings to be replaced.
32. Protection of existing block and stone retaining walls unless otherwise identified to be removed, relocated or modified in the Drawings.
33. Cross-over channels and underdrains for sewer, storm drain and water excavation pits, and check dams for all excavated channels.
34. Locating and verifying the locations of water and sewer services within the limits of work. Capping or plugging existing underground utilities as shown on the plans
35. Removal and subsequent delivery of replaced or obsolete frames, covers, grates, hydrants curbstones and signs to a location within the Town limits designated by the Owner.

1.5 DESCRIPTION OF PAY ITEMS

A. The following sections describe the measurement of and payment for the work to be done under the respective items listed in the proposal schedule of items.

B. Each unit or lump-sum price stated in the proposal schedule of items shall constitute full compensation, as herein specified, for each item of the work completed.

203.24 COMMON BORROW CY

A. Method of Measurement: Quantity to be paid for under this item shall be the number of cubic yards of material as authorized by the Engineer. The payment limit for this item shall be between vertical planes that are a distance apart equal to a maximum of 6-feet extending from the top of the initial backfill layer to the bottom of the aggregate subbase layer as called out in the contract drawings for the length of the excavation as directed by the Engineer.

B. Basis of Payment:

1. Common borrow shall be paid for at the unit price per cubic yard stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all labor, equipment, and tools necessary furnishing installing and compacting common borrow backfill, and for all other work and expenses incidental thereto for which payment is not provided under other items.
2. Material excavated that could have, in the opinion of the Engineer, remained in place through the use of adequate dewatering efforts shall be replaced by the Contractor at no additional cost to the Owner.

801.03 TEST PITS EA

A. Method of Measurement: The quantity to be paid for under this item shall be the actual number of test pits performed as authorized by the Engineer.

B. Basis of Payment: Test pit excavations shall be paid for at the unit price per each test pit as stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all labor, tools, and equipment; for sawcut and removal of pavement, excavation (except rock excavation), dewatering, backfill including aggregate base and subbase, compaction, temporary pavement; providing the test pit result information to the Engineer and for all other work and expenses incidental thereto for which payment is not provided under other items.

822.33 6 INCH CLASS 52 DUCTILE IRON PIPE LF

A. Method of Measurement: The quantity of water main to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid including all fittings and valves.

B. Basis of Payment:

1. Water main shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all pipes, pipe fittings (except valves), bronze wedges, labor, equipment, tools, and other materials required for the installation of the pipelines; for excavating, utility crossings and relocations, laying, setting, and jointing all pipes and fittings; for connections and couplings to existing pipes; for furnishing and placing all bedding, haunching and initial backfill; for backfilling; for thrust blocks and supports; for restraining joints; saddles; for furnishing and placing all temporary sheeting and bracing; for cleaning and testing; for removal and disposal of existing water lines being replaced within the trench; for all labor, tools and construction equipment; disinfection, cleaning and testing of installed water mains, temporary utilities for construction and to maintain existing service during

construction including any materials, labor, and equipment the Contractor needs to provide regardless of the construction sequence, pipe and buried utility markings and location tape, cross-over channels and underdrains for sewer, storm drain and water excavation pits, and check dams for all excavated channels and for all other work and expenses incidental thereto for which payment is not provided under other items.

822.34_8 INCH CLASS 52 DUCTILE IRON PIPE_LF

A. Method of Measurement: The quantity of water main to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid including all fittings and valves.

B. Basis of Payment:

1. Water main shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all pipes, pipe fittings (except valves), bronze wedges, labor, equipment, tools, and other materials required for the installation of the pipelines; for excavating, utility crossings and relocations, laying, setting, and jointing all pipes and fittings; for connections and couplings to existing pipes; for furnishing and placing all bedding, haunching and initial backfill; for backfilling; for thrust blocks and supports; for restraining joints; saddles; for furnishing and placing all temporary sheeting and bracing; for cleaning and testing; for removal and disposal of existing water lines being replaced within the trench; for all labor, tools and construction equipment; disinfection, cleaning and testing of installed water mains, temporary utilities for construction and to maintain existing service during construction including any materials, labor, and equipment the Contractor needs to provide regardless of the construction sequence, pipe and buried utility markings and location tape, cross-over channels and underdrains for sewer, storm drain and water excavation pits, and check dams for all excavated channels and for all other work and expenses incidental thereto for which payment is not provided under other items.

823.3251 8 INCH GATE VALVE WITH BOX EA

A. Method of Measurement: The quantity of gate valves to be paid for under this item shall be the actual number of valves and valve boxes installed complete in place.

B. Basis of Payment: Gate valves shall be paid for at the unit price per each stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, equipment, and tools; for installing, setting, and jointing the valve and valve box; for restraining joints; for thrust blocks and supports; disinfection, cleaning and testing of installed water mains, for valve box extensions; for testing all valves and valve boxes; and for all other work and expenses incidental thereto for which payment is not provided under other items.

823.33 6 INCH GATE VALVE WITH BOX EA

A. Method of Measurement: The quantity of gate valves to be paid for under this item shall be the actual number of valves and valve boxes installed complete in place.

B. Basis of Payment: Gate valves shall be paid for at the unit price per each stated in the

Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, equipment, and tools; for installing, setting, and jointing the valve and valve box; for restraining joints; for thrust blocks and supports; disinfection, cleaning and testing of installed water mains, for valve box extensions; for testing all valves and valve boxes; and for all other work and expenses incidental thereto for which payment is not provided under other items.

823.332_ GATE VALVE BOX ADJUST TO GRADE_EA

A. Method of Measurement: The quantity of gate valve boxes furnished and installed and adjusted to grade to be paid for under this item shall be the actual number of gate valve boxes adjusted complete in place.

B. Basis of Payment: Gate valve boxes furnished and installed and adjusted to grade shall be paid for at the unit price per each stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, equipment, and tools; for furnishing and installing, setting, and adjusting the valve box; for valve box extensions; and for all other work and expenses incidental thereto for which payment is not provided under other items.

824.30 FIRE HYDRANT EA

A. Method of Measurement: The quantity of hydrant installations to be paid for under this item shall be the actual number installed complete in place.

B. Basis of Payment:

1. Hydrants shall be paid for at the unit price per each stated in the Bid Schedule and installed as indicated on the plans. Installation shall be paid for at the unit price per each stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all materials, labor, equipment, and tools; for installing, setting, and jointing; for excavation; for removal of existing hydrants where directed; for all thrust blocks and supports; restraining joints; tee, 6-inch gate valve, hydrant snow markers; location tape; cleaning, testing and disinfection and of all other work and expenses incidental thereto for which payment is not provided under other items.

824.32 REMOVE/RESET HYDRANT EA

A. Method of Measurement: The quantity of existing hydrants and line valve removed and reset to be paid for under this item shall be the actual number removed and reset complete in place.

B. Basis of Payment:

1. Existing hydrants removed and reset shall be as indicated on the plans. Removal and re-installation shall be paid for at the unit price per each stated in the Bid Schedule. Said unit price shall be full compensation for removal of existing hydrants, cutting pipe, furnishing all other needed materials, labor, equipment, and tools; for installing, setting, and jointing; for excavation; for all thrust blocks and supports; restraining joints; tee, hydrant snow markers; location tape; cleaning, testing and disinfection and of all other work and expenses incidental thereto for which payment is not provided under other items.

825.311 3/4 INCH CORPORATION EA

A. Method of Measurement: The quantity of corporation stops and taps to be paid for under this item shall be the actual number of stops furnished and installed in the main for service connections.

B. Basis of Payment: Corporation stops, and taps shall be paid for at the unit price per each stated in the Bid Schedule. Said unit price shall be full compensation for all fittings, labor, equipment, and tools necessary for the installation of the corporation stops including tapping the main; and for all work and expenses incidental thereto for which payment is not provided under other items.

825.312 3/4 INCH CURB STOP – W/ BOX EA

A. Method of Measurement: The quantity of curb stops to be paid for under this item shall be the actual number furnished and installed for service connections.

B. Basis of Payment: Curb stops, and boxes shall be paid for at the unit price per each curb stop stated in the Bid Schedule. Said unit price shall be full compensation for all fittings, labor, equipment, tools, and other materials required for the installation of the curb stop and box; for excavating and backfilling, raising to grade, for replacing or rebuilding shrubs, fences, lawns, trees, and other materials except other such items specifically included in the Bid Schedule; and for all other work and expenses incidental thereto for which payment is not provided under other items.

825.32 2 INCH CORPORATION EA

A. Method of Measurement: The quantity of corporation stops and taps to be paid for under this item shall be the actual number of stops furnished and installed in the main for service connections.

B. Basis of Payment: Corporation stops, and taps shall be paid for at the unit price per each stated in the Bid Schedule. Said unit price shall be full compensation for all fittings, labor, equipment, and tools necessary for the installation of the corporation stops including tapping the main; and for all work and expenses incidental thereto for which payment is not provided under other items.

825.41 3/4 INCH COPPER SERVICE LF

A. Method of Measurement: The quantity of service pipe to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid.

B. Basis of Payment: Pipe shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for all service pipe, main pipe and fittings, labor, equipment, tools, and other materials required for the installation of service pipes; locating and verifying the locations of water services to be connected to, utility crossings and relocations, laying, setting, and jointing all pipes and fittings; for making all connections to existing services; for cleaning, testing, and disinfecting; for backfilling; pipe and buried utility markings and location tape, for replacing or rebuilding shrubs, fences, lawns, trees, or other materials, except other such items specifically included in the Bid Schedule; and for all other work and expenses incidental thereto for which payment is not provided under other items. Payment will be made for a service when the tie sheet for that service has been received and accepted by the Engineer.

825.420 2 INCH COPPER SERVICE – LONGSIDE LF

A. Method of Measurement: The quantity of service pipe to be paid for under this item shall be the actual length in feet as measured along the center line of the pipe as laid.

B. Basis of Payment: Pipe shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for all service pipe, main pipe and fittings, labor, equipment, tools, and other materials required for the installation of service pipes; locating and verifying the locations of water services to be connected to, utility crossings and relocations, laying, setting, and jointing all pipes and fittings; for making all connections to existing services; for cleaning, testing, and disinfecting; for backfilling; pipe and buried utility markings and location tape, for replacing or rebuilding shrubs, fences, lawns, trees, or other materials, except other such items specifically included in the Bid Schedule; and for all other work and expenses incidental thereto for which payment is not provided under other items. Payment will be made for a service when the tie sheet for that service has been received and accepted by the Engineer.

825.5411 TEMPORARY WATER MAIN LUMP SUM

A. Method of Measurement: Temporary water main as indicated on the plans and measured for payment shall be lump sum.

B. Basis of Payment: Temporary water lines, hydrant assemblies, saddles, taps, corporation stops and appurtenances shall be paid for at a lump sum price. The lump sum shall be full compensation for furnishing all materials, labor, and equipment necessary to provide a fully operational temporary water system including mainlines and services as specified; removing all temporary lines at the resumption of water service; placing and maintaining fill over temporary mains at drives, walks, etc.; making connections to buildings; excavation (except rock excavation) and connection to existing mains and services; cleaning, leakage testing, and disinfecting temporary lines; coordinating connections and shut-offs with the Owner; backfilling and repaving all trenches for the temporary water; site restoration; and for all other work and expenses incidental thereto for which payment is not provided under other items.

827.301 ROCK EXCAVATION WATER MAIN CY

A. Method of Measurement:

1. Rock excavation measured for payment shall be the number of cubic yards of rock removed during construction. This quantity shall be determined by:
    a. Exposing the rock profile for measurement. Excavation and backfill of the earth overburden shall be considered incidental, and no separate payment shall be made therefore.
2. The payment limit for trench width shall be between vertical planes which are a distance apart equal to the sum of 18 inches plus 1-1/3 times the nominal outside diameter of pipe which is to be installed in the trench (min. of 3 feet) and extending from the top of the rock surface to a depth of 6 inches below the invert grade of the pipe. Where two pipes are installed in the same trench, trench rock excavation shall be measured as the actual volume of rock removed between vertical planes which are a distance apart equal to the sum of 3 feet plus the sum of the pipes nominal outside diameter. Where three pipes are

installed in the same trench, trench rock excavation shall be measured as the actual volume of rock removed between vertical planes which are a distance apart equal to the sum of 4.5 feet plus the sum of the pipes nominal outside diameter.

3. Rock excavation for structures (including manholes) shall be measured as 18 inches outside the structure and extending to a depth of 6 inches below the base of the structure indicated on the Drawings.
4. Rocks or boulders greater than two cubic yards volume shall be considered as rock excavation. Volume of rocks shall be determined from their average length, width, and depth as measured by the Engineer.

B. Basis of Payment:

1. The contract unit price per cubic yard for rock excavation shall be full compensation for all labor, materials, tools and equipment necessary to complete the excavation including conducting the pre-blast survey, drilling, blasting, excavating, loading and disposing the excess or unusable material outside the work limits, suitable replacement backfill, and all else incidental thereto for which payment is not provided under other items.
2. Not all the potential rock locations are identified on the Drawings and rock could be encountered anywhere within the limits of work. Such rock, if encountered, is not considered a Differing Subsurface or Physical Condition. The unit price in the bid form shall apply to all rock encountered and removed.

827.302 UNSUITABLE SOIL EXCAVATION – BELOW GRADE CY

A. Method of Measurement: Quantity to be paid for under this item shall be the number of cubic yards of material removed as authorized by the Engineer. The payment limit for this item shall be between vertical planes that are a distance apart equal to a maximum of 6-feet extending from the top of the initial backfill layer to the bottom of the aggregate subbase layer as called out in the contract drawings for the length of the excavation as directed by the Engineer.

B. Basis of Payment:

1. Excavated unsuitable materials shall be paid for at the unit price per cubic yard stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all labor, equipment, and tools necessary for the excavation of unsuitable material including the disposal of materials; and for all other work and expenses incidental thereto for which payment is not provided under other items.
2. Material excavated that could have, in the opinion of the Engineer, remained in place through the use of adequate dewatering efforts shall be replaced by the Contractor at no additional cost to the Owner.
3. Excess backfill material may be available during the Contract. This item shall be used to pay for excavation of unsuitable materials above the initial backfill layer only if no suitable backfill material previously excavated under this Contract is available.

827.33 TRENCH INSULATION LF

A. Method of Measurement: The quantity of 2-inch board insulation to be paid for under this item shall be the actual length in feet as measured along the centerline of the pipe as shown on the Drawings or as directed by the Engineer or the Owner.

B. Basis of Payment: Insulation shall be paid for at the unit price per linear foot stated in the Bid Schedule. Said unit price shall be full compensation for furnishing all insulation, labor, equipment, tools and other materials required for the installation. For dewatering, for installing the insulation, for excavating and laying, for furnishing and placing all bedding, initial backfill, for all labor, tools and construction equipment and for all other work and expenses incidental thereto.

832.06 TEST AND DISINFECT WATER MAIN LUMP SUM

A. Method of Measurement: Testing and disinfection of water mains measured for payment shall be lump sum.

B. Basis of Payment: Testing and disinfection of water mains shall be paid for at a lump sum price. The lump sum shall be full compensation for furnishing all materials, labor, and equipment necessary to pressure test, disinfect, sample and analysis of samples including mainlines and services as specified; and for all other work and expenses incidental thereto for which payment is not provided under other items.

END OF SECTION

SECTION 01340

SUBMITTALS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:
   1. Submit all shop drawings, project data, and samples required by the Specifications.
   2. Any iron and steel product to be considered for incorporation into the project must be produced in the United States in accordance with the American and Steel (AIS) Requirements. Specific requirements are presented in RUS Bulletin 1780-35 which are incorporated and made a part hereof by reference. Manufacturers AIS certifications must be submitted with any submittals.

B. Related Work Specified Elsewhere:
   1. Project Record Documents: Section 01720

1.2 SHOP DRAWINGS

A. Shop Drawings are required for each and every element of the work.

B. Shop Drawings are generally defined as all fabrication and erection drawings, diagrams, brochures, schedules, bills of material, manufacturers data, spare parts lists, and other data prepared by the Contractor, his subcontractors, suppliers, or manufacturers which illustrate the manufacturer, fabrication, construction, and installation of the work, or a portion thereof.

C. The Contractor shall provide a completed Contractor Submittal Certification Form (copy provided for Contractor's use at the end of this Specification Section) which shall be attached to every copy of every shop drawing and signed by the Contractor and Manufacturer (where applicable). Shop Drawings shall show the principal dimensions, weight, structural and operating features, space required, clearances, type and/or brand of finish or shop coat, grease fittings, etc., depending on the subject of the drawing. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the drawings shall be certified by the manufacturer or fabricator as correct for the work.

D. Shop Drawings shall be submitted as a complete package by specification section, unless otherwise reviewed and approved by the Engineer. It is the intent that all information, materials and samples associated with each specification section be included as a single submittal for the Engineer's review. Any deviation from this requirement, shall be requested in writing with an anticipated shop drawing breakdown/schedule prior to any associated submittal. An exception to this requirement are shop drawings for reinforcing steel, miscellaneous metals and structural steel, which shall be submitted separately for each structure unless otherwise permitted by the Engineer.

E. The Contractor shall be responsible for the prompt and timely submittal of all shop and working drawings so that there shall be no delay to the work due to the absence of such drawings.

F. No material or equipment shall be purchased or fabricated especially for the Contract until the required shop and working drawings have been submitted as hereinabove provided and reviewed for conformance to the Contract requirements. All such

materials and equipment and the work involved in their installation or incorporation into the Work shall then be as shown in and represented by said drawings.

G. Until the necessary review has been made, the Contractor shall not proceed with any portion of the work, the design or details of which are dependent upon the design or details of work, materials, equipment or other features for which review is required.

H. All shop and working drawings shall be submitted to the Engineer by and/or through the Contractor, who shall be responsible for obtaining shop and working drawings from his subcontractors and returning reviewed drawings to them. Shop drawings shall be formatted to standard paper sizes to enable the Owner to maintain a permanent record of the submissions. Approved standard sizes shall be: (a) 24 inches by 36 inches; (b) 11 inches by 17 inches, and (c) 11 inches by 8-1/2 inches. Provision shall be made in preparing the shop drawings to provide a binding margin on the left hand side of the sheet. Shop drawings submitted other than as specified herein may be returned for resubmittal without being reviewed.

I. Only drawings which have been checked and corrected by the fabricator should be submitted to the Contractor by his subcontractors and vendors. Prior to submitting drawings to the Engineer, the Contractor shall check thoroughly all such drawings to satisfy himself that the subject matter thereof conforms to the Drawings and Specifications in all respects. All drawings which are correct shall be marked with the date, checker's name, and indication of the Contractor's approval, and then shall be submitted to the Engineer.

J. If a shop drawing shows any deviation from the Contract requirements, the Contractor shall make specific mention of the deviations in the transmittal. Shop Drawings that contain significant deviations that are not brought to the attention of the Engineer may be subject to rejection.

K. Should the Contractor submit equipment that requires modifications to the structures, piping, electrical conduit, wires and appurtenances, layout, etc., detailed on the Drawings, he shall also submit details of the proposed modifications. If such equipment and modifications are accepted, the Contractor, at no additional cost to the Owner, shall do all work necessary to make such modifications.

L. A maximum of two submissions of each Shop Drawing will be reviewed, checked, and commented upon without charge to the Contractor. Any additional submissions which are ordered by the Engineer to fulfill the stipulations of the Drawings and Specifications, and which are required by virtue of the Contractor's neglect or failure to comply with the requirements of the Drawings and Specifications, or to make those modifications and/or corrections ordered by the Engineer in the review of the first two submissions of each Shop Drawing, will be reviewed and checked as deemed necessary by the Engineer, and the cost of such review and checking, shall be at the Contractor’s expense.

M. Shop Drawings that include drawings or other material that is illegible or too small may be returned without review.

1.3 SAMPLES

A. The Contractor shall submit samples when requested by the Engineer to establish conformance with the specifications, and as necessary to define color selections available. Submittals of “samples” shall be documented through the electronic submittal process by including a photograph of the item(s) and indicating the date the sample was mailed and/or delivered.

1.4 MANUFACTURER'S CERTIFICATES

A. Prior to accepting the installation, the Contractor shall submit manufacturer's certificates for each item specified.

B. Such manufacturer's certificates shall state that the equipment has been installed under either the continuous or periodic supervision of the manufacturer's authorized representative, that it has been adjusted and initially operated in the presence of the manufacturer's authorized representative, and that it is operating in accordance with the specified requirements, to the manufacturer's satisfaction. All costs for meeting this requirement shall be included in the Contractor's bid price.

1.5 SUBMISSION REQUIREMENTS

A. Accompany submittals with a transmittal cover sheet, containing:
   1. Date.
   2. Project title and number.
   3. Contractor's name and address.
   4. The sequential shop drawing number for each shop drawing, project data and sample submitted shall be:
      a. Specification Section number followed by a dash and then a sequential number beginning with 01 (e.g., 16000-01).
      b. Under limited situations when additional different pieces of equipment are submitted under the same specification section, those submittals shall be numbered sequentially (e.g. 05500-01, 05500-02, 05500-03, etc.).
      c. Resubmittals shall include decimal point and an alphabetic suffix after the corresponding sequential number (e.g., 16000-01A).
      d. O&M submittals shall be numbered with the Specification Section number followed by a dash, the letters “OM”, another dash, and then a sequential number beginning with 01 (e.g. 16000-OM-01). Resubmittals of O&Ms shall include an alphabetic suffix after the corresponding sequential number (e.g. 16000-OM-01A).
   5. Notification of deviations from Contract Documents.
   6. Other pertinent data.

B. A completed Contractor Submittal Certification Form shall be attached to each hardcopy and electronic PDF of each shop drawing and must include:
   1. Project name
   2. Specification Section and sequential number with alphabet suffix for resubmittal
   3. Description
   4. Identification of deviations from Contract Documents.
   5. Contractor's stamp, initialed or signed, certifying review of the submittal, verification of field measurements and compliance with Contract Documents.
   6. Where specified or when requested by the Engineer, manufacturer's certification that equipment, accessories and shop painting meet or exceed the Specification requirements.
   7. Where specified, manufacturer's guarantee.

C. Additional Requirements for Electronic Submittals:
   1. Each individual shop drawing or O&M submittal shall be contained in one PDF.
   2. The first page of the PDF shall be the Contractor Submittal Certification Form as described above.

3. The electronic PDF shall include an electronic table of contents that is bookmarked for each section of the submittal.
4. The electronic PDF shall be configured such that is fully searchable.
5. PDF versions of 24x36 drawings shall be converted to 24 x 36 PDFs so as not to lose the clarity of the original drawing.
6. Electronic PDF submittals that are not submitted in accordance with the requirements stated above will not be reviewed by the Engineer.
7. Electronic submittals shall be transmitted via the protocol established in Part 1 above.

1.6 RESUBMISSION REQUIREMENTS

A. Revise initial submittals as required and resubmit as specified for initial submittal.
B. Indicate on submittals any changes which have been made other than those required by Engineer. All renumbering of shop drawings, relabeling of individual pieces or assemblies or relocating of pieces or assemblies to other Drawings within the submittal shall be clearly brought to the attention of the Engineer. If relabeling of individual pieces or assemblies has taken place, the labels from the previous submittal shall be indicated to assist in comparing the original and resubmitted shop drawing.
C. All resubmittals shall include a summary of the previous submittal review comments with the vendors' written response as to how the previous comments were addressed.

1.7 ENGINEER'S REVIEW

A. The review of shop and working drawings hereunder will be general only, and nothing contained in this specification shall relieve, diminish or alter in any respect the responsibilities of the Contractor under the Contract Documents and in particular, the specific responsibility of the Contractor for details of design and dimensions necessary for proper fitting and construction of the work as required by the Contract and for achieving the result and performance specified thereunder.
B. The Engineer's review comments will be summarized on a Submittal Review Form, which includes an action code. A description of each action code is provided below.
    1. No Exceptions Taken (Status 0 on shop drawing log). The shop drawing complies with the Contract Document requirements. No changes or further information are required. Where appropriate, the submittal review form will be used to alert the Contractor, Owner and Field personnel of remaining items within that specification section that still needs to be submitted.
    2. Make Corrections Indicated (Status 1 on shop drawing log). The shop drawing complies with the Contract Document requirements except for minor changes, as indicated. Engineer requires that all comments will be addressed by the Contractor, unless otherwise notified in writing prior to execution of the relevant work.
    3. Conditional to Remarks (Status 2 on shop drawing log). The shop drawing potentially complies with the Contract Document requirements, contingent upon satisfactory resolution of review comments. Remarks will explicitly list what information needs to be resubmitted. Resubmittal from the Contractor should include a cover letter or summary which indicates how each review comment has been addressed. **This action code will not be used, or will be sparingly used, for electronic submittals.**

4. Revise and Resubmit (Status 3 on shop drawing log). The shop drawing does not comply with the Contract Document requirement as submitted, but may with changes indicated and/or submission of additional information. The entire package must be resubmitted with the necessary information and a cover letter which indicates how each review comment has been addressed and where to find the information in the resubmittal.
5. Rejected (Status 4 on shop drawing log). The shop drawing does not comply with the Contract Document requirements, for the reasons indicated in the remarks, and is unacceptable.
6. In Review (Status 5 on shop drawing log). The shop drawing is currently under review.
7. For Information Only (Status 6 on shop drawing log). The shop drawing review was for information only.

CONTRACTOR SUBMITTAL CERTIFICATION FORM

PROJECT: _____ CONTRACTOR'S PROJ. NO: _____

CONTRACTOR: _____ ENGINEER'S PROJ. NO: _____

ENGINEER: _____

SHOP DRAWING NUMBER: _____ (SPECIFICATION SECTION OR DRAWING NO:) - _____ (SEQUENTIAL NUMBER (& ALPHA SUFFIX FOR RESUBMITTAL))

DESCRIPTION: _____

MANUFACTURER: _____

The above referenced submittal has been reviewed by the undersigned and I/we certify that the material and/or equipment meets or exceeds the project specification requirements with

☐ NO DEVIATIONS

or

☐ A COMPLETE LIST OF DEVIATIONS AS FOLLOWS[a]:

_____
_____
_____
_____

By: _____ By: _____

Contractor[b]

Manufacturer[c]

Date: _____ Date: _____

a Any deviations not brought to the attention of the Engineer for review and concurrence shall be the responsibility of the Contractor to correct, if so directed.
b Required on all submittals
c When required by specifications Page ___ of ___

General Contractor's Stamp

OPERATIONS AND MAINTENANCE MANUAL CERTIFICATION FORM

PROJECT: _____ CONTRACTOR'S PROJ. NO: _____

CONTRACTOR: _____ ENGINEER'S PROJ. NO: _____

ENGINEER: _____

O&M NUMBER: _____ SPECIFICATION SECTION OR DRAWING NO: - OM- _____ SEQUENTIAL NUMBER (& ALPHA SUFFIX FOR RESUBMITTAL)

DESCRIPTION: _____

MANUFACTURER: _____

The above referenced operations and maintenance manual has been reviewed by the undersigned and I/we certify that the manual is customized as needed for this project, is suitable for mounting in a 3-ring binder, and contains the following items:

- ☐ Table of Contents
- ☐ Contractor and Manufacturer Contact Information
- ☐ Preventative Maintenance Schedule and Summary
- ☐ Removal and Replacement Instructions
- ☐ Lubrication Schedule
- ☐ Troubleshooting Information
- ☐ Warranty Information
- ☐ Rebuild Information for All Components
- ☐ Startup, Operation and Shutdown Procedures
- ☐ Normal and Emergency Operations
- ☐ Safety Procedures and Precautions
- ☐ Shop Drawings corrected to As-Built Conditions
- ☐ Personnel Training Requirements
- ☐ Project-Related Design Data
- ☐ Serial Numbers
- ☐ Maintenance and Repair Procedures
- ☐ Wiring and Control Diagrams
- ☐ Equipment Drawings & Schematics
- ☐ Equipment Performance Curves
- ☐ Parts and Service Contact Information
- ☐ Manufacturer's Contact Information
- ☐ Emergency Operations Plan
- ☐ List of All Component Part Numbers
- ☐ List of Spare Parts Supplied
- ☐ Testing Equipment & Special Tools
- ☐ Other System Specific Information

By:_____ By:_____

Contractor[a] Manufacturer[b]

Date: _____ Date:_____

[a] Contact information shall include name, address and telephone number.
[b] Required on all Operation and Maintenance Manuals.
[c] When required by Specifications. Page ___ of ___

General Contractor's Stamp

PROCESS EQUIPMENT MANUFACTURER SUBMITTAL CERTIFICATION
(Divisions 11 and 14)

Owner:_____ Date: _____

Project:

Contractor:

Equipment Manufacturer:

Equipment:

As an authorized representative of the equipment manufacturer, the undersigned certifies that the equipment listed above conforms to the requirements of Section 11000, Part 1.3.K. The undersigned authorized representative of the manufacturer further certifies that the equipment manufacturer or supplier has: reviewed the Construction Documents, the intended installation by the Contractor, and the intended functional and operational conditions; determined all conditions to be acceptable; and found no conditions which would cause the warranty to be void; or the equipment to function improperly, or not meet the performance requirements.

(Authorized Representative of the Manufacturer) (Date)

END OF SECTION

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:
   1. Keep accurate record documents for all additions, demolition, changes of material or equipment (from that shown on the Drawings), variations in work, and any other additions or revisions to the Contract (via Change Order, Work Change Directive, Field Order or Clarification).

B. Related Work Specified Elsewhere:
   1. Shop Drawings, Project Data, and Samples are specified in "General Conditions" and Section 01340, Submittals.

1.2 MAINTENANCE OF DOCUMENTS

A. Maintain at job site, one copy of:
   1. Contract Drawings
   2. Specifications
   3. Addenda
   4. Reviewed Shop Drawings
   5. Change Orders
   6. Any other modifications to the Contract
   7. Field Test Reports

B. Store documents in files and racks specifically identified for Record Drawing use, that are apart from documents used for construction.

C. File documents in a logical manner indexed for easy reference.

D. Maintain documents in clean, dry, legible condition.

E. Do not use record documents for construction purposes.

F. Make documents available at all times for inspection by the Engineer and Owner, and by the end of the project, transmit these documents to the Engineer.

1.3 RECORDING

A. Label each document "PROJECT RECORD" in large high printed letters.

B. Keep record documents current and do not permanently conceal any work until required information has been recorded.

C. General Field Recording Issues:
   1. All swing ties shall be taken from existing, permanent features such as utility poles, corners of buildings and hydrants. Porches, sheds or other house additions shall be avoided as they could be torn down. A minimum of two swing ties shall be taken. Survey grade GPS coordinates are also acceptable.
   2. Stations shall be recorded to the nearest foot.
   3. Inverts shall be recorded to the nearest hundredth of a foot.
   4. Elevations shall be recorded to the nearest hundredth of a foot.
   5. Building dimensions shall be recorded to the nearest 1/4".

6. Equipment and Piping shall be recorded to the nearest tenth of a foot, and the overall dimensions and layout of the equipment shall be adjusted to reflect the equipment provided.

D. Project Record Drawings - Legibly mark Contract Drawings to record existing utilities and actual construction of all work, including but not limited to the following (where applicable):
   1. Existing Utilities
      a. Water mains and services, water main gate valves, sewer mains and services, storm drains, culverts, steam lines, gas lines, tanks and other existing utilities encountered during construction must be accurately located and shown on the Drawings. In congested areas supplemental drawings or enlargements may be required.
      b. Show any existing utilities encountered in plan and profile and properly labeled showing size, material and type of utility. Ties shall be shown on plan. Utility shall be drawn to scale in section (horizontally and vertically) and an elevation shall be called out to the nearest hundredth of a foot.
      c. When existing utility lines are broken and repaired, ties shall be taken to these locations.
      d. If existing water lines are replaced or relocated, document the area involved and pipe materials, size, etc. in a note, and with ties.
      e. .
   2. Water Mains and Force Mains
      a. Show ties to the location of all valves, bends (horizontal and vertical), tees and other fittings. The use of thrust blocks shall be recorded.
      b. Revise elevations indicated on the Drawings to reflect actual construction.
   3. House Services
      a. Draw all house services (even to empty lots) on plan, and show ties.
      b. Show ties or distances to wyes from manhole.
      c. Show chimneys heights in the profile.
      d. The Wright-Pierce "Sanitary Sewer Service Location" forms and “Water Service Location” forms shall be used to record sewer and water service information. A copy of these forms shall be provided to the Owner, along with the Record Drawing Set.
   4. Ledge
      a. Ledge profiles shall be shown. Note whether the plotted ledge profile reflects undisturbed or expanded conditions.
   5. Utilities
      a. When encountered, additional utilities (e.g., gas, cable, telephone, fiber optic, etc.) shall be indicated on the Record Drawings.

E. Specifications and Addenda - Legibly mark up each section to record:
   1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
   2. Changes made by Change Order, Field Order, or other method.

1.4 SUBMITTALS

A. At the completion of the project, and prior to the release of retainage, deliver record documents to the Engineer

1. Record drawings shall be provided as a bound, red-line paper set.
2. If the Contractor provides alternate or substitute equipment that requires revised arrangements from the Bidding Documents, the Contractor shall provide supplemental record drawings of these items in AutoCAD format.

B. Accompany submittal with transmittal letter, in duplicate, containing:
1. Date, project title and number.
2. Contractor's name and address.
3. Title and number of each record document with certification that each document is completed and accurate.
4. Signature of Contractor, or his authorized representative.

1.5 QUALITY ASSURANCE

A. All horizontal and vertical dimensions, swing-ties, and elevations shall be accurate to within one-tenth of a foot, unless greater accuracy is specified elsewhere in the Specifications (e.g., concrete elevations, weir elevations, etc.).

PART 2 - PRODUCTS – NOT APPLICABLE

PART 3 - EXECUTION

3.1 MAINTAINING AND PROVIDING RECORDS

A. Records shall be kept current as the work progresses.
B. Records shall be made available for review by the Owner, Engineer, Resident Project Representative and/or Funding Agency(s) upon request.
C. Records shall be kept current as the work progresses.

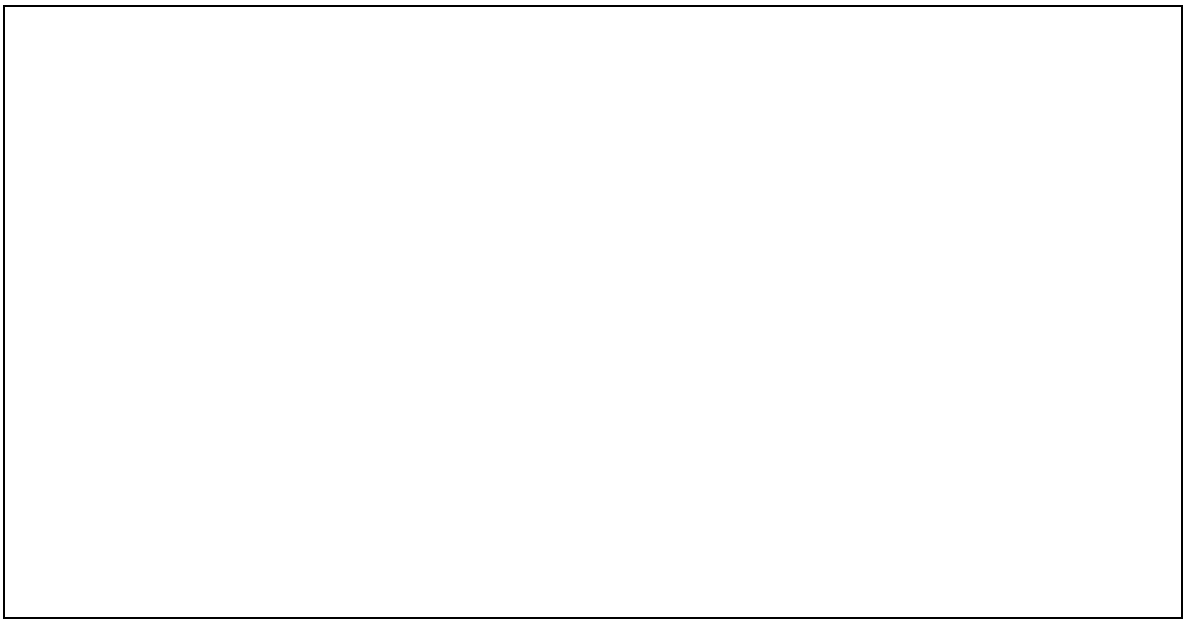
3.2 AS-BUILT SURVEY PERFORMANCE

A. From established survey control, and construction baseline as shown on the drawings, conduct surveys of the project area during construction as needed to obtain information of buried and above ground items. Surveys shall include information outlined in Section 1.3.
B. Actual road alignments; walls; fence and guardrail; existing, new and relocated utility poles; traffic and warning sign locations; crosswalks, parking space and stop bar locations; retaining walls and foundations drains; all underground and overhead utility poles and lines within the project limits, including those installed on private property; all other new features and appurtenances and those existing features and appurtenances changed as a result of this project shall be included in the survey.

WATER SERVICE LOCATION

Project: _____ Date: _____
Date Installed: _____ Town, City of: _____

Type, Size of Service Pipe		Street	
Connection at Water Main (STA)		Occupant	
Depth to Cap		Owner	
Elevation of Cap		House No.	
Length of Service Pipe Laid		Complete	
Measured, Located By		Incomplete	
Project Contractor			



N.T.S.

Comments: _____

_____

_____

Observed By:

_____ _____
Contractor (Date)

_____ _____
Wright-Pierce (Date)

Location of Stub approved _____
(Owner)

END OF SECTION

SECTION 02200

EARTHWORK

PART 1 - GENERAL

1.1 DESCRIPTION

A. The Work described by this Section consists of all earthwork encountered and necessary for construction of the project as indicated in the Contract Documents, and includes but is not limited to the following:
   1. Excavation
   2. Backfilling and Filling
   3. Compaction
   4. Embankment Construction
   5. Grading
   6. Providing soil material as necessary
   7. Disposal of unsuitable materials
   8. Disposal of excess suitable material

B. Related Work Specified Elsewhere: (When Applicable)
   1. The use of explosives is specified in the Supplementary Conditions section of this Contract, and elsewhere in these specifications.
   2. Traffic Regulation is specified elsewhere in these specifications.
   3. Clearing and Grubbing, Dewatering, Filter Fabric, Temporary Erosion Control, Stripping and Stockpiling of Topsoil, Sheeting, Landscaping, and Paving are specified elsewhere in these specifications.
   4. Pipe, fittings and valves are specified elsewhere in these specifications.

1.2 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies:
   1. All work shall be performed and completed in accordance with all local, state and federal regulations.
   2. The General Contractor shall secure all other necessary permits unless otherwise indicated from, and furnish proof of acceptance by, the municipal and state departments having jurisdiction and shall pay for all such permits, except as specifically stated elsewhere in the Contract Documents.

B. Line and Grade:
   1. The Contractor shall establish the lines and grades in conformity with the Drawings and maintain same to properly perform the work.

C. Testing Methods:
   1. Gradation Analysis: Where a gradation is specified the testing shall be in accordance with ASTM C-117-90 and ASTM C-136-93 (or latest revision).
   2. Compaction Control:
      a. Unless otherwise indicated, wherever a percentage of compaction for backfill is indicated or specified, it shall be the in-place density divided by the maximum density and multiplied by 100. The maximum density shall be the density at optimum moisture as determined by ASTM

Standard Methods of Test for Moisture-Density Relations of Soil Using 10-lb. Hammer and 18-in. Drop, Designation D-1557-91 (Modified Proctor), or latest revision, unless otherwise indicated.

b. The in-place density shall be determined in accordance with ASTM Standard Method of Test for Density of Soil in Place by the Sand Cone method, Designation D 1556-90, (or latest revision) or Nuclear method Designation D6938.

c. Wherever specifically indicated, maximum density at optimum moisture may be determined by ASTM Standard Methods of Test for Moisture Density Relations of Soils, ASTM D-698-91 (Standard Proctor).

1.3 SUBMITTALS

A. Collection of samples and testing of all materials for submittals shall be performed by an Independent Testing Laboratory and paid for by the Contractor until the materials are approved by the Owner or Engineer.

B. Submit test results in accordance with the procedure specified in the General and Supplementary Conditions.

C. Submit test results (including gradation analysis) and source location for all borrow material to be used at least 10 working days prior to its use on the site. Contractor shall identify and provide access to borrow sites.

D. Submit moisture density curve for each type of soil (on site or borrow material) to be used for embankment construction or fill beneath structures or pavement.

1.4 TESTS

The Independent Testing Laboratory shall conform to the following procedures and standards:

A. Submit test results in accordance with the procedure specified in the General and Supplementary Conditions.

B. All testing shall be performed by a qualified Independent Testing Laboratory acceptable to the Engineer and Contractor.

C. Field density tests on embankment materials shall be as follows:

D. Tests shall be taken on every 200 cubic yards of embankment material.

E. Paved Areas and Building Slab Subgrade: Make at least one field density test of subgrade for every 2,000 sq. ft. of paved area or building slab, but in no case less than 3 tests. In each compacted fill layer, make one field density test for every 2,000 sq. ft. of overlaying building slab or paved area, but in no case less than 3 tests.

F. Trenches: Field density test in trenches shall be taken at 75 linear foot intervals on every third lift.

G. Foundation Wall Backfill: Take at least one (1) field density tests per lift per wall at locations and elevations as designated by the Engineer.

H. In addition to the above tests the Independent Testing Laboratory will perform additional density tests at locations and times requested by the Engineer.

I. Additional density testing will be required by the Engineer if the Engineer is not satisfied with the apparent results of the Contractor's compaction operation.

1. If the test results fail to meet the requirements of these specifications, the Contractor shall undertake whatever action is necessary, at no additional cost to the Owner, to obtain the required compaction.

1.5 JOB CONDITIONS

A. Site Information:

1. Data on indicated subsurface conditions are not intended as representations or warranties of accuracy or continuity between soil borings. It is expressly understood that Owner and Engineer will not be responsible for interpretations or conclusions drawn there from by the Contractor. Data are made available for the convenience of Contractor.
2. Additional test borings and other exploratory operations may be made by Contractor at no additional cost to Owner.

B. Existing Utilities and Structures:

1. The locations of utilities and structures shown on the Drawings are approximate as determined from physical evidence on or above the surface of the ground and from information supplied by the utilities. The Engineer in no way warranties that these locations are correct. It shall be the responsibility of the Contractor to determine the actual locations of any utilities or structures within the project area.

PART 2 - PRODUCTS

2.1 SOIL MATERIAL

A. Common Borrow: Shall consist of approved material required for the construction of the work where designated. Common borrow shall be free from frozen material, perishable rubbish, peat, organic, and other unsuitable material.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
6-inch	100
No. 200	0-5

Common borrow may be used for embankments unless otherwise indicated and provided that the material is at a moisture content suitable for compaction to the specified density. No rocks shall exceed 3/4 of the depth of the specified lift thickness.

B. Select Fill: Shall consist of well graded granular material free of organic material, loam, wood, trash, snow, ice, frozen soil and other objectionable material and having no rocks with a maximum dimension of over 4 inches and meeting the following gradation requirements, except where it is used for pipe bedding in which case the maximum size shall be 2 inches.

Sieve Designation	Percent by Weight Passing Square Mesh Sieve
4 inch	100
3 inch	90-100
¼ inch	25-90
No. 40	0-30

No. 200	0-5

C. Sand: Shall be well graded durable material free of organic matter and conform to the following gradation requirements:

Sieve Designation	Percent by Weight Passing Square Mesh Sieve
3/8 inch	100
No. 4	95-100
No. 16	50-85
No. 50	10-30
No.100	2-10
No.200	0-5

2.2 CONCRETE

A. If concrete is required for excess excavation, provide 3,000 psi.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions under which excavating, backfilling, filling, compaction and grading are to be performed and notify the Engineer in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.

3.2 EXCAVATION

A. General:
   1. Excavation consists of removal and disposal of all material encountered when establishing line and grade elevations required for execution of the work.
   2. The Contractor shall make excavations in such manner and to such widths as will give suitable room for building the structures or laying and jointing the piping; shall furnish and place all sheeting, bracing, and supports; shall do all cofferdamming, pumping, and draining; and shall render the bottom of the excavations firm, dry and acceptable in all respects.
   3. All excavation shall be classified as either earth or ledge.
      a. Earth Excavation shall consist of the removal, hauling and disposal of all earth materials encountered during excavation including but not limited to native soil or fill, pavement (bituminous or concrete), existing sewers and manholes, ashes, loam, clay, swamp muck, debris, soft or disintegrated rock or hard pan which can be removed with a backhoe, or a combination of such materials, and boulders that do not meet the definition of "Ledge" below.
      b. Ledge Excavation: Shall consist of the removal, hauling, and disposal of all ledge or rock encountered during excavation. "Ledge" and "rock" shall be defined as any natural compound, natural mixture that in the opinion

of the Engineer can be removed from its existing position and state only by drilling and blasting, wedging, sledging, boring or breaking up with power operated tools. No boulder, ledge, slab, or other single piece of excavated material less than two cubic yards in total volume shall be considered rock unless, in the opinion of the Engineer it must be removed from its existing position by one of the methods mentioned above.

4. The Contractor shall not have any right of property in any materials taken from any excavation. Do not remove any such materials from the construction site without the approval of the Engineer. This provision shall in no way relieve the Contractor of his obligations to remove and dispose of any material determined by the Engineer to be unsuitable for backfilling. The Contractor shall dispose of unsuitable and excess material in accordance with the applicable sections of the Contract Documents.

B. Additional Excavation: When excavation has reached required subgrade elevations, notify the Engineer and Resident Project Representative who will observe the conditions.
   1. If material unsuitable for the structure or paved area or pipeline (in the opinion of the Engineer) is found at or below the grade to which excavation would normally be carried in accordance with the Drawings and/or Specifications, the Contractor shall remove such material to the required width and depth and replace it with thoroughly compacted select fill, screened stone, crushed stone, or concrete as directed by the Engineer.
   2. All excavated materials designated by the Engineer as unsuitable shall become the property of the Contractor and disposed of at locations in accordance with all State and local laws and the provisions of the Contract Documents.

C. Unauthorized Excavation: Shall consist of removal of materials beyond indicated subgrade elevations or dimensions without specific authorization of Engineer. Unauthorized excavation, as well as remedial work required by the Engineer shall be at the Contractor's expense. Remedial work required is as follows:
   1. Under footings, foundation bases, or retaining walls, fill unauthorized excavation with select fill or screened stone compacted to 95%. Provide 12" minimum select fill or screened stone directly under footings. Concrete fill may be used to bring elevations to proper position, when acceptable to Engineer.
   2. If the bottom of a trench is excavated beyond the limits indicated, backfill the resulting void with thoroughly compacted screened stone, unless otherwise indicated.
   3. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by Engineer.

D. Trench Excavation: Shall consist of removal, hauling and disposal of all material encountered in the excavation to the widths and depths shown on the Drawings to permit proper installation of underground utilities.
   1. Excavate trenches to the uniform width shown on the Drawings sufficiently wide to provide sufficient space for installation, backfilling, and compaction. Every effort should be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed and consolidated.

2. Trenches shall be excavated with approximately vertical sides between the elevation of the center of the pipe and an elevation one foot above the top of the pipe.
3. Grade bottoms of trenches as indicated for pipe and bedding to establish the indicated slopes and invert elevations, notching under pipe joints to provide solid bearing for the entire body of the pipe, where applicable.
4. If pipe is to be laid in embankments or other recently filled material, the material shall first be placed to the top of the fill or to a height of at least two feet above the top of the pipe, whichever is the lesser. Particular care shall be taken to ensure maximum consolidation of material under the pipe location. The pipe trench shall be excavated as though in undisturbed material.
5. Unless otherwise specifically directed or permitted by the Engineer, begin excavation at the low end of sewer and storm lines and proceed upgrade.
6. Perform excavation for force mains and water mains in a logical sequence.
7. The extent of open excavation shall be controlled by prevailing conditions subject to any limits prescribed by the Engineer.
8. As the excavation progresses, install such shoring and bracing necessary to prevent caving and sliding and to meet the requirements of the state and OSHA safety standards, as outlined in the appropriate section of this Specification.

E. Protection of Persons, Property and Utilities:
1. Barricade open excavations occurring as part of this work and post with warning lights in compliance with local and State regulations.
2. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations. Exercise extreme caution and utilize sheeting, bracing, and whatever other precautionary measures that may be required.
3. Rules and regulations governing the respective utilities shall be observed in execution of all work. Active utilities and structures shall be adequately protected from damage, and removed or relocated only as indicated or specified. Inactive and abandoned utilities encountered in excavation and grading operations shall be removed, plugged or capped only with written authorization of the utility owner. Report in writing to the Engineer, the locations of such abandoned utilities. Extreme care shall be taken when performing work in the vicinity of existing utility lines, utilizing hand excavation in such areas, as far as practicable.
4. Repair, or have repaired, all damage to existing utilities, structures, lawns, other public and private property which results from construction operations, at no additional expense to the Owner, to the complete satisfaction of the Engineer, the utility, the property owner, and the Owner.

F. Use of Explosives:
1. Do not bring explosives onto site or use in work without prior written permission from authorities having jurisdiction. Contractor is solely responsible for handling, storage, and use of explosive materials when their use is permitted.

2. All blasting shall be performed in accordance with all pertinent provisions of the "Manual of Accident Prevention in Construction" of the Associated General Contractors of America, Inc.

G. Stability of Excavations:
   1. Slope sides of excavations to comply with all codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.
   2. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.

H. Shoring and Bracing:
   1. Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.
   2. Provide trench shoring and bracing to comply with local codes and authorities having jurisdiction.
   3. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Install shoring and bracing as excavation progresses.

I. Material Storage:
   1. Stockpile excavated materials which are satisfactory for use on the work until required for backfill or fill. Place, grade and shape stockpiles for proper drainage and protect with temporary seeding or other acceptable methods to control erosion.
   2. Locate and retain soil materials away from edge of excavations.
   3. Dispose of excess soil material and waste materials as herein specified.

J. Dewatering:
   1. To ensure proper conditions at all times during construction, the Contractor shall provide and maintain ample means and devices (including spare units kept ready for immediate use in case of breakdowns) with which to intercept and/or remove promptly and dispose properly of all water entering trenches and other excavations (including surface and subsurface waters).
   2. Excavations shall be kept dry until the structures, pipes, and appurtenances to be built therein have been completed to such extent that they will not be floated or otherwise damaged.

K. Cold Weather Protection:
   1. Protect excavation bottoms against freezing when atmospheric temperature is less than 35^{o}F.
   2. No frozen material shall be used as backfill or fill and no backfill shall be placed on frozen material.

L. Separation of Surface Material:
   1. The Contractor shall remove only as much of any existing pavement as is necessary for the prosecution of the work.
   2. Prior to excavation, existing pavement shall be cut where in the opinion of the Engineer it is necessary to prevent damage to the remaining road surface.
   3. Where pavement is removed in large pieces, it shall be disposed of before proceeding with the excavation.
   4. From areas within which excavations are to be made, loam and topsoil shall be carefully removed and separately stored to be used again as directed; or, if the

Contractor prefers not to separate surface materials, he shall furnish, as directed, loam and topsoil at least equal in quantity and quality to that excavated.

3.3 BACKFILL AND FILL

A. General:

1. Backfilling shall consist of replacing material removed to permit installation of structures or utilities, as indicated in the Contract Documents.
2. Filling shall consist of placing material in areas to bring them up to grades indicated on the Drawings.
3. The Contractor shall provide and place all necessary backfill and fill material, in layers to the required grade elevations.
4. Backfill excavations as promptly as work permits, but not until completion of the following:
   a. Inspection, approval, and recording locations of underground utilities.
   b. Removal of trash and debris.
   c. Density testing having results meeting requirements specified herein.
5. In general, and unless otherwise indicated, material used for backfill of trenches and excavations around structures shall be suitable excavated material which was removed in the course of making the construction excavation. Unless otherwise specified or allowed by the Engineer the backfill and fill shall be placed in layers not to exceed 8 inches in thickness.
6. Suitable excavated material shall meet the following requirements:
   a. Free from large clods, silt lumps or balls of clay.
   b. Free from stones and rock fragments with larger than 12 inch max. dimension.
   c. Free from organics, peat, etc.
   d. Free from frozen material.
7. If sufficient suitable excavated material is not available from the excavations, and where indicated on the Drawings, the backfill material shall be select fill or common borrow, unless otherwise indicated, as required and as directed by the Engineer.
8. Do not backfill with, or on, frozen materials.
9. Remove, or otherwise treat as necessary, previously placed material that has frozen prior to placing backfill.
10. Do not mechanically or hand compact material that is, in the opinion of the Engineer, too wet.
11. Do not continue backfilling until the previously placed and new materials have dried sufficiently to permit proper compaction.
12. The nature of the backfill materials will govern the methods best suited for their placement and compaction. Compaction methods and required percent compaction is covered in Compaction section.
13. Before compaction, moisten or aerate each layer as necessary to provide a water content necessary to meet the required percentage of maximum dry density for each area classification specified.
14. Do not allow large masses of backfill material to be dropped into the excavation in such a manner that may damage pipes and structures.

15. Place material in a manner that will prevent stones and lumps from becoming nested.
16. Completely fill all voids between stones with fine material.
17. Keep stones or rock fragments with a dimension greater than two inches at least one foot away from the pipe or structure during backfilling.
18. Leave sheeting in place when damage is likely to result from its withdrawal.
19. Completely fill voids left by the removal of sheeting with screened stone which is compacted thoroughly.

B. Pipe Bedding, Initial Backfill and Trench Backfill

1. Place bedding and backfill in layers of uniform thickness specified herein, and as shown on the Drawings.
2. Thoroughly compact each layer by means of a suitable vibrator or mechanical tamper.
3. Install pipe bedding and initial backfill in layers of uniform thickness not greater than eight (8) inches.
4. Deposit the remainder of the backfill in uniform layers not greater than eight inches.
5. Provide underground utility marking tape for new utility trenches as shown on the Drawings.
6. Where soft silt and clay soils are encountered the trench shall be excavated six inches below the normal bedding and backfilled with 6-inches of compacted sand.
7. Backfill trenches with concrete where trench excavations pass within 18 inches of column or wall footings and which are carried below the bottom of such footings, or which pass under wall footings. Place concrete to the level of the bottom of adjacent footings.
8. The following schedule lists the bedding materials for various types of pipe. Refer to the pipe trench detail for dimensional requirements.

BEDDING REQUIREMENTS

DI or Concrete Pipe	screened stone or select fill.
PVC or PE Pipe	screened stone.

9. The following schedule lists the initial backfill requirements for various types of pipes. Refer to the pipe trench detail for dimensional requirements.

INITIAL BACKFILL REQUIREMENTS

DI or Concrete Pipe	Screened stone or select fill
PVC or PE Pipe	Screened stone

10. Special bedding and backfill requirements shown on the Drawings supersede requirements of this section.

11. Where pipes or structures pass through or under the impervious core of the lagoon embankments, bedding and backfill material shall consist of the impervious embankment material. Extra care should be given to properly and thoroughly compact the bedding material around the pipe.

C. Improper Backfill:
   1. When excavation and trenches have been improperly backfilled, and when settlement occurs, reopen the excavation to the depth required, as directed by the Engineer.
   2. Refill and compact the excavation or trench with suitable material and restore the surface to the required grade and condition.
   3. Excavation, backfilling, and compacting work performed to correct improper backfilling shall be performed at no additional cost to the Owner.

D. Ground Surface Preparation:
   1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow, strip, scarify or break-up sloped surface steeper than 1 vertical to 4 horizontal.
   2. When existing ground surface has a density less than that specified under "compaction" for the particular area classification, break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to required depth and percentage of maximum density.

3.4 COMPACTION

A. General:
   1. Control soil compaction during construction to provide not less than the minimum percentage of density specified for each area classification.

B. Percentage of Maximum Density Requirements:
   1. Compact soil to not less than the following percentages of maximum dry density determined in accordance with ASTM D1557 as indicated.
      a. Structures: Compact each layer of backfill or fill material below or adjacent to structures to at least 95% of maximum dry density (ASTM D1557).
      b. Off Traveled Way Areas: Compact each layer of backfill or fill material to at least 90% of maximum dry density (ASTM D1557).
      c. Walkways: Compact each layer of backfill or fill material to at least 93% of maximum dry density (ASTM D1557).
      d. Roadways, Drives and Paved Areas: Compact each layer of fill, subbase material, and base material to at least 95% of maximum dry density (ASTM D1557).
      e. Pipes: Compact bedding material and each layer of backfill to at least 90% maximum dry density (ASTM D1557). Where backfilling with excavated material, compact to native field density.
      f. Embankments: Compact each layer of embankment material to at least 95% of maximum dry density (ASTM D1557).

C. Moisture Control:
   1. Where subgrade or a layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil

material, in quantities controlled to prevent free water appearing on surface during or subsequent to compaction operations.

2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
3. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to a satisfactory level.

D. Compaction Methods: The Contractor may select any method of compaction that is suitable to compact the material to the required density.
   1. General: Whatever method of compacting backfill is used, care shall be taken that stones and lumps shall not become nested and that all voids between stones shall be completely filled with fine material. All voids left by the removal of sheeting shall be completely backfilled with suitable materials and thoroughly compacted.
   2. Tamping or Rolling: If the material is to be compacted by tamping or rolling, the material shall be deposited and spread in uniform, parallel layers not exceeding the uncompacted thicknesses specified. Before the next layer is placed, each layer shall be tamped as required so as to obtain a thoroughly compacted mass. Care shall be taken that the material close to the excavation side slopes, as well as in all other portions of the fill area, is thoroughly compacted. When the excavation width and the depth to which backfill has been placed are sufficient to make it feasible, and it can be done effectively and without damage to the pipe or structure, backfill may, on approval, be compacted by the use of suitable rollers, tractors, or similar powered equipment instead of by tamping. For compaction by tamping or rolling, the rate at which backfilling material is deposited shall not exceed that permitted by the facilities for its spreading, leveling, and compacting as furnished by the Contractor.

E. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

END OF SECTION

SECTION 02615

DUCTILE IRON PIPE & FITTINGS (BURIED APPLICATIONS)

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Provide and install ductile iron pipe and fittings of the type(s) and size(s) in the location(s) shown on the Drawings and as specified herein.

B. Related Work Specified Elsewhere:
   1. Pipe and Pipe Fittings - General is specified elsewhere in these specifications.
   2. Excavation, Bedding and Backfill are specified elsewhere in these specifications.

1.2 QUALITY ASSURANCE

A. Standards (As Applicable):
   1. Cement-mortar lining for water: ANSI A21.4 (AWWA C104).
   2. Rubber gasket joints: ANSI A21.11 (AWWA C111).
   3. Ductile iron pipe thickness: ANSI A21.50 (AWWA C150).
   4. Ductile iron pipe centrifugally cast in metal or sand lined molds: ANSI A21.51 (AWWA C151).
   5. Pipe flanges and fittings: ANSI Bl6.l and ANSI A21.10 (AWWA C110).
   6. Threaded, flanged pipe: ANSI A21.15 (AWWA C115).
   7. Cast and ductile iron fittings: ANSI A21.l0 (AWWA C110).
   8. Ductile Iron Compact Fittings: ANSI 21.53 (AWWA C153).

B. Acceptable Manufacturers:
   1. Tyler
   2. Griffin
   3. Union
   4. US Pipe
   5. Or equal
   6. Items manufactured of steel or iron shall conform to the ‘Buy America Clause” provisions contained in the MaineDOT specifications for this project. See the MaineDOT standard specifications division 100, section 3.
   7. Any iron and steel product to be considered for incorporation into the project must be produced in the United States in accordance with the American and Steel (AIS) Requirements. Specific requirements are presented in RUS Bulletin 1780-35 which are incorporated and made a part hereof by reference.

1.3 DELIVERY, STORAGE & HANDLING

A. Exercise extra care when handling ductile iron pipe because it is comparatively brittle.

B. Exercise extra care when handling cement lined pipe because damage to the lining will render it unfit for use.

C. Protect the spherical spigot ends and the plain ends of all pipe during shipment by

wood lagging securely fastened in place.

PART 2 - PRODUCTS

2.1 PIPE MATERIALS

A. General:

1. All exterior (buried) ductile iron pipe shall have push-on or mechanical joints unless otherwise specified or shown on the Drawings. Pipe within valve pits and other structures is considered interior pipe and shall be flanged.
2. Unless otherwise shown on the Drawings or in the pipe schedule, the minimum thickness of ductile iron pipe shall be:
   a. For pipe 4 inches in diameter and smaller: Class 51.
   b. For pipe 6 inches in diameter and larger: Class 52 (water applications).
   c. Pipe with flanges: Class 53.
3. Pipe for use with sleeve type couplings shall have plain ends (without bells or beads) cast or machined at right angles to the axis.
4. Pipe shall be double thickness cement lined and seal coated unless noted otherwise on the Drawings, and except for air piping lines which shall be completely unlined.
5. Pipe for use with split type couplings shall have ends with cast or machined shoulders or grooves that meet the requirements of the manufacturer of the couplings.
6. Factory applied bituminous coatings (in accordance with AWWA C151) shall be furnished on the exterior of all underground piping unless specified otherwise.
7. The outside of pipe within structures and exposed shall not be coated with bituminous coating but shall be thoroughly cleaned and given one shop coat of Intertol Rustinhibitive Primer 621 by Koppers Co.; Multiprime by PPG Industries; Chromox 13R50 Primer made by Mobil Chemical Co.; or equivalent.

B. Joints (as shown on Drawings or as specified):

1. Push-on and Mechanical Joint:
   a. The plain ends of push-on pipes shall be factory machined to a true circle and chamfered to facilitate fitting the gasket.
   b. Provide gaskets manufactured from a composition material suitable for exposure to the fluid to be contained within the pipe. On high temperature applications such as air lines, the gaskets shall be suitable for service from 40^0F to 250^0F.
   c. Bolts and nuts for buried mechanical joints shall meet the AWWA C-111 requirements and be made of high strength, low alloy steel.
   d. Fasteners:
      i. Make joints with bolt, studs with a nut on each end, or one tapped flanged with a stud and nut.
      ii. The number and size of bolts shall meet the requirements of the applicable ANSI standard.
      iii. Nuts, bolts, and studs shall be Grade B meeting the requirements of

ASTM A307.

iv. After jointing, coat entire joint with bituminous material compatible with pipe coating.

e. When applicable, provide and install flange clamps as shown on the Drawings.

2. Joint Bracing:
   a. Provide joint bracing to prevent the piping from pulling apart under pressure as required and as shown on the Drawings.
   b. Types of bracing:
      i. Pipe and fittings furnished with approved lugs or hooks cast integrally for use with socket pipe clamps, tie rods, or bridles. Bridles and tie rods shall be a minimum of 3/4 inch diameter except where they replace flange bolts of a smaller size, in which case they shall be fitted with a nut on each side of the pair of flanges. The clamps, tie rods, and bridles shall be coated with bituminous paint in buried installations and shall be coated with the same coatings as the piping system in interior installations after assembly or, if necessary, prior to assembly.
      ii. Mechanical joint follower gland pipe restrainers.
         (1) Ductile iron gland and restraining ring.
         (2) Gasket shall be standard MJ gasket -ANSI/AWWA-C111/A21.11.
         (3) Working pressure 350 psi, up to 8 inches; 250 psi, 10 inches to 16 inches.
         (4) Test pressure two times working pressure.
         (5) Grip Rings™, Romac Industries, or other equivalent as approved by Engineer.
      iii. Other types of bracing as shown on the Drawings.

2.2 FITTINGS

A. Standard Fittings:
   1. Pressure rating of 350 psi for D.I. compact fittings and 250 psi for all others unless indicated otherwise on the Drawings or as specified.
   2. Joints the same as the pipe with which they are used or as shown on the Drawings.
   3. Cement lining and seal coat as specified for pipe.
   4. Factory applied bituminous coatings shall be furnished for all underground fittings.

PART 3 - EXECUTION

3.1 INSPECTION

A. Provide all labor necessary to assist the Engineer to inspect pipe, fittings, gaskets, and other materials.
B. Carefully inspect all materials at the time of delivery and just prior to installation.
C. Carefully inspect all pipe and fittings for:

1. Defects, such as weak structural components, that adversely affect the execution and quality of work.
2. Deviations beyond allowable tolerances for pipe clearances.

D. Immediately remove all rejected materials from the project site.

3.2 INSTALLATION

A. General:
1. Install in strict accordance with the pipe and fitting manufacturer's instructions and recommendations and as specified or as shown on the Drawings.
2. Concrete thrust blocks or other acceptable thrust resistant system is required at all fittings on pressure pipe. Where thrust blocks are used, these shall be placed against undisturbed soil or screened gravel compacted to 95 percent and shall be placed so that the joints are accessible for repairs.

B. Assembling Joints:
1. Push-on Joints:
a. Insert the gasket into the groove of the bell.
b. Uniformly apply a thin film of special lubricant over the inner surface of the gasket that will contact the spigot end of the pipe.
c. Insert the chamfered end of the plain pipe into the gasket and push until it seats against the bottom of the socket.
2. Bolted Joints:
a. Remove rust preventive coatings from machined surfaces prior to assembly.
b. Thoroughly clean and carefully smooth all burrs and other defects from pipe ends, sockets, sleeves, housings and gaskets.
c. After jointing coat all bolts with bituminous material compatible with the pipe coating required herein.
3. Mechanical Joints:
a. Thoroughly clean, with a wire brush, surfaces that will be in contact with the gaskets.
b. Lubricate the gasket, bell, and spigot by washing with soapy water.
c. Slip the gland and gasket, in that order, over the spigot and insert the spigot into the bell until properly seated.
d. Evenly seat the gasket in the bell at all points, center the spigot, and firmly press the gland against the gasket.
e. Insert the bolts, install the nuts finger tight, and progressively tighten diametrically opposite nuts uniformly around the joint to the proper tension with a torque wrench.
f. The correct range of torque (as indicated by a torque wrench) and the length of wrench (if not a torque wrench) shall not exceed:
i. Range or Torque: 60-90 ft.-lbs.
ii. Length of Wrench: 10 inches.
g. If effective joint sealing is not attained at the maximum torque specified above, disassemble, thoroughly clean, and reassemble the joint. Do not overstress the bolts to tighten a leaking joint.
4. Bell and Spigot Joints:

a. Thoroughly clean the bell and spigots and remove excess tar and other obstructions.
b. Insert the spigot firmly into place and hold securely until the joint has been properly completed.

C. Fabrication:
1. Tapped Connections:
a. Make all tapped connections as shown on the Drawings or as required by the Engineer.
b. Make all connections watertight and of adequate strength to prevent pullout.
c. Drill and tap normal to the longitudinal axis of the pipe.
d. Taps in fittings shall be located where indicated by the manufacturer for that particular type of fitting.
e. The maximum sizes of taps in pipes and fittings without busses shall not exceed the sizes listed in the appendix of ANS A21.51 based on 2 full threads for ductile iron and 3 full threads for cast iron.
2. Cutting:
a. Perform all cutting as set forth in AWWA C600.
b. Carefully chamfer all cut ends to be used with push-on joints to prevent damage to gaskets when pipe is installed.

D. Pipe Deflection:
1. Push-on and Mechanical Joints:
a. The maximum permissible deflection of alignment at joints shall be limited to that given in AWWA C600.
2. Flexible Joints:
a. The maximum deflection in any direction shall not exceed the manufacturer's instructions and recommendations.

END OF SECTION

SECTION 02620

TEMPORARY WATER MAIN

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Furnish, install, test and maintain all polyethylene or PVC temporary water pipe, pipe fittings and services and appurtenances of the type(s) and size(s) and in the location(s) as shown on the Drawings and as herein specified.

B. Related Work Specified Elsewhere:

1. Cleaning and Testing is specified elsewhere in these specifications.
2. Corporations and saddles are specified elsewhere in these specifications.
3. Gate Valves are specified elsewhere in these specifications.

1.2 PROJECT CONDITIONS

A. The work includes the installation of a temporary water main to provide potable water service to the existing customers in the project area when the existing main is being replaced.

B. The water distribution system experiences water pressures of approximately 100 psi in this area of the distribution system.

C. The Contractor shall coordinate with the Owner before making the connection of the temporary water main to the existing water distribution system.

D. Temporary water mains shall not be installed or in operation between October 15 and April 15.

1.3 SUBMITTALS

A. A temporary piping plan detailing all of the requirements specified herein shall be submitted prior to the start of the work for approval.

B. In certain instances, additional isolation valves may be required to be installed in the existing water main system to properly install, maintain and isolate the temporary water mains. Any needed valves required for the proper installation and operation of the temporary system shall be installed by the Contractor at no additional cost to the Owner.

C. Submit experience statement for operator(s) conducting the pipe fusion. Installation shall be performed by personnel with a minimum five (5) years experience conducting pipe fusion projects.

1.4 QUALITY ASSURANCE

A. Provide pipe and fittings manufactured by a single manufacturer.

B. Pressure rating or pressure class of pipe as detailed herein.

C. Standards:

1. ASTM D l248 Polyethylene Plastics Molding and Extrusion Materials.
4. ASTM D l505 Density of Plastics by the Density Gradient Technique.
5. ASTM D l693 Environmental Stress Cracking of Ethylene Plastics.
6. ASTM D l928 Preparation of Compression Molded Polyethylene Test Samples.

7. ASTM D 1784 - Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (PVC) Compounds.
8. ASTM D 2241 - PVC Pressure Rated Pipe (SDR Series).
9. ASTM D 3139 - Joints for Plastic Pressure Pipes using Flexible Elastomeric Seals.

D. Acceptable Manufacturers:
1. Ryerson & Son, Inc. "Mono-Line"
2. Dupont, "Aldyl-D"
3. Sheldon "Sclairpipe"
4. Certainteed Yelomine PVC
5. Or approved equal.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Polyethylene Pipe:
1. The pipe shall be obtained by polymerization of no less than 85% ethylene and no less than 95% of total olefins by weight.
2. The polyethylene resin shall be classified as a Type III, Class C, Category 3. Nominal density shall be 0.941 to 0.959.
3. The polyethylene compound shall be suitably protected against degradation by ultraviolet light by means of carbon black, well dispersed in a concentration of not less than 2%.
4. The polyethylene resin compound shall have a resistance to environmental stress cracking as determined by procedure detailed in ASTM D 1693 with sample preparation by procedure C of ASTM D 1928 of not less than 40 hours.
5. Pipe shall be homogeneous throughout and free of visible cracks, holes, foreign material, blisters, or other deleterious faults.
6. Polyethylene fittings shall have the same pressure rating as the pipe itself.
7. Adaptors: When applicable, provide adaptors for connecting polyethylene pipe to pipes constructed from other materials. All flanges shall have metal backing rings.
8. Pipe pressure rating shall be 150 psi (SDR-11) minimum.

B. Polyvinyl Chloride (PVC) Pipe:
1. PVC pipe shall be made from Type 1, Grade 1, 2000 psi design stress, Class 12454-B formulation Polyvinyl Chloride.
2. PVC formulation shall contain impact modifiers and ultraviolet inhibitors for use in above-ground temporary applications.
3. Pipe shall have potable water service certification in accordance with NSF No. 14 (National Sanitation Foundation Standard) for Thermoplastic materials, pipe fittings, valves, traps, and joining materials.
4. Pipe pressure rating shall be 150 psi (SDR-18) minimum.

C. Service Corporations: Provide corporation and service saddle for all services as required.

D. Water Main Valves: Provide gate valves at the connection to the distribution system and every 1,000 feet of installed temporary water main.

E. Provide Owner approved backflow preventers at connections to distribution system.

F. All dead-end temporary water mains shall be provided with a valve and plug to facilitate flushing and disinfection of temporary mains.

2.2 FABRICATION

A. Polyethylene Pipe:
   1. Thermal Butt-Fusion:
      a. Join the pipe to itself, or to the polyethylene fittings or to the flange connections by means of thermal butt-fusion.
      b. Have all fusion performed by personnel trained by the pipe supplier or other qualified persons, using tools approved by the pipe supplier.
      c. The polyethylene fittings and flanged connections to be joined by thermal butt-fusion shall be from the same type, grade and class of polyethylene compound as the polyethylene pipe unless otherwise approved.
      d. Joint strength must be equal to that of the adjacent pipe.
   2. Mechanical Connections: The mechanical connections of the polyethylene pipe to auxiliary equipment shall be in accordance with the pipe suppliers written instructions. All fitting shall be restrained.

B. Polyvinyl Chloride (PVC) Pipe:
   1. Fittings shall be supplied with Teflon coated "O"-ring to minimize assembly and disassembly effort required to install, remove and reinstall the system.
   2. Mechanical Connections: The mechanical connections of the PVC pipe to auxiliary equipment shall be in accordance with the pipe suppliers written instructions. All fittings shall be restrained.

C. Services:
   1. Services shall be polyethylene pipe or NSF certified hose.
   2. Minimum services size shall be 1-inch. Larger services may be required for non-residential uses. Engineer shall determine minimum service size.

PART 3 - EXECUTION

3.1 INSTALLATION OF TEMPORARY MAIN

A. Temporary water mains shall be placed in a manner that protects the pipeline from traffic, vandalism, etc. Pipeline shall be laid along edge of roadways or in curblines whenever possible.

B. Water mains shall be protected at all driveway entrances and curb cuts by the use of gravel, temporary pavement, or steel access ramps. In lieu of access ramps, in areas that will have new pavement, a shallow trench may be cut to allow the shallow burial of the temporary main. If trenching is used, trenches shall be sawcut, refilled with compacted gravel and repaved with trench pavement prior to final paving.

C. Temporary watermain shall be of a size to provide adequate water supply during peak demand of connected users.

D. Temporary main shall be maintained in working order until such a time that all of the structures are being served by the new main. If the temporary main fails, the CONTRACTOR shall restore the main within 12 hours. No temporary water mains or temporary water services shall be installed or operated during freezing weather. Temporary pipes already in use shall be removed or drained and existing services restored when so directed by the ENGINEER or OWNER.

3.2 INSTALLATION OF SERVICES

A. The Contractor shall provide written notices to all affected property owners a minimum of 24 hours prior to any disruption of water service as a result of the temporary by-pass.

B. All services tapped to the temporary main will have a shutoff at the main to allow isolation of the individual service.

C. Each structure shall have their own temporary service connected to the temporary main.

D. Residential services may be back-fed through an external hose bib if available. If a hose bib is utilized, Contractor shall shut-off the existing feed to the structure at the meter to prevent back-feeding the old main and shall confirm that the connection properly services the entire structure.

E. For services where no external hose bib or other connection is available or larger than residential flows are required, the Contractor shall excavate the existing building service and connect the service to the temporary main with the appropriate size piping.

F. For fire protection (sprinkler) services, the Contractor shall coordinate with the Building Owner and Fire Department for service size and sprinkler service connection requirements. Contractor shall not connect sprinkler services without express written permission of the Building Owner.

G. Temporary services shall be maintained in working order until such a time that all of the structures are being served by the new main. If a temporary service fails, the CONTRACTOR shall restore the main within 12 hours.

3.4 HYDRANTS

A. When a hydrant is removed from service, a temporary hydrant shall be installed and maintained.

B. Hydrants that are out of service during construction operations shall be bagged and clearly marked with a “HYDRANT OUT OF SERVICE” tag.

3.3 CLEANING AND TESTING

A. Temporary water main shall be and visually leakage tested and disinfected per Specification Section 02675 before permanently shutting down the existing main.

END OF SECTION

SECTION 02626

COPPER SERVICE PIPE & FITTINGS (BURIED APPLICATIONS)

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Furnish and install copper pipe of the type and size and in the locations shown on the Drawings and as specified herein.

B. Related Work Specified Elsewhere:

1. Excavation, Bedding and Backfill are specified elsewhere in these specifications.

1.2 QUALITY ASSURANCE

A. Seamless copper water tube, ASTM B88.

B. Any iron and steel product to be considered for incorporation into the project must be produced in the United States in accordance with the American and Steel (AIS) Requirements. Specific requirements are presented in RUS Bulletin 1780-35 which are incorporated and made a part hereof by reference.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Pipe use:

1. Domestic Water (buried exterior).
   a. Type K, soft annealed.

B. Fittings:

1. Buried Fittings: “Lead free” compression fittings in compliance with NSF 61 Annex G and Safe Drinking Water Act Section 1417 with BUNA-N gasket. Lead free fittings shall contain less than 0.25% lead on a weighted average, and installed using flux and solder containing not more than 0.2% lead.
2. Acceptable manufacturer: Mueller Co., Decatur, IL. or Equal

PART 3 - EXECUTION

3.1 INSTALLATION

A. Jointing

1. Flared Joints (if specified)
   a. Ream on file the pipe to remove burrs.
   b. Slip fitting over end of pipe to be flared.
   c. Expand tube using flaring tools.
   d. Inspect for cracks, splits or other damages and replace if necessary.
   e. Squarely seat the flared end on fitting and tighten nuts.
2. Packed on compression joints
   a. Cut pipe squarely.
   b. Ream or file pipe to remove burrs.

c. Seat pipe in fittings and tighten nut.

3. Adapters: Use as required to connect to existing services.

B. Bending Pipe

1. Bend pipe by the method and to the radius to comply with the manufacturer's recommendations.
2. Bend pipe with suitable tools to provide smooth bend free of any cracks or buckles.
3. Provide "goose neck" in new services as shown on Drawings.

END OF SECTION

SECTION 02641

GATE VALVES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Furnish, install and test gate valves of the type(s) and size(s) and in the location(s) shown on the Drawings and as specified.

B. Related Work Specified Elsewhere:

1. "Valve Box" and "Ductile Iron Pipe & Fittings for Buried Applications" are specified elsewhere in these specifications.

1.2 QUALITY ASSURANCE

A. All gate valves of same type and style shall be manufactured by one manufacturer.

B. Acceptable Manufacturers:

1. American Flow Control
2. Kennedy
3. Darling
4. Mueller
5. Or equal
6. Items manufactured of steel or iron shall conform to the 'buy America clause" provisions contained in the MaineDOT specifications for this project. See the MaineDOT standard specifications division 100, section 3.
7. Any iron and steel product to be considered for incorporation into the project must be produced in the United States in accordance with the American and Steel (AIS) Requirements. Specific requirements are presented in RUS Bulletin 1780-35 which are incorporated and made a part hereof by reference.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Waterworks type NRS valves (AWWA):

1. Valve Body, bonnet and stuffing box - Cast iron (ASTM A126, C1B), or Ductile iron (ASTM A536), coated inside and out with fusion bonded epoxy meeting AWWA C550. Face-to-face dimensions shall comply with ANSI B16.10 and flanges to comply with ANSI B16.1.
2. Resilient Wedge - Ductile iron wedge with bonded Nitrile elastomer covering.
3. Stem - Manganese bronze, ASTM B584
4. Stuffing box O-rings
   a. Two O-rings, each nitrile rubber.
   b. Capable of changing under pressure.
5. Wedgenut - Bronze, ASTM B62
6. Bolting - stainless steel Type 18-8, ASTM F593, GP1
7. End Connections
   a. Buried valves - mechanical joints

8. Operation
    a. Buried valves - 2 inch square nut, cast iron, ASTM A126, C1B
    b. Opening Direction - counterclockwise
9. Water working pressure: 250 psi
10. Standards - valves shall meet or exceed AWWA C509, latest edition.

B. Items manufactured of steel or iron shall conform to the 'buy America clause" provisions contained in the MaineDOT specifications for this project. See the MaineDOT standard specifications division 100, section 3

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install valves with stem position vertical.
B. Valve box vertical and centered over operating nut.
C. Valve box supported during backfilling and maintained vertical.
D. Install and test in accordance with AWWA C500 and AWWA C-509, latest revision.
E. For PVC or PE main, install anchor rods around the valve body or through the mounting lugs and embed the rods in concrete beneath the valve.

END OF SECTION

SECTION 02642

CORPORATION STOPS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Furnish and install corporation stops of the type(s) and size(s) and in the location(s) shown on the Drawings and as specified herein.

1.2 QUALITY ASSURANCE

A. All corporation stops shall be manufactured by one manufacturer.
B. Qualifications of Manufacturer: Products have proven reliable in similar installations over a reasonable number of years.
C. Any iron and steel product to be considered for incorporation into the project must be produced in the United States in accordance with the American and Steel (AIS) Requirements. Specific requirements are presented in RUS Bulletin 1780-35 which are incorporated and made a part hereof by reference.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Constructed of “Lead free” brass in compliance with NSF 61 Annex G and Safe Drinking Water Act Section 1417. Lead free fittings shall contain less than 0.25% lead on a weighted average, and installed using flux and solder containing not more than 0.2% lead.
B. Outlet shall be copper pipe packed joint (CPPJ)
C. Inlet shall have AWWA (CC) standard thread.
D. Acceptable Manufacturers:
    1. Ford (F600)
    2. Red Head Mfg. Co.
    3. Or equivalent

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install at locations shown on the Drawings and as specified in accordance with manufacturer's instructions.
B. Check and adjust all corporation stops for smooth operation.

END OF SECTION

SECTION 02643

CURB STOPS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Furnish and install curb stops of the type(s) and size(s) and in the location(s) shown on the Drawings and as specified herein.

1.2 QUALITY ASSURANCE

A. All curb stops shall be manufactured by one manufacturer.

B. Qualifications of Manufacturer: Products shall have proven reliable in similar installations over a reasonable number of years.

C. Any iron and steel product to be considered for incorporation into the project must be produced in the United States in accordance with the American and Steel (AIS) Requirements. Specific requirements are presented in RUS Bulletin 1780-35 which are incorporated and made a part hereof by reference.

D. Acceptable Manufacturers:

1. Ford (B22)
2. Or equivalent

PART 2 - PRODUCTS

2.1 PRODUCT CONSTRUCTION

A. Constructed of “Lead free” brass in compliance with NSF 61 Annex G and Safe Drinking Water Act Section 1417. Lead free fittings shall contain less than 0.25% lead on a weighted average, and installed using flux and solder containing not more than 0.2% lead.

B. Inlet and outlet shall be copper packed pipe joint (CPPJ) type.

C. Working pressure of 300 psi shall be required.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install at locations shown on the Drawings and in accordance with manufacturer's instructions.

3.2 ADJUSTMENTS

A. Check and adjust all curb stops for smooth operation.

END OF SECTION

SECTION 02644

HYDRANT ASSEMBLIES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Furnish and install hydrant assemblies of the type(s) and size (s) and in the locations (s) shown on the Drawings and as specified herein.

B. Hydrant Assemblies consist of:
   1. Hydrant tee.
   2. 6-inch gate valve and valve box.
   3. 6-inch hydrant branch piping.
   4. Hydrant.
   5. Drainage material.
   6. Thrust blocking and joint bracing.

C. Related Work Specified Elsewhere:
   1. Excavation and backfill, pavement, dewatering, borrow and bedding are specified in this Division.

1.2 QUALITY ASSURANCE

A. Hydrants shall conform to AWWA C502 and all hydrants shall be from one manufacturer.

B. Gate valves shall conform to AWWA C5090 (Resilient-Seated Gate Valves for Water Supply).

C. Acceptable Manufacturers:
   1. Mueller Company, Decatur, Illinois.
   2. Or approved equal.
   3. Items manufactured of steel or iron shall conform to the 'Buy America Clause" provisions contained in the MaineDOT specifications for this project. See the MaineDOT standard specifications division 100, section 3.
   4. Any iron and steel product to be considered for incorporation into the project must be produced in the United States in accordance with the American and Steel (AIS) Requirements. Specific requirements are presented in RUS Bulletin 1780-35 which are incorporated and made a part hereof by reference.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Fire Hydrants:
   1. Dry barrel type with a 5-inch minimum valve opening.
   2. Two (2) 2-1/2-inch hose connections and one (1) 4-1/2-inch pumper connection.
      a. 2-1/2 inch outlets: 60o V threads, 7-1/2 threads to the inch, external threads 3-1/16 inches, O.D. National Standard threads.

b. 4-1/2-inch outlet: 4 threads to the inch, external threads 5-3/4 inches, O.D. National Standard threads.
c. Supply adapters if existing firefighting equipment does not match the threads specified above.

3. 150 pounds working pressure and 300 pounds hydrostatic test pressure.
4. Working parts shall be bronze and open counterclockwise unless otherwise specified.
5. Designed with standpipe breaking ring or breakable sections.
6. Supply one (1) collision repair kit for every twenty-five (25) hydrants installed.
7. Caps shall be attached to hydrant body by chains.
8. Hydrant drains are not allowed.

B. Gate Valves: Waterworks type non-rising stem AWWA valve as specified in the appropriate section of this Division.

C. Valve Boxes:
1. Cast iron, minimum thickness 3/10 inch with the word "WATER" cast in covers.
2. Be of such length as required without full extensions.
3. As specified in this Division.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install hydrants as shown in the details and using manufacturer's written instructions.
B. No hydrant assembly shall be backfilled until approved by the Engineer.
C. Provide drainage material and thrust blocks as shown.
D. Provide barrel extensions as required for hydrant to be installed at proper grade.
E. Provide finish paint on all exposed surfaces. Color shall meet Owner's requirements as approved by the Engineer.

3.2 CLEANING

A. Clean all hydrants of concrete, etc. and repaint as necessary to the satisfaction of the Engineer.

END OF SECTION

SECTION 02645

CURB BOXES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Furnish and install curb boxes of type (s) and size (s) and in the locations shown on the Drawings and as specified herein.

B. Related Work Specified Elsewhere: "Valves and Specialties - General" is elsewhere in these specifications.

1.2 QUALITY ASSURANCE

A. All curb boxes shall be manufactured by one manufacturer.

B. Qualifications of Manufacturer: Products have proven reliable in similar installations over a reasonable number of years.

C. Acceptable Manufacturers:

1. Quality Water Products.
2. Mueller Co.
3. Hayes Manufacturing Co.
4. Or equivalent.
5. Items manufactured of steel or iron shall conform to the 'Buy America Clause" provisions contained in the MaineDOT specifications for this project. See the MaineDOT standard specifications division 100, section 3.
6. Any iron and steel product to be considered for incorporation into the project must be produced in the United States in accordance with the American and Steel (AIS) Requirements. Specific requirements are presented in RUS Bulletin 1780-35 which are incorporated and made a part hereof by reference.

PART 2 - PRODUCTS

2.1 MATERIALS AND FABRICATION

A. Cast iron base piece, steel upper, cast iron lid, and threaded bronze plug with pentagon nut (Rope Thread).

B. Extension type and arch pattern base with 1/2" diameter stainless steel minimum, 30" stationary rod.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install as shown on the Drawings and/or as requested by the Engineer.

1. When installation is complete no pressure shall be exerted by the curb box on either the curb stop or the service pipe.

END OF SECTION

SECTION 02646

VALVE BOXES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Furnish and install valve boxes of type(s) and size(s) and in the locations shown on the Drawings and as specified herein.

1.2 QUALITY ASSURANCE

A. All valve boxes shall be manufactured by one manufacturer.
B. Qualifications of Manufacturer: Products to have been proven reliable in similar installations over a reasonable number of years.
C. Acceptable Manufacturers:
   1. Tyler
   2. Quality Water Products
   3. Bibby-Ste-Croix
   4. McWane
   5. Or Equivalent
   6. Items manufactured of steel or iron shall conform to the 'Buy America Clause" provisions contained in the MaineDOT specifications for this project. See the MaineDOT standard specifications division 100, section 3.
   7. Any iron and steel product to be considered for incorporation into the project must be produced in the United States in accordance with the American and Steel (AIS) Requirements. Specific requirements are presented in RUS Bulletin 1780-35 which are incorporated and made a part hereof by reference.

PART 2 - PRODUCTS

2.1 MATERIALS

A. The valve box shall be cast iron, slip type two-piece integral base, 5-1/4-inch shaft. Top section with flanges.
B. The cover shall be cast iron, with the word "Water" cast in cover.
C. Belled Base Section.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Installation as shown on the Drawings and/or as specified herein.
   1. When installation is complete, no pressure shall be exerted by valve box on the water main or on the valve.
   2. Be of such length as required without full extension. Minimum lap 6 inches.

END OF SECTION

SECTION 02650

BURIED UTILITY MARKINGS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:
   1. This work shall consist of providing and installing utility line markings above all buried lines installed as part of this contract and replacing existing markings disturbed as part of this contract. Buried utilities are indicated on the Civil and Electrical Drawings.

B. Related Work Specified Elsewhere:
   1. Pipe, excavation, backfill, insulation are specified in the appropriate Sections in this Division.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials and color shall be in accordance with latest AASHTO specifications for pipe and utility marking.

B. Marking tape color shall be in accordance with latest American Public Works Association (APWA) Uniform Color Code and American National Standards Institute ANSI Standard Z535.1, Safety Color Code specifications for buried utility marking as noted in the Schedule below.
   1. Schedule

Marker Color	Buried Utility
Blue	Potable Water &Associated lines

   2. Warning Information shall be in Black Letters with typical wording of:
      a. "CAUTION: BURIED (NAME OF UTILITY LINE) BELOW"

C. For ferrous pipe material use 0.004" minimum polyethylene film; 6" wide clearly marking type of buried utility.

D. For non-ferrous pipe material (e.g. Concrete, PVC, PE, etc.) use detection tape composite of polyethylene and metallic core 6" wide clearly marking type of buried utility.

E. Seton Identification Products, New Haven, CT, Utility Safeguard LLC or equal.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Marking tape shall be installed over utility lines centerline and buried 24" below grade.

B. Markings damaged during opening of trench shall be reinstalled with 2' overlap at broken sections.

END OF SECTION

SECTION 02675

CLEANING, TESTING AND DISINFECTION OF WATER MAINS

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work of this section includes the furnishing of all labor, tools, equipment and materials and performing all operations necessary for the flushing, pressure testing, leakage testing and chlorination of water mains as specified herein and as required to complete the work.

1.2 QUALITY ASSURANCE

A. Standards (as applicable):
   1. All work shall be in accordance with this specification and AWWA C651. Where conflicts appear between these specifications and AWWA C651 the more stringent requirement shall apply.
   2. Chlorine solution for disinfecting water mains and appurtenances shall be made from either liquid sodium hypochlorite, or solid calcium hypochlorite, which shall conform to the latest AWWA B300 Standard for Hypochlorite.
   3. Chlorine test kits shall be as described in the current edition of AWWA M12 - Simplified Procedures for Water Examination.
   4. Disposal of chlorinated water as per AWWA C651, Appendix B.

1.3 COORDINATION

A. Use of water will only be as approved and coordinated by the Owner.

B. All flushing, pressure and leakage testing and chlorinating shall be done by the Contractor in the presence of the Engineer and in the presence of the Owner or Owner's Representative in accordance with the requirements of the local and state plumbing codes and the appropriate Sections of these Specifications, at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Each temporary blow-off shall consist of a corporation cock, type K copper tubing and a curb stop, each of not less than 1-inch diameter.

B. A pumping unit or proportionate feeder suitable for delivering a hypochlorite solution to the isolated main shall be provided. The unit used shall prevent chlorine solution from flowing back into the existing system.

PART 3 - EXECUTION

3.1 GENERAL

A. Thoroughly clean all piping prior to testing. Remove all dirt, dust, oil, grease and other foreign material. Exercise care while cleaning to avoid damage to linings and coatings.

B. Supply all labor, equipment, materials, gages, and pumps required to conduct the tests. The drawings do not detail taps, gages, plugs and other related materials required to perform testing. These materials are the responsibility of the Contractor.

C. Flushing, testing and chlorinating of the mainline shall closely follow main laying work. As the mainline is installed, it shall be tested approximately every 1,000 feet, or between line valves, whichever is less. Should the mainlines fail to be flushed, tested, and chlorinated as specified, the main laying work shall be suspended until the flushing, testing and chlorinating is done.

D. Final acceptance of the water main shall be based on successful (negative) results of bacteriological tests, which shall be done on samples taken from the main following chlorination and final flushing. Locations of samples shall be determined by the Engineer.

E. The testing and related procedures described herein, shall be performed in the order listed.

F. The Contractor, with the assistance of the Owner, shall fill mains as slowly as practicable so as not to cause dirty water and serious pressure drops within the existing system.

3.2 FLUSHING

A. All new water mains, and existing water mains that have been drained and cut-into for making connections, shall be thoroughly flushed prior to pressure or leakage testing or final chlorination. Flushing shall be accomplished by partially opening and closing valves, hydrants, and blowoffs, several times, under expected line pressure, with flow velocities of not less than 2.5 feet per second, in the main. The size and number of hydrant outlets and/or main taps to provide the required flow (at 40 psi residual pressure) is as follows:

Minimum Required Flow and Openings Required to Flush Water Mains
(Assuming 40 psi Residual Pressure in Water Mains)

Main Diameter (in.)	Flow Required to Produce 2.5 fps in Main (gpm)	Minimum Size of Taps (in.)	Hydrant Outlets	
			Number	Size (in.)
4	100	15/16	1	2-1/2
6	220	1-3/8	1	2-1/2
8	390	1-7/8	1	2-1/2
10	610	2-5/16	1	2-1/2
12	880	2-13/16	1	2-1/2
16	1565	3-5/8	2	2-1/2

1. If less than a 40 psi residual is available in the main, with the size tap shown above then a larger, or more tap(s) or hydrant outlets will be required, as determined by the Engineer.
2. The length of time for flushing, at or above the minimum allowable velocity, shall be computed to allow a minimum of 3 times the total volume of water in

the main to be flushed to waste. Flushing shall be done in the presence of the Engineer.

3.3 AIR REMOVAL

A. Following flushing, and before applying the specified test pressure, air shall be completely expelled from the mains, valves, and hydrants. After all air has been expelled, the air blowoffs can be closed, and the test pressure applied.

3.4 PRESSURE TEST

A. All new water mains, or any sections thereof, shall be subjected to a hydrostatic pressure of at least 1.5 times the working pressure that will exist at the point of testing, or 150 psi, whichever is greater. Test pressures shall meet the following requirements:
   1. Be of at least 2-hour duration.
   2. Be not less than 1.25 times the expected system working pressure at the highest point along the test section.
   3. Not exceed main or thrust-restraint design pressures.
   4. Not vary by more than + 5 psi for the duration of the test.
   5. Not exceed 2-times the rated pressure of the valves or hydrants when the pressure boundary includes closed valves or hydrants. Valves shall not be operated in either direction at differential pressure greater than the rated pressure.
   6. Not exceed 1.5-times the rated pressure of the valves when the pressure boundary of the test section includes closed butterfly valves or resilient seated gate valves.

B. Each section of main shall be slowly raised to the specified test pressure for two separate periods. The first period shall be for 15-minutes, after which the pressure shall be allowed to drop slowly back to system pressure. The pressure shall then be slowly raised again to the specified test pressure and maintained for 2-hours. The test pressure shall be based on the elevation of the lowest point of the main, in the test section and shall be corrected to the elevation of the test gage, as directed by the Engineer. The test pressure shall be applied by means of a pump connected to the main, in an approved manner, and which will prevent any backflow into the existing system. Valves shall not be operated in either the closing or opening direction, at differential pressure greater than the rated pressure.

C. Any exposed main, fittings, valves, hydrants and joints shall be carefully examined during the test. Any damaged or defective main, fittings, hydrants, or valves discovered following, or as a result of the pressure test shall be repaired or replaced with sound material. If faulty materials are removed and replaced, the pressure testing procedure shall be repeated.

3.5 LEAKAGE TEST

A. Leakage testing shall be conducted concurrently with the pressure test.

B. Leakage is defined as the quantity of water that must be pumped into the new main during the test, or any section thereof, required to maintain pressure within 5 psi of the starting test pressure. Leakage shall be recorded to the nearest one-tenth of a gallon. The Contractor shall employ qualified personnel throughout the testing.

Leakage shall not be measured by a drop in pressure over a period of time.

C. Leakage in the test section must be less than an amount determined as follows:

$$L = \frac{SD(P^{0.5})}{148{,}000}, \text{ where}$$

L = allowable gallons of leakage per hour
S = the length of main tested, in feet
D = the nominal main diameter in inches
P = the average test pressure during the test, in psi

D. The leakage formula is based allowable leakage of 11.65 gallons per day, per mile of main, per inch (nominal) of main diameter, at a pressure of 150 psi. Allowable leakage under various conditions is shown below.

Allowable Leakage (gph) per 1,000 Feet of Mainline

Average Test Pressure(psi)	Nominal Diameter (inches) 6	8	10	12	16	20	24
250	0.64	0.85	1.07	1.28	1.71	2.14	2.56
225	0.61	0.81	1.01	1.22	1.62	2.03	2.43
200	0.57	0.76	0.96	1.15	1.53	1.91	2.29
175	0.54	0.72	0.89	1.07	1.43	1.79	2.15
150	0.50	0.66	0.83	0.99	1.32	1.66	1.99
125	0.45	0.60	0.76	0.91	1.21	1.51	1.81
100	0.41	0.54	0.68	0.81	1.08	1.35	1.62

1. If the mainline under test contains sections of various diameters, the allowable leakage will be the sum of the computed leakage for each size.
2. When testing against closed metal seated valves, an additional leakage shall be allowed per closed valve of 0.0078 gallons per hour, per inch of nominal valve diameter.
3. When hydrants are in the test section, the test shall be made against the closed hydrant(s).

E. Acceptance shall be determined on the basis of allowable leakage. If leakage in any test is greater than that specified, the Contractor shall locate and make repairs as necessary until the leakage is within the specified allowance.
1. All visible leaks are to be repaired regardless of the amount of leakage.
2. All water mains shall be pressure and leakage tested in the presence of the Engineer, in order to qualify for acceptance.

3.6 CHLORINATION

A. The method of chlorination shall be the Continuous Feed Method as described hereinafter. Chlorination procedures will not be allowed until acceptable flushing and pressure testing has been performed and accepted. The continuous feed method

consists of the following steps:

1. Prior to the application of chlorine, confirm that valves are closed to prevent back-feeding chlorine solution into the existing system.
2. At a point not more than 10 feet downstream from the beginning of the new main, fill the main with chlorinated potable water, having an initial concentration of 25 mg/l free chlorine residual.
    a. Water from the existing distribution system or other approved source of supply shall flow at a constant measured rate, into the new main. In the absence of a meter, the rate may be approximated by measuring the discharge rate at the end of the test section with a pito-gage or by measuring the time to fill a container of known volume.
3. The application of chlorine solution shall continue until the entire main is filled with water having 25 mg/l of free available chlorine. To assure that 10 mg/l free chlorine residual concentration is achieved throughout the test section, the Contractor shall measure chlorine concentration at regular intervals.

B. The amount of chlorine required to obtain a concentration of 25 mg/l per 100 feet of various diameter mains is as follows.

Chlorine Required to Obtain 25 mg/l per 100 feet of Various Diameters

Main Diameter (inches)	Sodium Hypochlorite (gallons)				Calcium Hypochlorite (ounces)
	5% Available Chlorine	10% Available Chlorine	12.5% Available Chlorine	15% Available Chlorine	65% Available Chlorine
4	0.03	0.02	0.02	0.01	0.02
6	0.08	0.04	0.03	0.03	0.75
8	0.13	0.07	0.06	0.06	1.30
10	0.20	0.10	0.09	0.07	2.10
12	0.28	0.15	0.12	0.10	2.90
16	0.50	0.25	0.22	0.17	5.30
20	0.80	0.40	0.34	0.28	8.40
24	1.30	0.60	0.50	0.40	12.00

1. The above quantities are to be added to a sufficient quantity of water, dissolved, and mixed. The solution shall be injected into the main as specified.
2. The quantities shown are based on concentrations of available chlorine by volume. Extended or improper storage may have caused a loss of available chlorine.

C. The chlorinated water shall be retained in the main for a minimum of 24-hours. At the end of this 24 hour period, retest portions of the main to confirm that a minimum of 10 mg/l free available chlorine residual exists in the main. If the residual chlorine is less than 10 mg/L, acceptable bacteria results may not be obtained.

3.7 FINAL FLUSHING OF CHLORINATED WATER

A. After the initial 24-hour period, the heavily chlorinated water shall be flushed from the main until chlorine measurements show the concentration in water leaving the main is no higher than that generally prevailing in the system.

B. The Contractor shall obtain approval of location(s) for discharging the heavily chlorinated water, which will result from the chlorination procedures. Great care shall be exercised in the selection of the rate of flow and the discharge points, in order to minimize complaints, and damage to public or private property.

C. The heavily chlorinated water shall be suitably and thoroughly neutralized prior to disposal into the environment. In no case shall chlorinated or neutralized water be discharged directly into a water body. If necessary, state, federal, and local regulatory agencies should be contacted to determine special provisions for the disposal of heavily chlorinated water.

3.8 BACTERIOLOGICAL TESTS

A. After final flushing and before the water main is placed in service, water samples shall be collected twice (24-hours apart) by the Engineer or Owner and tested for bacteriological quality in accordance with standard methods. Water samples shall show the absence of coliform organisms and background bacteria.

B. If, during construction, trench water has entered the main, or if in the opinion of the Engineer excessive quantities of dirt or debris have entered the main, bacteriological samples shall be taken at intervals of approximately 200 feet and shall be identified as to location. Samples shall be taken of water that has stood in the main for at least 24-hours after final flushing has been completed.

C. Samples shall be obtained through a corporation cock and copper tubing installed by the Contractor.

D. The Engineer or Owner shall deliver samples to a laboratory approved by the Department of Health Services for bacterial analysis. The Owner shall pay for the cost of analysis. Only after each consecutive sample is approved shall the mains be incorporated into the water system. In the event that positive reports of contamination are received, the mains shall be flushed and chlorinated as many times as may be necessary to obtain approved (negative) results.

3.9 RE-CHLORINATION

A. If the initial chlorination fails to produce satisfactory bacteriological samples, the main shall be re-flushed and re-sampled.

3.10 CHLORINATION PROCEDURES WHEN CUTTING INTO OR REPAIRING EXISTING MAINS

A. Trench Treatment. If during excavation the trench is either wet or filled with water, it is recommended that liberal quantities of hypochlorite tablets be applied to open trench areas to lessen the danger from pollution.

B. The interior of all main and fittings used in making a repair shall be swabbed or sprayed with a 1 percent hypochlorite solution before they are installed.

C. If valve and hydrant locations permit thorough flushing toward the work location from both directions, it shall be done. Flushing shall be started as soon as the repairs are completed and shall be continued until discolored water is eliminated.

D. Slug Chlorination. Where practical and in addition to the procedures above, a section of main in which the break is located shall be isolated. All service connections shall be shut off, and the section flushed and chlorinated by the Slug Chlorination method. This method allows the chlorine dose to be increased to as much as 300 mg/l, and the contact time reduced to as little as 1-hour. After chlorination, the section shall be properly flushed until discolored water is eliminated and the water is free of noticeable chlorine odor.

E. Bacteriological samples shall be taken after repairs. If the direction of flow is unknown, samples shall be taken on each side of the main break. If positive samples are recorded, daily sampling shall be continued until two consecutive negative samples are recorded.

END OF SECTION

SUPPLEMENTAL SPECIFICATIONS
(Corrections, Additions, & Revisions to Standard Specifications – March 2020)

SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

104.2.1 Furnishing of Right-of-Way Revise the last sentence in the first paragraph by removing "105.4.5 – Special Detours" and replacing it with "**105.4.5 – Maintenance of Existing Structures**.".

SECTION 502
STRUCTURAL CONCRETE

502.09 Forms and Falsework Amend this subsection by adding the subsection title "**502.10 Placing Concrete**" after section "D" Removal of Forms and False work" and after the paragraph beginning with "2. Forms and False work, including blocking…". So that a new subsection starts and reads:

"**502.10 Placing Concrete**

A. **General Concrete shall not be placed until forms** …."

SECTION 606
GUARDRAIL

Amend this section by replacing it with the following:

606.01 Description This work shall consist of furnishing and installing guardrail components in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans or as established. Guardrail is designated as:

31" W-Beam Guardrail - Mid-Way Splice
Galvanized steel w-beam, 8" wood or composite offset blocks, galvanized steel posts

Thrie Beam
Galvanized steel thrie beam, 8" wood or composite offset blocks, galvanized steel posts

Median guardrail shall consist of two beams of the above types, mounted on single posts.

Bridge mounted guardrail shall consist of furnishing all labor, materials, and equipment necessary to install guardrail as shown on the plans. This work shall also include drilling for and installation of offset blocks if specified, and incidental hardware necessary for satisfactory completion of the work.

Remove and Reset and Remove, Modify, and Reset guardrail shall consist of removing the existing designated guardrail and resetting in a new location as shown on the plans or directed by the Resident. Remove, Modify, and Reset guardrail and Modify guardrail include the following guardrail modifications: Removing plate washers at all posts, except at anchorage assemblies as

noted on the Standard Details, adding offset blocks, and other modifications as listed in the Construction Notes or General Notes. Modifications shall conform to the guardrail Standard Details.

Bridge Connection shall consist of the installation and attachment of beam guardrail to the existing bridge. This work shall consist of constructing a concrete end post or modifying an existing end post as required, furnishing, and installing a terminal connector, necessary hardware, and incidentals required to complete the work as shown on the plans. Bridge Transition shall consist of a bridge connection and furnishing and installing guardrail components as shown in the Standard Details.

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

Timber Preservative	708.05
Metal Beam Rail	710.04
Guardrail Posts	710.07
Guardrail Hardware	710.08

Guardrail components shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report.

Posts for underdrain delineators shall be “U” channel steel, 8 ft long, 2 ½ lb/ft minimum and have 3/8-inch round holes, 1-inch center to center for a minimum distance of 2 ft from the top of the post.

Reflectorized Flexible Guardrail Markers shall be mounted on all guardrails. A marker shall be mounted onto guardrail posts at the flared guardrail terminal end point and tangent point, both at the leading and trailing ends of each run of guardrail. The marker’s flexible posts shall be gray with either silver-white or yellow reflectors (to match the edge line striping) at the tangents, red at leading ends, and green at trailing ends. Whenever the guardrail terminal is not flared, markers will only be required at the terminal end point. These shall be red or green as appropriate. Markers shall be installed on the protected side of guardrail posts unless otherwise approved by the Resident. Reflectorized flexible guardrail markers shall be from the Department’s Qualified Products List of Delineators. The marker shall be gray, flexible, durable, and of a non-discoloring material to which 3-inch by 9-inch reflectors shall be applied, and capable of recovering from repeated impacts and meeting MASH 16 requirements. Reflective material shall meet the requirements of Section 719.01 for ASTM D 4956 Type III reflective sheeting. The marker shall be secured to the guardrail post with two fasteners, as shown in the Standard Details.

Reflectorized beam guardrail (“butterfly”-type) delineators shall be mounted on all “w”-beam guardrail. The delineators shall be mounted within the guardrail beam at guardrail posts. Delineators shall be fabricated from high-impact, ultraviolet & weather resistant thermoplastic. Reflectorized beam guardrail delineators shall be placed at approximately 62.5 ft intervals or every tenth post on tangents and at approximately 31.25 ft intervals or every fifth post on curves. Exact locations of the delineators shall be as directed by the Resident. On divided highways, the left-hand delineators shall

be yellow, and the right-hand delineators shall be silver/white. On two directional highways, the right-hand side shall be silver/white, and no reflectorized delineator used on the left. All reflectors shall have reflective sheeting applied to only one side of the delineator facing the direction of traffic as shown in the Standard Details. Reflectorized sheeting for guardrail delineators shall meet the requirements of Section 719.01.

Single wood post shall be of cedar, white oak, or tamarack, well-seasoned, straight, and sound and have been cut from live trees. The outer and inner bark shall be removed, and all knots trimmed flush with the surface of the post. Posts shall be uniform taper and free of kinks and bends.

Single steel post shall conform to the requirements of Section 710.07 b.

Single steel pipe post shall be galvanized, seamless steel pipe conforming to the requirements of ASTM A120, Schedule No. 40, Standard Weight.

Acceptable multiple mailbox assemblies shall be listed on the Department's Qualified Products List and shall be MASH 16 tested and approved.

Flared and Tangent w-beam guardrail terminals and guardrail offset blocks shall be from the Department's Qualified Products List. Flared terminals shall be installed with a 4 ft offset as shown in the Manufacturer's installation instructions.

Anchorage assemblies used to anchor trailing ends, radius guardrail, or other ends not exposed to traffic shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report, Drawing SEW02a.

Existing materials damaged or lost during adjusting, removing and resetting, or removing, modifying, and resetting, shall be replaced by the Contractor without additional compensation. Existing guardrail posts and guardrail beams found to be unfit for reuse shall be replaced when directed by the Resident.

606.03 Posts Posts for guardrail shall be set plumb in holes or they may be driven if suitable driving equipment is used to prevent battering and distorting the post. When posts are driven through pavement, the damaged area around the post shall be repaired with approved bituminous patching. Damage to lighting and signal conduit and conductors shall be repaired by the Contractor.

When set in holes, posts shall be on a stable foundation and the space around the posts, backfilled in layers with suitable material, thoroughly tamped.

The reflectorized flexible guardrail markers shall be set plumb with the reflective surface facing the oncoming traffic. Markers shall be installed on the protected side of guardrail posts. Markers, which become bent or otherwise damaged, shall be removed and replaced with new markers.

Single wood posts shall be set plumb in holes and backfilled in layers with suitable material, thoroughly tamped. The Resident will designate the elevation and shape of the top. The posts, that are not pressure treated, shall be painted two coats of good quality oil base exterior house paint.

Single steel posts shall be set plumb in holes as specified for single wood posts or they may be driven if suitable driving equipment is used to prevent battering and distorting the post.

Additional bolt holes required in existing posts shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.04 Rails Brackets and fittings shall be placed and fastened as shown on the plans. Rail beams shall be erected and aligned to provide a smooth, continuous barrier. Beams shall be lapped with the exposed end away from approaching traffic.

End assemblies shall be installed as shown on the plans and shall be securely attached to the rail section and end post.

All bolts shall be of sufficient length to extend beyond the nuts but not more than ½ inch. Nuts shall be drawn tight.

Additional bolt holes required in existing beams shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.045 Offset Blocks The same offset block material is to be provided for the entire project unless otherwise specified.

606.05 Shoulder Widening At designated locations the existing shoulder of the roadway shall be widened as shown on the plans. All grading, paving, seeding, and other necessary work shall be in accordance with the Specifications for the type work being done.

606.06 Mail Box Post Single wood post shall be installed at the designated location for the support of the mailbox. The multiple mailbox assemblies shall be installed at the designated location in accordance with the Standard Details and as recommended by the Manufacturer. Attachment of the mailbox to the post will be the responsibility of the home or business owner.

606.07 Abraded Surfaces All galvanized surfaces of new guardrail and posts, which have been abraded so that the base metal is exposed, and the threaded portions of all fittings and fasteners and cut ends of bolts shall be cleaned and painted with two coats of approved rust resistant paint.

606.08 Method of Measurement Guardrail will be measured by the linear foot from center to center of end posts along the gradient of the rail except where end connections are made to masonry or steel

structures, in which case measurement will be as shown on the plans. When connected to radius rail, measurement will be to the end of the last tangent beam.

Guardrail terminal, reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be measured by each unit of the kind specified and installed.

Widened shoulder will be measured as a unit of grading within the limits shown on the plans.

Excavation in solid rock for placement of posts will be paid under force account unless otherwise indicated in the Bid Documents.

606.09 Basis of Payment The accepted quantities of guardrail will be paid for at the contract unit price per linear foot for the type specified, complete in place. Reflectorized beam guardrail ("butterfly"-type) delineators will not be paid for directly but will be considered incidental to guardrail items. Reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be paid for at the contract unit price each for the kind specified complete in place.

Guardrail terminals will be paid for at the contract price each, complete in place which price shall be full payment for furnishing and installing all components including the terminal section, posts, offset blocks, "w" beam, cable foundation posts, plates and for all incidentals necessary to complete the installation within the limits as shown on the Standard Details or the Manufacturer's installation instructions. Pay limits for a flared terminal will be 37.5 feet. Pay limits for a tangent terminal will be 50 feet. Each guardrail terminal will be clearly marked with the Manufacturer's name and model number to facilitate any future needed repair. Such payment shall also be full compensation for furnishing all material, excavating, backfilling holes, assembling, and all incidentals necessary to complete the work, except that for excavation for posts or anchorages in solid ledge rock, payment will be made under 109.7.5 – Force Account. Type III Retroreflective Adhesive Sheeting shall be applied to the approach buffer end sections and sized to substantially cover the end section. On all roadways, the ends shall be marked with alternating black and retroreflective yellow stripes. The stripes shall be 3 in wide and sloped down at an angle of 45 degrees toward the side on which traffic is to pass the end section. Guardrail terminals shall also include a set of installation drawings supplied to the Resident.

Anchorages to bridge end posts will be part of the bridge work. Connections thereto will be considered included in the unit bid price for guardrail.

Guardrail to be placed on a radius of curvature of 150 ft or less will be paid for under the designated radius pay item for the type guardrail being placed.

Widened shoulder will be paid for at the contract unit price each complete in place and will be full compensation for furnishing and placing, grading and compaction of aggregate subbase and any required fill material.

Adjust guardrail will be paid for at the contract unit price per linear foot and will be full compensation for adjusting to grade. Payment shall also include adjusting guardrail terminals where required.

Modify guardrail will be paid for at the contract unit price per linear foot and will be full compensation for furnishing and installing offset blocks, additional posts, and other specified modifications; removing, modifying, installing, and adjusting to grade existing posts and beams; removing plate washers and backup plates, and all incidentals necessary to complete the work. Payment shall also include removing and resetting guardrail terminals where required.

Remove and Reset guardrail will be paid for at the contract unit price per linear foot and will be full compensation for removing, transporting, storing, reassembling all parts, necessary cutting, furnishing new parts when necessary, reinstalling at the new location, and all other incidentals necessary to complete the work. Payment shall also include removing and resetting guardrail terminals when required.

Remove, Modify, and Reset guardrail will be paid for at the contract unit price per foot and will be full compensation for the requirements listed in Modify guardrail and Remove and Reset guardrail.

Bridge Connections will be paid for at the contract unit price each. Payment shall include, attaching the connection to the endpost including furnishing and placing concrete and reinforcing steel necessary to construct new endposts if required, furnishing and installing the terminal connector, and all miscellaneous hardware, labor, equipment, and incidentals necessary to complete the work.

Bridge Transitions will be paid for at the contract unit price each. Payment shall include furnishing and installing the thrie beam or "w"-beam terminal connector, doubled beam section, and transition section, where called for, posts, hardware, precast concrete transition curb, and any other necessary materials and labor, including the bridge connection as stated in the previous paragraph.

No payment will be made for guardrail removed, but not reset and all costs for such removal shall be considered incidental to the various contract pay items.

Payment will be made under:

Pay Item		Pay Unit
606.1301	31" W-Beam Guardrail - Mid-Way Splice – Single Faced	Linear Foot
606.1302	31" W-Beam Guardrail - Mid-Way Splice – Double Faced	Linear Foot
606.1303	31" W-Beam Guardrail - Mid-Way Splice, 15' Radius and Less	Linear Foot
606.1304	31" W-Beam Guardrail - Mid-Way Splice, Over 15' Radius	Linear Foot
606.1305	31" W-Beam Guardrail - Mid-Way Splice Flared Terminal	Each
606.1306	31" W-Beam Guardrail - Mid-Way Splice Tangent Terminal	Each
606.1307	Bridge Transition (Asymmetrical) – Type IA	Each
606.1721	Bridge Transition - Type I	Each

606.1722	Bridge Transition - Type II	Each
606.1731	Bridge Connection - Type I	Each
606.1732	Bridge Connection - Type II	Each
606.178	Guardrail Beam	Linear Foot
606.25	Terminal Connector	Each
606.257	Terminal Connector - Thrie Beam	Each
606.259	Anchorage Assembly	Each
606.265	Terminal End-Single Rail - Galvanized Steel	Each
606.266	Terminal End-Single Rail - Corrosion Resistant Steel	Each
606.275	Terminal End-Double Rail - Galvanized Steel	Each
606.276	Terminal End-Double Rail - Corrosion Resistant Steel	Each
606.353	Reflectorized Flexible Guardrail Marker	Each
606.354	Remove and Reset Reflectorized Flexible Guardrail Marker	Each
606.356	Underdrain Delineator Post	Each
606.358	Guardrail, Modify	Linear Foot
606.362	Guardrail, Adjust	Linear Foot
606.365	Guardrail, Remove, Modify, and Reset	Linear Foot
606.366	Guardrail, Remove and Reset	Linear Foot
606.367	Replace Unusable Existing Guardrail Posts	Each
606.47	Single Wood Post	Each
606.48	Single Galvanized Steel Post	Each
606.50	Single Steel Pipe Post	Each
606.51	Multiple Mailbox Support	Each
606.568	Guardrail, Modify - Double Rail	Linear Foot
606.63	Thrie Beam Rail Beam	Linear Foot
606.64	Guardrail Thrie Beam - Double Rail	Linear Foot
606.65	Guardrail Thrie Beam - Single Rail	Linear Foot
606.66	Terminal End Thrie Beam	Each
606.70	Transition Section - Thrie Beam	Each
606.71	Guardrail Thrie Beam - 15 ft radius and less	Linear Foot
606.72	Guardrail Thrie Beam - over 15 ft radius	Linear Foot
606.73	Guardrail Thrie Beam - Single Rail Bridge Mounted	Linear Foot
606.74	Guardrail - Single Rail Bridge Mounted	Linear Foot
606.753	Widen Shoulder for Low Volume Guardrail End	Each
606.754	Widen Shoulder for Flared Guardrail Terminal	Each
606.78	Low Volume Guardrail End	Each
606.80	Buried-in-Slope Guardrail End	Each

SECTION 626
FOUNDATIONS, CONDUIT, AND JUNCTION BOXES FOR HIGHWAY SIGNING, LIGHTING, AND SIGNALS

626.034 Concrete Foundations Revise this Section by changing '626.037' to '**626.036**' in the Second Paragraph which begins with "Foundations shall consist of cast-in-place…".

Revise the 10th paragraph beginning with "Before placing concrete, the required elbows…" by removing "…**in accordance with Standard Specification 633**."

SECTION 645
HIGHWAY SIGNING

Section 645.023 Sign Support Structures. Under letter "c.", revise the fifth paragraph beginning with "In addition to the required details…" by removing the words "**and foundation**" from the 5th sentence.

Section 645.08 Method of Measurement. Revise the second paragraph beginning with "Bridge-type, cantilever and…" by removing the words "**including the foundation**" .

Section 645.09 Basis of Payment. Revise the third paragraph beginning with "The accepted bridge-type, cantilever and…" by removing the word "**foundation**" from the second sentence. Add the following sentence to the end of the paragraph "**Conduits, Junction Boxes, and Foundations will be paid for under Section 626.**"

SECTION 703
AGGREGATES

Add the following to the beginning of Section 703 - Aggregates

703.01 Fine Aggregate for Concrete Fine aggregate for concrete shall consist of natural sand or, when approved by the Resident, other inert materials with similar characteristics or combinations thereof, having strong, durable particles. Fine aggregate from different sources of supply shall not be mixed or stored in the same pile nor used alternately in the same class of construction or mix without permission of the Resident.

All fine aggregate shall be free from injurious amounts of organic impurities. Should the fine aggregate, when subjected to the colorimetric test for organic impurities, AASHTO T 21, produce a

color darker than the reference standard color solution (laboratory designation Plate III), the fine aggregate shall be rejected.

Fine aggregate shall have a sand equivalent value of not less than 75 when tested in accordance with AASHTO T 176.
Fine aggregate sources shall meet the Alkali Silica Reactivity (ASR) requirements of Section 703.0201.

The fineness modulus shall not be less than 2.26 or more than 3.14. If this value is exceeded, the fine aggregate will be rejected unless suitable adjustments are made in proportions of coarse and fine aggregate. The fineness modulus of fine aggregate shall be determined by adding the cumulative percentages of material by weight retained on the following sieves: Nos. 4, 8, 16, 30, 50, 100 and dividing by 100.

Fine aggregate, from an individual source when tested for absorption as specified in AASHTO T 84, shall show an absorption of not more than 2.3 percent.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
⅜ inch	100
No. 4	95-100
No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	10-30
No. 100	2-10
No. 200	0-5.0

703.02 Coarse Aggregate for Concrete Coarse aggregate for concrete shall consist of crushed stone or gravel having hard, strong, durable pieces, free from adherent coatings and of which the composite blend retained on the ⅜ inch sieve shall contain no more than 15 percent, by weight of flat and elongated particles when performed in accordance with test method ASTM D 4791, Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate, using a dimensional ratio of 1:5.

The coarse aggregate from an individual source shall have an absorption no greater than 2.0 percent by weight determined in accordance with AASHTO T 85 modified for weight of sample.

The composite blend shall have a Micro-Deval value of 18.0 percent or less as determined by AASHTO T 327 or not exceed 40 percent loss as determined by AASHTO T 96.

Coarse aggregate sources shall meet the Alkali Silica Reactivity (ASR) requirements of Section 703.0201.

Coarse aggregate shall conform to the requirements of the following table for the size or sizes designated and shall be well graded between the limits specified.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves			
Grading	A	AA	S	LATEX
Aggregate Size	1 inch	¾ inch	1½ inch	½ inch
2 inch			100	
1½ inch	100		95-100	
1 inch	95-100	100	-	
¾ inch	-	90-100	35-70	100
½ inch	25-60	-	-	90-100
⅜ inch	-	20-55	10-30	40-70
No. 4	0-10	0-10	0-5	0-15
No. 8	0-5	0-5	-	0-5
No. 16	-	-	-	-
No. 50	-	-	-	-
No. 200	0 - 1.5	0 - 1.5	0 - 1.5	0 - 1.5

703.0201 Alkali Silica Reactive Aggregates. All coarse and fine aggregates proposed for use in concrete shall be tested for Alkali Silica Reactivity (ASR) potential under AASHTO T 303 (ASTM C 1260), Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction, prior to being accepted for use. Acceptance will be based on testing performed by the Department. Sampling will be performed by the Department from stockpiles located at the Contractor's/supplier's ready mixed concrete plants. Aggregate approvals will be performed on a 3-year cycle, unless the source or character of the aggregate in question has changed within 3 years from the last test date.

A list of pre-approved coarse aggregate and aggregate-cement/pozzolan blends is maintained by the Department and will determine the acceptability of concrete mix designs proposed for use.

As per AASHTO T 303 (ASTM C 1260): Use of a particular coarse or fine aggregate will be allowed with no restrictions when the mortar bars made with this aggregate expand less than or equal to 0.10 percent at 30 days from casting. Use of a particular coarse or fine aggregate will be classified as potentially reactive when the mortar bars made with this aggregate expand greater than 0.10 percent at 30 days from casting. Use of this aggregate will only be allowed with the use of cement-

pozzolan blends and/or chemical admixtures that result in mortar bar expansion of less than 0.10 percent at 30 days from casting.

Acceptable pozzolans and chemical admixtures that may be used when an aggregate is classified as potentially reactive include the following:

a. Class F Coal Fly Ash meeting the requirements of AASHTO M 295.
b. Ground Granulated Blast Furnace Slag (Grade 100 or 120) meeting the requirements of AASHTO M 302.
c. Densified Silica Fume meeting the requirements of AASHTO M 307.
d. Lithium Hydroxide Monohydrate ($LiOH\text{-}H_2O$).

Pozzolans or chemical admixtures required to offset the effects of potentially reactive aggregates will be incorporated into the concrete at no additional cost to the Department.

Aggregates classified as potentially reactive by the requirements of this specification may be used if certified test results from an accredited independent laboratory utilizing the current AASHTO T 303 (ASTM C 1260) Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction, indicating an acceptable alkali-aggregate combination, are submitted to the Department.

703.05 Aggregate for Sand Leveling Aggregate for sand leveling shall be sand of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The aggregate shall meet the grading requirements of the following table.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
⅜ inch	85-100
No. 200	0-5.0

703.06 Aggregate for Base and Subbase The following shall apply to Sections (a.) and (c.) below. The material shall have a Micro-Deval…" and replace with "The material shall have a minimum degradation value of 25.0 or less15 as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0, the Washington State Degradation DOT Test Method T 113T113, Method of Test for Determination of Degradation Value (January 2009 version) shall be performed), except that the test shall be performed on the reported degradation value will be the result of testing a single specimen from that portion of the sample that passes the ½ in sieve and is retained on the No. 10 sieve. If the material has a Washington Degradation value of less than 15, the material shall be rejected.

The material, minus any reclaimed asphalt pavement used in Section (b.) below shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0 the material may be used if it does not exceed 25 percent loss on AASHTO T 96, Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine. If AASHTO T 96 is used for acceptance of the material, the material shall be retested at intervals of 25%, 50% and 75% completion of the course.

Recycled Asphalt Pavement (RAP) shall not be used for or blended with aggregate base or subbase.

a. Aggregate for base, Type A and B shall be crushed ledge or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a 3 inch sieve shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Type A	Type B
½ inch	45-70	35-75
¼ inch	30-55	25-60
No. 40	0-20	0-25
No. 200	0-6.0	0-6.0

At least 50 percent by weight of the material retained on the No. 4 sieve shall have at least one fractured face as tested by AASHTO T 335.

Type A aggregate for base shall only contain particles of rock that will pass the 2 inch square mesh sieve.

Type B aggregate for base shall only contain particles of rock that will pass the 4 inch square mesh sieve.

b. Aggregate for base, Type C shall be crushed ledge or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The material shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
	Type C
4 inches	100
3 inches	90-100
2 inches	75-100
1 inch	50-80
½ inch	30-60
No. 4	15-40
No. 200	0-6.0

At least 50 percent by weight of the material coarser than the No. 4 sieve shall have at least one fractured face as tested by AASHTO T 335.

c. Aggregate for subbase shall be sand or gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a 3 inch sieve shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Type D	Type E
½ in	35-80	
¼ inch	25-65	25-100
No. 40	0-30	0-50
No. 200	0-7.0	0-7.0

Type D aggregate for subbase gravel may contain up to 50 percent by weight Recycled Concrete Aggregate (RCA). When RCA is used, the portion of the resulting blend of gravel and RCA retained on a ½" square mesh sieve shall contain a total of no more than 5 percent by weight of other recycled materials such as brick, concrete masonry block, or asphalt pavement as determined by visual inspection.

RCA shall be substantially free of wood, metal, plaster, and gypsum board as defined in Note 9 in Section 7.4 of AASHTO M 319. RCA shall also be free of all substances that fall under the category of solid waste or hazardous materials.

Aggregate for subbase shall not contain particles of rock which will not pass the 6 inch square mesh sieve.

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 the ***Federal Highway Administration (FHWA***), is subject to and will comply with the following:

Statutory/Regulatory Authorities

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 C.F.R. Part 21 (entitled 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 ***Highway Program***:

1. The Recipient agrees that each "activity," "facility," or "program," as defined in §§ 21.23(b) and 21.23(e) of 49 C.F.R. § 21 will be (with regard to an "activity") facilitated, or will be (with regard

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to a "facility") operated, or will be (with regard to a "program") conducted in compliance with all requirements imposed by, or pursuant to the Acts and the Regulations.

2. The Recipient will insert the following notification in all solicitations for bids, Requests For Proposals for work, or material subject to the Acts and the Regulations made in connection with all ***Federal-Aid Highway Program activities*** 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, the ***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 and USDOT*** 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 and USDOT***. You must keep records, reports, and submit the material for review upon request to ***FHWA and USDOT***, 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.

The ***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 ***Federal Aid Highway Program***. This ASSURANCE is binding on [***insert State***], other recipients, sub-recipients, sub-grantees, contractors, subcontractors and their subcontractors', transferees, successors in interest, and any other participants in the ***Federal Aid Highway Program***. The person(s) signing below is authorized to sign this ASSURANCE on behalf of the Recipient.

MAINE DEPARTMENT OF TRANSPORTATION
(*Name of Recipient*)

by _____
Bruce A. Van Note, Commissioner

DATED 2/13/19

APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations**: The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, ***Federal Highway Administration (FWHA)***, 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 ***23 U.S. Code § 107***, the Regulations for the Administration of ***the Federal Aid Highway 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, Nondiscrimination 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 the ***Maine Department of Transportation*** pursuant to the provisions of Assurance 7(b):

A. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to 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, the ***Maine Department of Transportation*** will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.*

C. With respect to deeds, in the event of breach of any of the above Non-discrimination covenants, the ***Maine Department of Transportation*** will there upon revert to and vest in and become the absolute property of the ***Maine Department of Transportation*** and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 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 Non-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).