

Updated 12/13/2021

FEDERAL PROJECT

BIDDING INSTRUCTIONS

FOR ALL PROJECTS:

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

For a Paper Bid:

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

For an Electronic Bid:

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

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

IN ADDITION, FOR FEDERAL AID PROJECTS:

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

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

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

NOTICE

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:

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.

RFI No: _____

Date _____ **Time** _____

WIN(S): _____ **Town(s):** _____ **Bid Date:** _____

Question(s):_____

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 2022-2024
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 2022-24 (October 1, 2021 through September 30, 2024) MaineDOT has established an annual DBE participation goal of **1.97%** 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, 2024. MaineDOT must meet this goal each federal fiscal year. If the goal is not met, MaineDOT must provide a justification for not meeting the goal and provide a plan to ensure the goal is met, which may include contract goals on certain projects that contractors will be required to meet.

MaineDOT asks all contractors, consultants and subcontractors to seek certified DBE firms for projects and to work to meet the determined 1.97% goal without the need to impose contract goals. DBE firms are listed on the MaineDOT website at:

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

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

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

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

Contractor: _____ Telephone: _____ Ext _____

Contact Person: _____ Fax: _____

E-mail: _____

BID DATE: _____

FEDERAL PROJECT PIN # _____ PROJECT LOCATION: _____

TOTAL ANTICIPATED DBE _____% PARTICIPATION FOR THIS CONTRACT

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

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

Equal Opportunity Use:

Form received: ____/____/____ Verified by: _____

FHWA ☐

FTA ☐

FAA ☐

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

NOTICE

Each bid for a federal project **shall** be accompanied by a completed the Disadvantaged Business Enterprise (DBE) Proposed Utilization Form. If you are submitting an electronic bid, the DBE form may be faxed to 207-624-3431.

Failure to submit the completed form with the bid will be considered a curable defect.

September 14, 2007

Vendor Registration

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

<http://www.maine.gov/purchases/venbid/index.shtml>

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)

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 **Reed & Reed** _____ (Contractor) a corporation or other legal entity organized under the laws of the State of **Maine**, with its principal place of business located at **275 River Road, Woolwich, Maine.**

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 022511.01 and WIN 22512.01 for installation of a special detour in the City of Old Town, Penobscot County**, 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 **April 30, 2024.**

C. Price.

The LUMP SUM Bid Price will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is

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

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, *Standard Specifications, 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 the Federal Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications 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 022511.01 and WIN 022512.01 for installation of a special detour in the City of Old Town, Maine.

State of Maine, 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.

The Offeror agrees to perform the work required at the price specified above and 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: 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.

Third: 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.

Fourth: 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 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

Jack Parker, Chairman and CEO

G. Award.

Your offer is hereby accepted.
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: Bruce A. Van Note, Commissioner

Witness

BOND # _____

CONTRACT PERFORMANCE BOND
(Surety Company Form)

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

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

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

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

WITNESSES:

Signature.....
Print Name Legibly

Signature
Print Name Legibly

SURETY ADDRESS:

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

TELEPHONE.....

SIGNATURES:

CONTRACTOR:

.....
Print Name Legibly

SURETY:

.....
Print Name Legibly

NAME OF LOCAL AGENCY:

ADDRESS
.....
.....

BOND # _____

CONTRACT PAYMENT BOND
(Surety Company Form)

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

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

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

Signed and sealed this day of, 20

WITNESS:

SIGNATURES:

CONTRACTOR:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

.....

ADDRESS

.....

.....

TELEPHONE

.....

"General Decision Number: ME20230047 01/06/2023

Superseded General Decision Number: ME20220047

State: Maine

Construction Type: Highway

County: Penobscot County in Maine.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

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

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

Modification Number Publication Date
0 01/06/2023

ENGI0004-004 04/01/2018

	Rates	Fringes
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POWER EQUIPMENT OPERATOR:

Grader/Blade, Mechanic,
Paver (Asphalt, Aggregate,
and Concrete), Roller

Asphalt.....	\$ 22.61	12.50
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TEAM0340-003 01/01/2017

	Rates	Fringes
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TRUCK DRIVER (Vacuum Truck).....	\$ 14.84 **	13.08
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SUME2014-042 06/23/2017

	Rates	Fringes
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CARPENTER, Includes Form Work....	\$ 18.95	3.23
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CEMENT MASON/CONCRETE FINISHER...	\$ 19.27	1.13
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ELECTRICIAN.....	\$ 25.78	6.83
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IRONWORKER, REINFORCING.....	\$ 21.85	0.00
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IRONWORKER, STRUCTURAL.....	\$ 22.33	4.50
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LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor.....	\$ 17.08	2.48
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LABORER: Common or General.....	\$ 12.83 **	2.20
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LABORER: Landscape.....	\$ 17.03	2.81
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OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 16.33	2.78
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OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 19.26	5.57
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OPERATOR: Broom/Sweeper.....	\$ 18.77	0.00
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OPERATOR: Bulldozer.....	\$ 21.71	5.67
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OPERATOR: Loader.....	\$ 18.94	7.66
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OPERATOR: Milling Machine.....	\$ 26.83	7.05
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OPERATOR: Roller (Earth).....	\$ 17.61	2.97
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TRAFFIC CONTROL: Flagger.....	\$ 9.00 **	0.00
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TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....	\$ 17.02	5.37
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TRUCK DRIVER: Dump Truck.....	\$ 14.56 **	6.32
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WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

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

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (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 National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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

Branch of Construction Wage Determinations
Wage and Hour Division

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

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

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

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

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

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

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

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END OF GENERAL DECISION"

APPENDIX A
Description of Materials, Supplies, Equipment and Bid Price

Contractor: Reed & Reed

SCHEDULE OF ITEMS

- The Bid must be Delivered to the precise location and by the precise time set forth in the Notice to Contractors or any applicable Bid Amendment.
- Required unit prices, lump sum prices and/or bid amounts must be provided and legible.
- Do not make handwritten changes to the bid documents.

Bidders are required to bid all Items.

Item Description	Approx. Quantity and Units	Unit Price	Bid Amount
461.131 Temporary Pavement	670.0/ton	\$	\$
501.77 24 Inch Diameter Drilled Shaft	20.0/LF	\$	\$
501.912 Pile Splice – Drilled Shaft	2.0/EA	\$	\$
510.12 Special Detour, 26 Foot Roadway Width Vehicular and Pedestrian Traffic Separated with 5 Foot Sidewalk	1.0/LS	\$	\$
527.34 Work Zone Crash Cushions	4.0/UN	\$	\$
626.26 3 Inch Diameter Utility Conduit System, Temporary	1.0/LS	\$	\$
626.271 5 Inch Diameter Utility Conduit System, Temporary	1.0/LS	\$	\$
629.05 Hand Labor, Straight Time	20.0/HR	\$	\$
631.12 All Purpose Excavator (Including Operator)	20.0/HR	\$	\$
631.172 Truck – Large (Including Operator)	20.0/HR	\$	\$

643.62 Rectangular Rapid Flashing Beacon	1.0/EA	\$	\$
652.312 Type III Barricade	6.0/EA	\$	\$
652.33 Drum	20.0/Each	\$	\$
652.34 Cone	50.0/EA	\$	\$
652.35 Construction Signs	500.0/SF	\$	\$
652.361 Maintenance of Traffic Control Devices	1.0/LS	\$	\$
652.38 Flaggers	1020.0/HR	\$	\$
652.41 Portable Changeable Message Signs	2.0/EA	\$	\$
656.75 Temporary Soil Erosion and Water Pollution Control	1.0/LS	\$	\$
659.10 Mobilization	1.0/LS	\$	\$
801.03 Test Pit	5.0/EA	\$	\$
801.07 Temporary Sewer Bypass	270.0/LF	\$	\$
824.31 Remove Hydrant	1.0/EA	\$	\$
825.60 12-Inch SDR II HDPE Water Main	363.0/LF	\$	\$
910.301 Special Work, Temp Water Main Installation	1.0/LS	\$	\$
910.301 Special Work, Temp Sewer Main Installation	1.0/LS	\$	\$
TOTAL			\$

Bids are not accepted by email or FAX. If a paper Bid is to be sent express, please take note that overnight services do not always arrive in time. Packages using express services should be sent to Maine Department of Transportation, 24 Child Street, Augusta, Maine.

By signing below, the Bidder (1) represents that the Bidder has examined the Contract Agreement contained in the Bid Documents, the Contract, all documents referenced in said Contract, and the site and scope of work, (2) does hereby bid and offer to enter into this contract to construct and/or perform the Work in strict accordance with the terms and conditions of this Contract at the unit prices bid in the attached "Schedule of Items", (3) represents that the Bidder has given the Department notice of any errors or ambiguities related to the documents or the work that have been discovered by the Bidder, (4) represents that the above-named organization is the legal entity entering into the resulting contract with

Old Town
022511.01 & 022512.01
Llewellyn Estes Bridges #1 & #2
5/17/23

the Department if they are awarded the contract and, (5) represents that the undersigned is authorized to enter contractual obligations on behalf of the above-named organization.

Bidder acknowledges that the properly completed and signed Schedule of Items provided with the Bid constitutes the Bidder's offer and that this offer shall remain open for 30 calendar days after the date of opening of bids.

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.

Use pen and ink to complete paper bids. Signatures shall be original. Stamped and copied signatures will not be accepted.

Signature

Date

(Print Bidder's Name and Title)

**Electronic bidding will NOT be available
for this bid.**

**Bids will NOT be accepted
by email or fax.**

**SIGNED PAPER BIDS ARE
REQUIRED
and may be
mailed, sent express or hand delivered.**

For further information, see "BIDDING INSTRUCTIONS"
which are located near the front of the bid book.

Description The Contractor shall furnish, deliver, and install the materials listed in the Schedule of Items in this Appendix in accordance with the contract documents. The structure must meet the requirements of this Contract, the Plans, the State of Maine, Department of Transportation, Standard Specifications, March 2020 Edition and Standard Details March 2020 Edition as updated through advertisement, Supplemental Specifications, and Special Provisions.

Contract Administrator

The contract administrator for this contract will be:

Name: Andrew Lathe
Title: Project Manager
Address: Maine Department of Transportation
16 State House Station Road, Augusta, ME 04333-0016

The Contractor shall submit invoices to the Contract Administrator as described in this contract. The Department may assign a designated alternate to the Contract Administrator. The Contractor will be notified of any such change.

Invoices and Payments The Contractor shall submit an itemized bill to the Department for materials following delivery for approval and payment. At a minimum, invoices shall include the following information:

Contractor name, address & Contract Number
Invoice Date & Number
Dates of Delivery
Items and Quantities at Bid Price

The Department will pay based upon the materials delivered at the prices bid and the invoices approved. Payments to the Contractor shall be full compensation for furnishing all labor, equipment, materials, services, and incidentals used to supply the materials under the Contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of any kind arising from the nature or prosecution of the Work. The Department may withhold payments claimed by the Contractor on account of incomplete or incorrect invoices or materials that are defective or not in conformance with the contract.

Material Quality Materials and manufactured products shall be new unless otherwise specified, free from defect, and in conformity with the Contract. If there is no applicable standard set forth in this Contract for a particular item, then the item shall be in accordance with industry standards prevailing at the time of bid. The Department has the authority to inspect all Materials and every detail of the Work. The Department may reject the finished product if any of the components do not comply with the specifications. The Department may reject materials not conforming to the Specifications at any time.

COPY NO. _____

**STILLWATER AVENUE PUMP STATION
PHASE B: TEMPORARY FORCE MAIN
FEDERAL AID PROJECT: 2189401**

**CITY OF OLD TOWN
OLD TOWN, MAINE**

**BIDDING AND CONTRACT REQUIREMENTS
AND SPECIFICATIONS**

MAY 2023

20593A

CITY OF OLD TOWN
OLD TOWN, MAINE
BIDDING AND CONTRACT REQUIREMENTS
AND SPECIFICATIONS
FOR
STILLWATER AVENUE PUMP STATION
PHASE B: TEMPORARY FORCE MAIN

MAY 2023

Prepared By:
Wright-Pierce
11 Bowdoin Mill Island, Suite 140
Topsham, Maine 04086
Phone: 207-725-8721

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SECTION 00800-SC-20CWSRF SUPPLEMENTARY CONDITIONS(MAINE DEP REV OCT 2018)(MODIFIED TO NOTE DOT DOCUMENTS WHICH COVER DEP REQUIREMENTS)**1. Agency Not a Party**

“This contract is expected to be funded in whole or in part by the State of Maine Department of Environmental Protection (DEP) Clean Water State Revolving Loan Fund (CWSRF) program. Neither the State of Maine nor any of its departments, agencies, or employees is or will be a party to this contract. The word “agency” in the contract documents refers to the DEP and all other involved funding agencies.”

2. Contract Award Approval

“The Owner and Contractor shall furnish the documents as required by this contract to the State of Maine Department of Environmental Protection (DEP) Clean Water State Revolving Loan Fund (CWSRF) program for contract award approval. Concurrence by the Agency in the award of the Contract is required before the Contract is effective.”

3. Conflict of Interest

“Contractor may not knowingly contract with a supplier or manufacturer if the individual or entity who prepared the plans and specifications has a corporate or financial affiliation with the supplier or manufacturer. Owner’s officers, employees, or agents shall not engage in the award or administration of this Contract if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when: (i) the employee, officer or agent; (ii) any member of their immediate family; (iii) their partner or (iv) an organization that employs, or is about to employ, any of the above, has a financial interest in Contractor. Owner’s officers, employees, or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from Contractor or subcontractors.”

4. Gratuities (Refer to Utilities Policy No. 2021-1)**5. Audit and Access to Records**

“Owner, Agency, the Comptroller General, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the Contractor, which are pertinent to the Contract, for the purpose of making audits, examinations, excerpts and transcriptions. Contractor shall maintain all required records for three years after final payment is made and all other pending matters are closed.”

6. Anti-Kickback

“Contractor shall comply with the Copeland Anti-Kickback Act (18 USC 874 and 40 USC 276c) as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Buildings or Public Works Financed in Whole or in Part by Loans or Grants of the United States”). The Act provides that Contractor or subcontractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public facilities, to give up any part of the compensation to which they are otherwise entitled. Owner shall report all suspected or reported violations to Agency.”

7. Clean Air and Pollution Control Acts

“If this Contract exceeds \$100,000, Contractor shall comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 USC 7401 *et seq.*) and the Federal Water Pollution Control Act as amended (33 USC 1251 *et seq.*). Contractor will report violations to the Agency and the Regional Office of the EPA.”

8. State Energy Policy

“Contractor shall comply with the Energy Policy and Conservation Act (P.L. 94-163). Mandatory standards and policies relating to energy efficiency, contained in any applicable State Energy Conservation Plan, shall be utilized.”

9. Equal Opportunity Requirements

- A. “If this Contract exceeds \$10,000, Contractor shall comply with Executive Order 11246, “Equal Employment Opportunity,” as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and as supplemented by regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.”
- B. “Contractor’s compliance with Executive Order 11246 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative active obligations required by the Standard Federal Equal Employment Opportunity Construction Contract Specifications, as set forth in 41 CFR Part 60-4 and its efforts to meet the goals established for the geographical area where the Contract is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the Contract, and in each trade, and Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting Contractor’s goals shall be a violation of the Contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.”

- C. “Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the Contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the Contract is to be performed.”

10. Environmental Requirements

“When constructing a project involving trenching and/or other related earth excavations, Contractor shall comply with the following environmental constraints:

1. Wetlands – When disposing of excess, spoil, or other construction materials on public or private property, Contractor shall not fill in or otherwise convert wetlands.
2. Floodplains – When disposing of excess, spoil, or other construction materials on public or private property, Contractor shall not fill in or otherwise convert 100 year floodplain areas delineated on the latest Federal Emergency Management Agency Floodplain Maps, or other appropriate maps, i.e., alluvial soils on NRCS Soil Survey Maps.
3. Historic Preservation – Any excavation by Contractor that uncovers an historical or archaeological artifact shall be immediately reported to Owner and a representative of Agency. Construction shall be temporarily halted pending the notification process and further directions issued by Agency after consultation with the State Historic Preservation Officer (SHPO).
4. Endangered Species – Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of Contractor, Contractor will immediately report this evidence to Owner and a representative of Agency. Construction shall be temporarily halted pending the notification process and further directions issued by Agency after consultation with the U.S. Fish and Wildlife Service.”

11. Suspension and Debarment

“The Contractor must comply with Subpart B and Subpart C of 2 CFR Part 180 and Part 1532. By entering into this contract, the contractor certifies that neither the contractor’s firm, nor any person or firm who has an interest in the contractor firm, is a Debarred or Suspended person or firm. Furthermore, by entering into this contract, the contractor shall certify that no part of this contract shall be subcontracted to a Debarred or Suspended person or firm. Contractors may access the federal government’s Excluded Parties List System on the internet for verification of excluded parties”

12. Taxes

Add the following language to General Conditions Article 6.10:

“The Owner is exempt from Maine state sales and use taxes on all materials to be incorporated in the work. The Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the work. The Owner’s exemption does not apply to construction tools, machinery, equipment, or other property purchased or leased by Contractor or to supplies or materials not incorporated into the work.”

13. State Minimum wages

“All laborers and mechanics employed or working upon the construction site of the project shall be paid not less than the prevailing State minimum wage rate regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. The most current version of the State of Maine poster for Minimum Wage (as per the Department of Labor website) must be posted where it can be easily seen by employees.”

14. Posting Documents

“The contractor shall post documents in accordance with all applicable state and federal labor and employment laws. Posters shall be located and maintained by the Contractor at such place or places on the project site where employees can easily see them. Posters displayed outdoors must be laminated or otherwise protected from the weather. The most current version of workplace posters can be found on the internet on the state and federal Department of Labor websites.”

15. SRF Project Sign (Refer to Utility Policy No. 2021-1)

16. SRF Disadvantaged Business Enterprises Program (Refer to DOT Utility Policy No. 2021-1 included in these documents)

17. Davis-Bacon and Related Acts (Refer to DOT Specifications)

18. American Iron and Steel (AIS) Requirements (Refer to DOT Utility Policy No. 2021-1 included in these documents)

19. List of Attachments to the CWSRF Supplementary Conditions (Refer to DOT Utility Policy No. 2021-1 included in these documents)

SECTION SC 36EQUAL OPPORTUNITY CLAUSE

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- (3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or workers' representatives of the contractor's commitment under this section, and shall post copies of the notice in conspicuous places available employees and applicants for employment.
- (4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Department and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (6) In the event of the contractor's non compliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (7) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24,1965, so that such provisions

will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Department may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Department, the contractor may request the United States to enter into such litigation to protect the interest of the United States.

END OF SECTION

SECTION SC-38

EXECUTIVE ORDER 11246

PART 1 - GENERAL

1.1 DESCRIPTION

A. Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this Contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941.
 - d. "Minority" includes:
 - i. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - ii. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - iii. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - iv. American Indian or Alaskan Native (all persons having origins in any of the original peoples of North American and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the CONTRACTOR, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this Contract resulted.
3. If the CONTRACTOR is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and

to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The CONTRACTOR shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this Contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the CONTRACTOR should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The CONTRACTOR is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the CONTRACTOR has a collective bargaining agreement, to refer either minorities or women shall excuse the CONTRACTOR's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the CONTRACTOR during the training period, and the CONTRACTOR must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The CONTRACTOR shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the CONTRACTOR's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The CONTRACTOR shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the CONTRACTOR's employees are assigned to work. The CONTRACTOR, where possible, will assign two or more women to each construction project. The CONTRACTOR shall specifically ensure that all foremen, superintendents and other on-site supervisory personnel are aware of and carry out the CONTRACTOR's obligation to maintain

- such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
- b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the CONTRACTOR or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the CONTRACTOR by the union or, if referred, not employed by the CONTRACTOR, this shall be documented in the file with the reason therefore, along with whatever additional actions the CONTRACTOR may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the CONTRACTOR has a collective bargaining agreement has not referred to the CONTRACTOR a minority person or woman sent by the CONTRACTOR, or when the CONTRACTOR has other information that the union referral process has impeded the CONTRACTOR's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the CONTRACTOR's employment needs, especially those programs funded or approved by the Department of Labor. The CONTRACTOR shall provide notice of these programs to the sources compiled under 7b above.
 - f. Disseminate the CONTRACTOR's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the CONTRACTOR in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year, and, by posting the company's EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of

- these meetings, persons attending, subject matter discussed and disposition of the subject matter.
- h. Disseminate the CONTRACTOR's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media and providing written notification to and discussing the CONTRACTOR's EEO policy with other Contractors and Subcontractors with whom the CONTRACTOR does or anticipates doing business.
 - i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the CONTRACTOR's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source the CONTRACTOR shall send written notification to organizations such as the above, describing the openings, screening procedures and tests to be used in the selection process.
 - j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a CONTRACTOR's workforce.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60.3.
 - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the CONTRACTOR's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the CONTRACTOR's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the CONTRACTOR is

a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these Specifications provided that the CONTRACTOR actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the CONTRACTOR's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the CONTRACTOR. The obligation to comply, however, is the CONTRACTOR's and failure of such a group to fulfill an obligation shall not be a defense for the CONTRACTOR's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The CONTRACTOR, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the CONTRACTOR may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the CONTRACTOR has achieved its goals for women generally, the CONTRACTOR may be in violation of the Executive Order if a specific minority group of women is underutilized).
10. The CONTRACTOR shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The CONTRACTOR shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The CONTRACTOR shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing Subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any CONTRACTOR who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The CONTRACTOR, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the CONTRACTOR fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 80-4.8.
14. The CONTRACTOR shall designate a responsible official to monitor all employment related activity to ensure that the company's EEO policy is being carried out, to submit reports relating to the provision hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction

trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

END OF SECTION

SECTION SC-40CERTIFICATION OF NONSEGREGATED FACILITIESPART 1 - GENERAL1.1 DESCRIPTION

- A. Certification of Nonsegregated Facilities - (Applicable to federally assisted construction Contracts and related Subcontracts exceeding \$10,000 which are not exempt from the Equal Opportunity Clause).

The federally assisted construction CONTRACTOR certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction CONTRACTOR certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction CONTRACTOR agrees that a breach of this certification is a violation of the Equal Opportunity clause in this Contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, 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. The federally assisted construction CONTRACTOR agrees that (except where he has obtained identical certifications from proposed Subcontractors for specific time periods) he 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, and that he will retain such certifications in his files.

 Signature

 Date

 Name and Title of Signer (Please Type)

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

END OF SECTION

SECTION SC-41NOTICE TO LABOR UNIONS OR OTHER ORGANIZATIONS OF WORKERS
NONDISCRIMINATION IN EMPLOYMENT

To: _____
(Name of union or organization of workers)

The undersigned currently holds Contract(s) with _____
(Name of Applicant)

involving funds or credit of the U. S. Government of (a) subcontract(s) with a prime contractor holding such contract(s).

You are advised that under the provisions of the above contract(s) or subcontract(s) and in accordance with Executive Order 11246, dated September 24, 1965, the undersigned is obliged not to discriminate against any employee or applicant for employment because of race, color, creed, or national origin. This obligation not to discriminate in employment includes, but is not limited to, the following:

HIRING, PLACEMENT, UPGRADING, TRANSFER, OR DEMOTION;

RECRUITMENT, ADVERTISING, OR SOLICITATION FOR EMPLOYMENT;

TRAINING DURING EMPLOYMENT; RATES OF PAY OR OTHER FORMS

OF COMPENSATION; SELECTION FOR TRAINING, INCLUDING

APPRENTICESHIP; LAYOFF, OR TERMINATION.

This notice is furnished you pursuant to the provisions of the above contract (s) or subcontract(s) and Executive Order 11246.

COPIES OF THIS NOTICE WILL BE POSTED BY THE UNDERSIGNED IN CONSPICUOUS PLACES AVAILABLE TO EMPLOYEES OR APPLICANTS FOR EMPLOYMENT.

/s/ _____
(Contractor or Subcontractor)

(Date)

END OF SECTION

UTILITY POLICY NO. 2021-1

AMERICAN IRON AND STEEL VS. BUY AMERICA REQUIREMENTS FOR UTILITY WORK PERFORMED UNDER MAINEDOT PROJECT CONTRACTS

Initial Policy Development Date: October 2021

Last Revision Date: October 2021

Background:

The Buy America Act required that iron and steel materials used to build Federal-Aid transportation infrastructure projects be made in the United States beginning in 1982. The American Iron and Steel (AIS) regulation was enacted into USEPA funded State Revolving Fund (SRF) Program in January 2014 followed by enactment into the Federal USDA funded Rural Development Program in May 2017.

Unfortunately, after enactment of AIS, the Federal Highway Administration (FHWA) interpreted that the overlapping regulations both apply in a transportation project when the AIS funded utility construction work is performed under a Federal-Aid state DOT project contract.

(See FHWA Buy America Q&A, Ques. 38: – “*For joint funded projects involving other Federal agencies where there is no established lead agency, 23 USC 313 continues to apply to the FHWA funding and other agencies' requirements apply as well.*”)

https://www.fhwa.dot.gov/construction/contracts/buyam_qa.cfm

This interpretation creates confusion as to which regulation applies in some instances because although the regulations are basically the same, i.e., they both require iron and steel products be American made, each regulation has some differing requirements.

For example, the dollar value of allowable non-US steel in Buy America is different than the “De minimis incidental components” allowance in AIS which allows use of Canadian valve boxes. Another example, Buy America allows MaineDOT to fabricate precast reinforced concrete T-beams or voided slabs or Pre-stressed beams at a Canadian manufacturer using US steel and oversight by a MaineDOT inspector at the plant, but fabricating any precast reinforced concrete items out of country is not allowed under any circumstances under AIS requirements.

Purpose and Scope:

Considering the background, the purpose of this policy is to provide process guidance for Maine Department of Environmental Protection (Maine DEP), Maine Department of Health and Human Services (Maine DHHS) and Maine USDA managers of the SRF and Rural Development programs, respectively, and MaineDOT Utility Coordinators regarding application of AIS requirements. The guidance covers the documents to use and process to follow when AIS requirements are implemented under a MaineDOT project contract for USEPA (SRF Program) and Federal USDA (Rural Development Program) funded utility construction.

It should be noted that MaineDOT, Maine DEP, Maine DHHS and the Maine office of USDA together have petitioned FHWA to start the process to develop a “Memorandum of Agreement” for the purpose of defining responsibilities for the utilities and MaineDOT when utility work is funded with SRF or the Rural Development Programs. MaineDOT Policy 2021-1 will be used for the foreseeable future unless and until our Federal Partners, USEPA, Federal USDA and FHWA develop that Memorandum of Agreement.

Process Guide:

General –

When AIS funding is used for utility construction performed under a MaineDOT contract, both AIS and Buy America Certifications must be collected from the contractor. The AIS certifications will be collected to satisfy the AIS funding agency requirements and documents while the Buy America certifications will be collected to satisfy FHWA requirements. Both the MaineDOT Utility Coordinators and funding agency partners will work collaboratively to assure that each of their respective requirements are met, as well as, making sure that all of the documentation is completed and submitted.

MaineDOT Document Modifications –

AIS funding requires the modification of the MaineDOT Utility Receivable Agreement and Special Provision 104, Utilities, to reference the appropriate regulation and address the requirements. Utility Coordinators will replace the Buy America clause in the Receivable Agreement with the clause in Appendix A for AIS funded projects. Special Provision 104 will include one or several of the clauses found in Appendix B when used for AIS projects depending on project circumstances. Note that the Special Provision may also need to account for utilities that are not funded under AIS, and thus fall under Buy America requirements, when both types are in the same project.

AIS Funding Agency Documents –

Appendices C, D, and E present all the supplementary specification documents that will need to be placed within the Utility Company, District, Municipality, etc. project specifications. The table below presents the purpose for each Appendix C, D, and E:

Appendix C –

Use for the case when there is only one utility funded by the SRF Program in the MaineDOT contract.

~~Appendix D – (NOT USED)~~

~~Use for the situation when there is only one utility funded by the Rural Development Program in the MaineDOT contract.~~

~~Appendix E – (NOT USED)~~

~~Use for the case when both a SRF funded utility entity and a Rural Development funded utility entity have utility construction projects in the same project under a MaineDOT contract.~~

Each of the appendices contain all the supplementary specifications and documents needed for each specific situation. The intent of the appendices is to allow the Utility Coordinators and/or the Funding Agency Representatives to copy the entire content of each Appendix C, D, or E, as appropriate, and

provide it to the utilities or their consultant to place into the utilities construction plan and specification package.

The MaineDOT Utility Coordinators, Utility Engineer, and representatives of the SRF and Rural Development funding agencies will work together to assure that all the appropriate information gets into the MaineDOT project specifications and Utility Receivable Agreement. If questions arise during execution of the project, all the partners described in the beginning of this paragraph will communicate with each other to resolve the issues.

APPENDIX A

Replacement Clause for Utility Receivable Agreements

Replace Section 11, Buy America Requirements, with the entire Section 11, American Iron and Steel (AIS) Requirements, below:

11. **American Iron and Steel (AIS) Requirements:** The following regulations regarding AIS requirements are incorporated and made a part hereof by reference. Note that both AIS and Buy America certifications will be collected for the project files. The AIS certifications will be collected to satisfy the AIS funding agency requirements and documents while the Buy America certifications will be collected to satisfy FHWA project requirements.

For USEPA (SRF) Funded Projects: Clean Water Act (CWA) 2014, Section 608, includes requirements for the use of AIS in Clean Water State Revolving Fund (CWSRF) projects. America's Water Infrastructure Act of 2018' (AWIA) also includes several updates and revisions to the Safe Drinking Water Act (SDWA), including the Drinking Water State Revolving Fund (DWSRF) provisions.

APPENDIX B

NOTE: There may be project situations where AIS requirements apply to one utility and Buy America requirements apply to another utility. In those cases, the appropriate AIS clause below and the Buy America clause below must both be included in Special Provision 104, Utilities, noting which requirement applies to each utility.

AIS Clause for Special Provision 104, Utilities

AMERICAN IRON AND STEEL REQUIREMENTS

New water or sewer utility construction for the City of Old Town is funded by the SRF Program. Therefore, Clean Water Act (CWA) 2014, Section 608, requirements for the use of AIS in Clean Water State Revolving Fund (CWSRF) projects and America's Water Infrastructure Act of 2018' (AWIA) updates and revisions to the Safe Drinking Water Act (SDWA), including the Drinking Water State Revolving Fund (DWSRF) provisions applies an American Iron and Steel (AIS) requirement to this project. Those requirements are incorporated and made a part hereof by reference.

Also see the City of Old Town construction specifications for details of the American Iron and Steel requirements. Note that both AIS and Buy America certifications will be collected for the project files. The AIS certifications will be collected to satisfy the AIS funding agency requirements and documents while the Buy America certifications will be collected to satisfy FHWA project requirements.

BUY AMERICA REQUIREMENTS

City of Old Town utility construction work performed as part this federal-aid project is subject to the requirements of Buy America in accordance with Federal Regulation 23 CFR 635.410 Section 1518. Specific requirements are presented in MaineDOT Standard Specification Section 100, Appendix A, Section 3.A., Buy America.

APPENDIX C

AIS Funding Agency Documents for an SRF Funded Utility Project Under a MaineDOT Project Contract



STATE REVOLVING FUND (SRF)

Utility Construction Contract Requirements To Supplement the Maine Department of Transportation (MDOT) General Conditions



Last Updates: October 2021

STATE REVOLVING FUND (SRF)
UTILITY CONSTRUCTION CONTRACT REQUIREMENTS
TO SUPPLEMENT THE
MAINE DEPARTMENT OF TRANSPORTATION
GENERAL CONDITIONS

Last Updates: October 2021

Utility Construction Supplementary Conditions

Gratuities

If Owner finds after a notice and hearing that Contractor, or any of Contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of Owner or Agency in an attempt to secure this Contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Contract, Owner may, by written notice to Contractor, terminate this Contract. Owner may also pursue other rights and remedies that the law or this Contract provides. However, the existence of the facts on which Owner bases such findings shall be an issue and may be reviewed in proceedings under the dispute resolution provisions of this Contract. In the event this Contract is terminated as provided in above paragraph, Owner may pursue the same remedies against Contractor as it could pursue in the event of a breach of this Contract by Contractor. As a penalty, in addition to any other damages to which it may be entitled by law, Owner may pursue exemplary damages in an amount (as determined by Owner) which shall not be less than three nor more than ten times the costs Contractor incurs in providing any such gratuities to any such officer or employee.

Environmental Requirements

When constructing a project involving trenching and/or other related earth excavations, Contractor shall comply with the following environmental constraints:

1. Floodplains – When disposing of excess, spoil, or other construction materials on public or private property, Contractor shall not fill in or otherwise convert 100 year floodplain areas delineated on the latest Federal Emergency Management Agency Floodplain Maps, or other appropriate maps, i.e., alluvial soils on NRCS Soil Survey Maps.
2. Endangered Species – Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of Contractor, Contractor will immediately report this evidence to Owner and a representative of Agency. Construction shall be temporarily halted

pending the notification process and further directions issued by Agency after consultation with the U.S. Fish and Wildlife Service.

Utility Construction Project Sign

At the start of the project, the Contractor shall provide and erect a project sign as detailed and specified in the attachment to these supplementary conditions. The location of the sign shall be as directed by the Engineer. No other contractor, subcontractor, or material references will be permitted on the sign. The Contractor shall maintain and keep the project sign in good condition until the work is completed when the sign will be removed. Provide adequate supports for the sign as site conditions may require and keep sign a proper distance above prevailing grade to permit public viewing.

Alternate methods of publicizing may be considered on a project specific basis for projects with a contract value less than \$250,000. Prior to the start of the project, the Contractor must obtain Agency approval, through the Owner, for use of a proposed method. Alternate methods that may be considered include: posters or wall signage on public buildings or at a public location, newspaper advertising, online signage, and press releases. Minimum public awareness requirements and sample language can be obtained from the Agency.

SRF Disadvantaged Business Enterprises Program

The contractor must maintain all records documenting its compliance with the requirements of this part, including documentation of its good faith efforts (such as copies of solicitation letters and emails) and data relied upon in formulating its fair share objectives.

1. During the bidding period, the Contractor is required to make the following good faith efforts if they will be awarding subcontracts:
 - (a) Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. This will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
 - (b) Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
 - (c) Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. This will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
 - (d) Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
 - (e) Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.

- (f) Employ the good faith efforts described above even if the prime contractor has achieved its fair share objectives under subpart D of this part.
- 2. The Contractor must comply with the following provisions when submitting their bid:
 - (a) The contractor must complete and submit SRF Form 6100-4, 'DBE Program Subcontractor Utilization Form' (copy attached) as part of the prime contractor's bid or proposal package to the Owner. Note, only DBE subcontractors should be listed. If no DBE subcontractors are to be used, the contractor must still complete and submit the form.
 - (b) The contractor must have each of its proposed DBE subcontractors complete the SRF Form 6100-3, 'DBE Program Subcontractor Performance Form' (copy attached). The completed forms must be submitted as part of the prime contractor's bid or proposal package to the Owner.
- 3. Prior to contract award, as the Successful Bidder, the Contractor must comply with the following provisions:
 - (a) The contractor must submit to the Owner documentation of its good faith efforts (such as copies of solicitation letters and emails) and data relied upon in formulating its fair share objectives. Solicitation documentation must include proof of receipt. The records must be submitted to the Owner even if the goals were met.
 - (b) The contractor must submit to the Owner a bidders list of all firms that bid or quote on subcontracts, including both MBE/WBEs and non-MBE/WBEs. The purpose of a bidders list is to provide contractors who conduct competitive bidding with as accurate a database as possible about the universe of MBE/WBE and non-MBE/WBE subcontractors. The list must include the following information:
 - (1) Entity's name with point of contact;
 - (2) Entity's mailing address, telephone number, and e-mail address;
 - (3) The procurement on which the entity bid or quoted, and when; and
 - (4) Entity's status as an MBE/WBE or non-MBE/WBE.
- 4. Following contract award, the Contractor must comply with the following additional provisions:
 - (a) The contractor must provide SRF Form 6100-2, 'DBE Program Subcontractor Participation Form' (copy attached) to all DBE subcontractors listed on Form 6100-4. SRF Form 6100-2 gives a DBE subcontractor the opportunity to describe the work the DBE subcontractor received from the prime contractor, how much the DBE subcontractor was paid and any other concerns the DBE subcontractor might have during the course of the project, for example, reasons why the DBE subcontractor believes it was terminated by the prime contractor. If DBE subcontractors choose to complete this form, the completed form should be given to the SRF Project Manager.
 - (b) Complete the SRF Progress Report of DBE Subcontractor Utilization Form (copy attached) for all contractor pay applications whether or not they include invoiced amounts

from DBE subcontractors. The progress report should be attached to the corresponding pay application for processing through the Owner.

- (c) Pay subcontractors for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the Owner.
- (d) Notify the Owner in writing prior to any termination of a DBE subcontractor for convenience by the prime contractor.
- (e) If a DBE subcontractor fails to complete work under the subcontract for any reason, the prime contractor must employ the good faith efforts described above if soliciting a replacement subcontractor. Documentation of good faith efforts shall be submitted to the Owner upon request.

American Iron and Steel (AIS) Requirements

The Contractor acknowledges, to and for the benefit of the Owner and the State (Maine Department of Environmental Protection and the Maine Department of Health and Human Services), that it understands the goods and services under this Agreement are being funded with monies made available by the State Revolving Fund (SRF) that have statutory requirements commonly known as "American Iron and Steel;" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contractor pursuant to this Agreement. See attached Public Law 113-76, Section 436. The Contractor hereby represents and warrants, to and for the benefit of the Owner and the State, that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Owner or the State. While the Contractor has no direct contractual privity with the State, as a lender to the Owner for the funding of its project, the Owner and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

The Owner shall maintain files on the project site for American Iron and Steel (AIS) manufacturer certifications. The Contractor and subcontractors shall provide step manufacturer certifications to the Owner for each AIS item delivered to the site. The files shall be made available to State and Federal officials for inspection upon request. See sample Step Manufacturer Certification attachment for information that should be included. The Contractor and its subcontractors shall submit to the Owner, an AIS Compliance Certification (see form attached) with each contractor pay application. The Owner, shall in turn, submit this certification from the Contractor, with their AIS Compliance Certification (see form attached), to the State with the SRF pay requisition. The nationwide waiver to the American Iron and Steel law permits the use of products when they occur in de minimis incidental components of such projects funded by the Act that may otherwise be prohibited under section 436(a). Funds used for such de minimis incidental components cumulatively may comprise no more than a total of 5 percent of the total cost of the materials used in and incorporated into a

project; the cost of an individual item may not exceed 1 percent of the total cost of the materials used in and incorporated into a project. It is the State's interpretation that all SRF projects will contain incidental components that might not comply with the law and therefore it is likely that the Owner will use the de minimis waiver. The Contractor is required to provide the necessary documentation. See attached sample de minimis tracking form. Owners should, in consultation with their contractors, determine the items to be covered by this waiver, must retain relevant documentation (i.e., invoices) as to those items in their project files, and must summarize the items to which this waiver is applied, the total cost of incidental components covered by the waiver, and the calculations by which they determined the total cost of materials used in and incorporated into the project. The Owner shall maintain files on the project site for this documentation. The files shall be made available to State and Federal officials for inspection upon request.

The Contractor shall refer to the attached guidance taken from an EPA Memorandum. Additional information regarding the AIS requirements can be found on this website http://water.epa.gov/grants_funding/aisrequirement.cfm

List of Attachments to the Utility Supplementary Conditions

(ALL attachments should follow this list)

- Utility Construction Project Sign Drawings
- Progress Report of DBE Subcontractor Utilization Form
- DBE Program Subcontractor Utilization Form - SRF 6100-2
- DBE Program Subcontractor Performance Form - SRF 6100-3
- DBE Program Subcontractor Participation Form - SRF 6100-4
- AIS Covered Products Q &A
- AIS Law
- AIS Certification by Owner
- AIS Certification by Contractor
- AIS Step Manufacturer Certification
- AIS De Minimis Tracking Form
- AD-1048 Certification Regarding Debarment

Select Utility Construction Project Sign Drawings As Appropriate

Temporary Utility Construction Sign for CWSRF Projects

WHITE BACKGROUND

Utility Project Title (include Town / District name)

Engineer:

Contractor:

Total Utility Project Cost:

Financed by:

**SRF Program: Maine Department of Environmental Protection
and Maine Municipal Bond Bank**

EPA United States Environmental Protection Agency

This institution is an equal opportunity provider

State Revolving Loan Fund

WAVE

BLUE, PMS 655 FADING TO 30% SCREEN
GREEN, PMS 627 @ 30% SCREEN DARKENING
TO 100% SCREEN THEN BACK TO 30% SCREEN

BLACK LETTERING

MINIMUM SIGN DIMENSIONS: 1200 x 2400 x 19 MM (4' x 8' x 3/4")

EXTERIOR PLYWOOD (A-B GRADE)

MINIMUM LETTERING SIZE: 5 CM (2-INCHES)



Disadvantaged Business Enterprise Program

(DBE) PROGRESS REPORT OF DBE SUBCONTRACTOR UTILIZATION FORM

TO ENSURE PROMPT PAYMENT THE FOLLOWING INFORMATION MUST BE SUBMITTED WITH ALL REIMBURSEMENT REQUESTS WHETHER THEY INCLUDE INVOICED AMOUNTS FROM A QUALIFYING WBE OR MBE PARTICIPANT OR NOT:

Municipality/District: _____ SRF #: _____

Name of Project: _____ Contractor: _____

Contractor's Payment Request No. _____ Period covered by the request _____

The accompanying Reimbursement Request includes the following WBE/MBE participation:

Name & Address of WBE/MBE firm to be paid	WBE	MBE	Source of Certification, i.e., DOT, EPA or SBA	Amount to be paid this request	Type of Work
	☐	☐			
	☐	☐			
	☐	☐			

This attachment must be signed by an authorized representative of the contractor.

Signature: _____ Date: _____

Name: _____ Title: _____

Address: _____

Phone: _____ E-Mail: _____



Disadvantaged Business Enterprise Program (DBE) Subcontractor Participation Form

DBE Subcontractor Participation Form) SRF FORM 6100-2, Page 1 of 2

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE¹ subcontractor² the opportunity to describe work received and /or report any concerns regarding the EPA-funded project (e.g. in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the DEP DBE Coordinator at any time during the project period of performance.

Subcontractor Name		Project Name	
Bid /Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services, Equipment or Supplies	Amount Received by Prime Contractor

¹A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

²Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

Please use the space below to report any concerns regarding the above EPA-funded project:

Subcontractor Signature	Print Name
Title	Date



Disadvantaged Business Enterprise Program (DBE) Subcontractor Participation Form

DBE Subcontractor Performance Form) SRF FORM 6100-3, Page 1 of 2

This form is intended to capture the DBE¹ subcontractor's² description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractors bid or proposal package.

Subcontractor Name		Project Name	
Bid /Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor

DBE Certified By: ☐ DOT ☐ SBA ☐ Other: _____	Meets/exceeds EPA certification standards? ☐ YES ☐ NO ☐ Unknown
--	---

¹A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

²Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

DBE Subcontractor Performance Form) SRF FORM 6100-3, Page 2 of 2

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form doesnot signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33Section 33.202 (c).

Prime Contractor Signature	Print Name
Title	Date

Subcontractor Signature	Print Name
Title	Date



Disadvantaged Business Enterprise Program (DBE) Subcontractor Participation Form

DBE Subcontractor Utilization Form) SRF FORM 6100-4, Page 1 of 2

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE¹ subcontractors² and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name		Project Name	
Bid /Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Issuing/Funding Entity:			

I have identified potential DBE certified subcontractors	☐ _ YES	☐ _ NO	
If yes, please complete the table below. If no, please explain:			
Subcontractor Name/Company Name	Company Address/Phone/Email	Est. Dollar Amt.	Currently DBE Certified ?

¹A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

²Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award or financial assistance.

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Section 33.202 (c).

Prime Contractor Signature	Print Name
Title	Date

Link to AIS Covered Products Q & A

<https://www.epa.gov/cwsrf/american-iron-and-steel-requirement-guidance-and-questions-and-answers>



From the “Consolidated Appropriations Act, 2014”

H.R. 3547 (PL113-76, enacted 1/17/2014)

USE OF AMERICAN IRON AND STEEL

“SEC. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j–12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works 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 Administrator of the Environmental Protection Agency (in this section referred to as the “Administrator”) 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 and 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 Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator 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 Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

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

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency’s capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.”



CERTIFICATION BY THE OWNER
OF COMPLIANCE WITH THE
USE OF AMERICAN IRON AND STEEL LAW
enacted on 1/17/2014

(To be attached to each Utility Construction SRF requisition submitted for payment)

We, the Owner named, _____, having obtained funding from the State of Maine, State Revolving Fund (SRF), for the Utility Construction Project named _____, hereby submit to the SRF program, certification from each contractor working on the Utility Construction Project that the use of American Iron and Steel in the construction of the project complies with the law, or that a waiver has been obtained from the U.S. Environmental Protection Agency. Thereby, it is to the best of the Owner's knowledge that the costs being requested with this SRF requisition # _____ are in compliance with the Use of American Iron and Steel Law.

Signature of Official

Printed name

Date

Attachment: Certification by Contractor



CERTIFICATION BY CONTRACTOR
OF COMPLIANCE WITH THE
USE OF AMERICAN IRON AND STEEL LAW
enacted on 1/17/2014

(To be attached to each Utility Construction payment application)

We, the Prime Contractor and Subcontractors, as named below, hereby certify that the use of American iron and steel in the utility construction of the Project named

_____, being requested in the Utility Construction payment application (or invoice) # _____ and dated _____, complies with the Use of American Iron and Steel Law, or that a waiver been obtained from the U.S. Environmental Protection Agency.

Prime Contractor Name: _____

Signature of Official

Printed name

Date

Subcontractor Name

Signature of Official

Date



Sample Step Manufacturer Certification

(Documentation must be provided on company letterhead)

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Step Manufacturer Certification

Project Name _____

I, _____ (company representative), certify that the _____ (melting, bending, coating, galvanizing, cutting, etc.) process for _____ (manufacturing or fabricating) the following products and/or materials shipped or provided for the project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. _____

2. _____

3. _____

Such process took place at the following location: _____(address)

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Company representative

Signature

Date

AIS De Minimis Tracking Form



AISDeMinimisReport
Form.xlsx

This form is available electronically.

Form Approved – OMB No. 0505-0027

Expiration Date: 04/30/2022



Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion AD-1048 Lower Tier Covered Transactions

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.)

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;

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, audiotope, 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 \(https://www.ascr.usda.gov/filing-program-discrimination-complaint-usda-customer\)](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.

SECTION 01010BSUMMARY OF WORKPART 1 - GENERAL1.1 DESCRIPTION:

- A. Location: The Work locations include, but are not limited to, locations within the right-of-ways on the following streets and easements in the City of Old Town.
 - 1. Stillwater Avenue
- B. Work Included: Installation of a temporary force main on a temporary bridge adjacent to the Stillwater Avenue Bridges in Old Town. Work is included under the Maine Department of Transportation's installation of a temporary bridge adjacent to the Stillwater Avenue Bridges. The Work includes, but is not limited to, the following:
 - 1. Remove and/or relocate equipment as indicated on the Drawings.
 - 2. All related site work including trench excavation, ledge excavation, groundwater dewatering, disposal of excess excavated materials, filter fabric, bedding, backfill, compaction, loam/seed and landscaping.
 - 3. Other miscellaneous work shown in the Specifications for a complete and operational system.
- C. Related Work Specified Elsewhere
 - 1. Coordination: Temporary force main work outlined in these Specifications and Drawings is occurring as part of the Maine DOT Bridge Project. Contractor to coordinate work with Maine DOT contract documents
 - 2. Temporary Sewer Force Main: Section 02620
 - 3. Traffic Regulation: Maine DOT Specifications
 - 4. Site work, piping, structures, testing requirements are specified in Division 2.
- 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 temporary 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, 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. Continuous Operations Criteria:

1. Refer to construction sequence below. Uninterrupted service shall be provided at all times during construction except for planned shutdown events.

B. Minimize Interference

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, Engineer, MDOT, sewer customers, and interested officials, which shall provide for the construction and putting into service of the temporary works in the most orderly manner possible. This program shall be adhered to except as deviations therefrom are expressly permitted
2. Work of connecting with, cutting into and reconstructing existing pipes or structures shall be planned to interfere with the operation of the existing facilities for the shortest possible time and when the demands on the facilities best permit such interference. It may be necessary to work outside of normal working hours to minimize interference. Before starting work which will interfere with the operation of existing facilities, the Contractor shall do all possible preparatory work and shall see that all tools, materials, and equipment are made ready and at hand.

3.2 CONSTRUCTION SEQUENCE

A. Temporary Force Main Construction

1. The existing sewer on the existing Stillwater Avenue Bridge must remain active at all times until the temporary force main is constructed and brought online.
2. As part of construction, the Contractor shall install the 6" temporary sewer main on the temporary bridge, and temporary sewer lines.
3. Contractor shall assume all provisions for temporary freezing protection of the temporary sewer lines crossing the temporary Maine DOT bridge.

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 01150BMEASUREMENT AND PAYMENTPART 1 - GENERAL1.1 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.

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 OMITTED ITEMS

- A. Should any items contained in the bid form be found unnecessary for the proper completion of the work contracted, the Engineer may eliminate such items from the Contract, and such action shall in no way invalidate the Contract, and no allowance will be made for items so eliminated in making final payment to the Contractor.

1.5 PARTIAL PAYMENTS

- A. Partial payments shall be made monthly as the work progresses. Partial payments shall be made subject to the provisions of the Supplemental and General Conditions. Contractor's Partial Payment Requests shall be submitted in two parts; one part for grant eligible quantities and one part for non-eligible quantities. The breakdown of quantities will be determined by the Engineer.

1.6 PAYMENT FOR MATERIAL DELIVERED

- A. When requested by the Contractor and at the discretion of the Owner, payment may be made for all or part of the value of acceptable, non-perishable materials and equipment which are to be incorporated into bid items, have not been used and have been delivered to the construction site, or placed in storage places acceptable to the Owner. Payment shall be subject to the provisions of the General and Supplemental Conditions.
- B. No payment shall be made upon fuels, supplies, lumber, false work, or other materials, or on temporary structures of any kind which are not a permanent part of the Contract.

1.7 FINAL PAYMENT

- A. After final measurements are made by the Engineer, the Contractor will prepare a final quantity invoice of the amount of the Work performed and the value of such Work. Owner shall make final payments of the sum found due less retainages subject to provisions of the General and Supplemental Conditions.

1.8 INCIDENTAL WORK

- A. Incidental work items for which separate payment will not be made includes, but is not limited to, the following items:
1. Dewatering
 2. Clean-up and Erosion control
 3. Loam, seeding, grading, liming, fertilization, mulching, and watering
 4. Pipe bedding and backfill
 5. Compaction testing of backfill
 6. Restoration of property, and replacement of fences, curbs, structures, sign posts, guard rails, rock wall, mail boxes, traffic loop detectors and other minor items disturbed by the temporary force main construction activities
 7. Utility crossings and relocations, unless payment is otherwise made
 8. Trench boxes, steel and/or wood sheeting as required, including that left in place
 9. Project record documents
 10. Cleaning and testing of all sewer lines and appurtenances
 11. Temporary construction and other facilities not to be permanently incorporated into the Work necessary for construction sequencing and maintenance of operations
 12. Weather protection
 13. Visits to the Project site or elsewhere by personnel or agents of the Contractor, including manufacturer's representatives, as may be required
 14. On-site and other facilities acceptable to Engineer for the storage of materials, supplies and equipment to be incorporated into the Work
 15. Removal of existing pavement and driveway restoration
 16. Trench Earthwork (except ledge and unsuitable materials)
 17. Pipe sleeves
 18. Connection to existing force main and manhole

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

1. (DOT ID# 652.36) – MAINTENANCE OF TRAFFIC CONTROL DEVICES (CD)

- A. Method of Measurement: Maintenance of traffic control devices will be paid for under this item based on the actual number of days that require maintenance of traffic control devices when only sewer work is being performed (No DOT Bridge related construction).
- B. Basis of Payment: Payment for maintenance of traffic control devices shall constitute full compensation for all traffic regulation and control efforts and including all labor, materials, equipment, signage and supervision required to provide comprehensive and professional traffic regulation during construction of sewer force main, when no other DOT bridge or roadway work is being performed. This item excludes Flaggers which are covered under item 2 (DOT ID#652.38)

2. (DOT ID# 652.38) – FLAGGER (HR)

- A. Method of Measurement: Flaggers will be paid for based on the actual number of hours required for sewer force main construction, when no other DOT bridge or roadway work is being performed.
- B. Basis of Payment: Payment for flaggers shall constitute full compensation for all labor, materials, equipment, signage and supervision required to provide comprehensive and professional flagging services for sewer force main specific work. Payment under this item will be made for full-time dedicated flaggers only. Part-time flaggers will not be considered adequate.

3. (DOT ID# 659.10) – MOBILIZATION (LS)

- A. Method of Measurement: Lump sum.
- B. Basis of Payment: Mobilization/demobilization costs are those costs of initiating and ending the contract. Payment for mobilization/demobilization shall be a lump sum at the price as stated in the Bid Form. Seventy-Five percent (75%) of the lump sum will be payable when the Contractor is operational on the site and the remaining 25% of the lump sum will be payable when the Contractor leaves the site following the completion of all contract work. For purposes of payment on this item, "Operational" shall mean the Contractor has provided all required and properly executed bonds and insurance certificates and the owner has approved the following: Construction Schedule, and Project Sign (and installed). Only one lump sum payment divided into the two partial payments described herein shall be made to cover all mobilization/demobilization costs throughout the entire contract.

4. (DOT ID# 801.07) – TEMPORARY SEWER BYPASS (LF)

- A. Method of Measurement: Temporary force main pipe measured for payment shall be the number of linear feet installed measured along the center line of the pipe as laid including fittings.
- B. Basis of Payment:
 - 1. The contract unit price per linear foot for temporary force main pipe shall be full compensation for all materials necessary to complete this work for which payment is not provided under other items.
 - 2. Payment for this work on interim requisitions shall be according to the following percentages:
 - a. Temporary force main acceptably set in place and backfilled - 90 percent.
 - b. Temporary force main successfully tested - 10 percent.

5. (DOT ID# 910.301) – SPECIAL WORK, TEMP SEWER MAIN INSTALLATION

- A. Method of Measurement: Temporary force main installation and bypass pumping will be paid for at the Lump Sum price as stated in the Bid Schedule.
- B. Basis of Payment:
 - 1. The contract lump sum unit price for temporary force main installation and bypass pumping shall be full compensation for all labor, materials, and equipment necessary to complete this work including sawcut, management, removal and disposal of pavement; excavation (except ledge excavation), dewatering, bedding, furnishing and installing pipe and fittings, making

connections to existing pipes and manholes, backfill compaction, cleaning, testing, freeze protection, bypassing as needed during temporary pipe installation, maintaining existing flows during construction of new facilities and all else incidental thereto for which payment is not provided under other items.

2. The lump sum shall be paid in partial payments over the course of the project, where the percentage paid is equal to the percentage of completion of the entire Contract.

END OF SECTION

SECTION 01340SUBMITTALSPART 1 - GENERAL1.1 DESCRIPTION

- A. Work Included:
 - 1. Submit all shop drawings, Manufacturers' certificates, project data, and samples required by the Specifications.
- B. Related Work Specified Elsewhere:
 - 1. Project Record Documents: Section 01720
- C. Submittals: This project shall utilize:
 - 1. Submittals – Electronic via Email/FTP
 - a. The Contractor shall submit to the Engineer an electronic submittal of shop drawings in portable document format (PDF) transmitted via email or file transfer protocol (FTP). The Engineer shall return an electronic PDF of the submittal review comments to the Contractor for distribution to subcontractors, suppliers and manufacturers. The electronic submittals shall serve as the electronic record of the project.

1.2 SHOP DRAWINGS

- A. Shop Drawings are required for each and every element of the work. Each shop drawing shall be assigned a sequential number for purposes of easy identification, and shall retain its assigned number, with appropriate subscript, on required resubmissions.
- 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 (such as the construction of foundations), 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, as determined by the Owner, and based upon Engineer's documentation of time and rates established for additional services in the Owner-Engineer Agreement for this Project, may be

deducted from the Contractor to make all modifications and/or corrections as may be required by the Engineer in an accurate, complete, and timely fashion. Resubmittals for the sole purpose of providing written responses to review comments will not be considered a resubmittal counting towards the two submission limit.

- 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 an alphabetic suffix after the corresponding sequential number (e.g., 16000-01A).
 - 5. Notification of deviations from Contract Documents.
 - 6. Other pertinent data.
- B. A completed Contractor Submittal Certification Form shall be attached to 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 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

END OF SECTION

SECTION 01720PROJECT RECORD DOCUMENTSPART 1 - GENERAL1.1 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.

G. Failure to maintain current records, as specified herein, shall be grounds for withholding additional retainage from monthly partial payment requests.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.
 2. Sewer 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. Ledge
 - a. Ledge profiles shall be shown. Note whether the plotted ledge profile reflects undisturbed or expanded conditions.
 4. Yard Piping and Buried Electrical Conduit
 - a. Site piping and utilities shall be drawn to reflect the installed locations, with ties and elevation of all bends (horizontal and vertical).
 - b. Show routing for electrical conduits and pull boxes, especially in close proximity to buildings and when the conduits change direction or cross process piping.
 5. Roads
 - a. Show centerline road profile and level spot elevations.
 - b. Show pavement widths.
 - c. On road cross sections, show the pavement cross slope.
 - d. Show any deviations from the design plans.
 6. 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 and an electronic file (pdf format) consisting of a full scan of the bound paper set.
- 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.
- C. Failure to supply all information on the Project Record Drawings as specified in Part 1.3 may result in withholding final completion and in non-approval of final payments of the Contract. If Contract Time has elapsed, this shall be grounds for imposing liquidated damages.

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. Failure to maintain current records, as specified herein, shall be grounds for withholding additional retainage from monthly partial payment requests. Failure to provide records shall also be grounds for withholding of final payment and, if beyond contract time, shall be grounds for imposing liquidated damages.

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.



SANITARY SEWER SERVICE LOCATION

Project:	_____	Date:	_____
Date Installed:	_____	Town, City of:	_____
Type, Size of Service Pipe	_____	Street	_____
Connection at Sewer Main	_____	Dwelling No.	_____
Depth, End of Service	_____	Occupant	_____
Length of Service Pipe	_____	Owner	_____
Laid	_____		_____
Measured, Located By	_____	House No.	_____
Project Contractor	_____	Complete	_____
		Incomplete	_____

N.T.S.

Comments: _____

Observed By:

_____	_____
Contractor	(Date)
_____	_____
Wright-Pierce	(Date)

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 02140TEMPORARY CONSTRUCTION DEWATERING SYSTEMPART 1 - GENERAL1.1 DESCRIPTION

A. Work Included:

1. Design, furnish, operate, maintain, and remove temporary dewatering system to lower and control ground water table levels and hydrostatic pressures to permit excavation, backfill, and construction to be performed in the dry; collect and dispose of ground and surface water where necessary to complete the work.

B. Related Work Specified Elsewhere: (When Applicable)

1. Section 02200 Earthwork

1.2 DESIGN REQUIREMENTS

- A. Dewatering system shall be of sufficient size and capacity necessary to lower and maintain ground water table to an elevation at least one foot below the lowest foundation subgrade or bottom of pipe trench to allow material to be excavated in a dry condition. Materials to be removed shall be sufficiently dry to permit excavation to grades shown and to stabilize excavation slopes where temporary excavation support systems are not required. Operate dewatering system continuously until backfill work has been completed.

- B. Control of surface and subsurface water is part of dewatering system requirements. Maintain adequate control so that:

1. The stability of excavated and constructed slopes are not adversely affected by saturated soil, including water entering prepared subbase and subgrades where underlying materials are not free draining or are subject to swelling or freeze-thaw action.
2. Erosion is controlled.
3. Flooding of excavations or damage to structures does not occur.
4. Surface water drains away from excavations.
5. Excavations are protected from becoming wet from surface water, or insure excavations are dry before additional work is undertaken
6. Prevent loss of fines, seepage, boils, quick conditions or softening of foundation strata.
7. Maintain stability of sides and bottom of excavation. Construction operations are performed in the dry.
8. Any existing dewatering wells that can affect dewatering and excavation shall be sealed below the excavation subgrade.

- C. Design shall include an assessment of how the dewatering operations will affect the stability of all adjacent structures

- D. Contractor is responsible to perform whatever additional geotechnical investigations are needed to design the dewatering system to allow for proper construction of new facilities while protecting adjacent structures from damage due to settlement, and in accordance with this specification.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.1 PERFORMANCE

A. General:

1. Prior to any excavation below the ground water table, place system into operation to lower water table as required and operate it continuously 24 hours a day, 7 days a week until utilities and structures have been satisfactorily constructed, which includes the placement of backfill materials and dewatering is no longer required.
2. Keep work areas dewatered until the structures, pipes, and appurtenances to be built there have been completed to such an extent that they will not be damaged by water.
3. Thoroughly brace or otherwise protect against flotation all pipelines and structures which are not stable.
4. Maintain standby backup equipment and power supply throughout the duration of the dewatering operation.
5. Prevent soil particles from entering the discharge points.
6. Ground water level shall be maintained at least one foot below the bottom of the excavation.

B. Disposal of Water:

1. Dispose of water pumped or drained from the construction site in a suitable manner to avoid siltation of adjacent drainage structures and piping, wetlands or water bodies, injury to public health, damage to public and private property, and damage to the work completed or in progress.
2. Provide suitable temporary channels for water that may flow along or across the construction site.
3. Provide treatment as necessary to prevent discharge of contaminated ground water caused by Contractor's operations, or any contaminated ground water that may pass through the excavation support system selected by the Contractor.
4. Contractor must obtain all necessary regulatory approvals for the disposal of dewatering flows. These may include, among others, approval by the USEPA under the National Pollutant Discharge Elimination System (NPDES) program for construction activities.

C. Damage:

1. Avoid damage to and settlement of adjacent buildings, roads, structures, utilities and other facilities.
2. Any damage to or settlement of structures resulting from the dewatering operations, or the failure of the Contractor to maintain the work in a suitably dry condition shall be repaired by the Contractor at no additional cost to the Owner.

- D. Temporary Underdrains:
 - 1. When necessary, temporary underdrains may be placed in excavations.
 - 2. Underdrain pipe shall be perforated corrugated metal, polyethylene or P.V.C. pipe.
 - 3. Entirely surround the underdrain and fill the space between the underdrain and the pipe or structure with free draining material.
- E. Excavation Sump Pumping:
 - 1. When necessary and where appropriate to the geotechnical conditions encountered, excavations may be over excavated 6 to 12 inches and filled with screened stone to allow sump pumping of groundwater.
 - 2. The system shall be installed with suitable screens and filters so that pumping of fines does not occur.
- F. Well and Wellpoint System:
 - 1. If necessary, dewater the excavations and trenches with an efficient well or wellpoint system to drain the soil and prevent saturated soil from flowing into the excavated wells and area.
 - 2. Wellpoint and well system shall be of the type designed for dewatering work and shall be installed with suitable screens and filters so that pumping of fines does not occur.
 - 3. Pumping units shall be capable of maintaining sufficient suction to handle large volumes of air and water at the same time.

END OF SECTION

TESTING SECTION 02200EARTHWORKPART 1 - GENERAL1.1 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. Pipe, fittings and valves are specified in Division 2.

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).
- d. An Independent Testing Laboratory will be retained by the Owner to conduct all laboratory and field soil sampling and testing, and to observe earth work and foundation construction activities. Laboratory testing will consist of sieve analyses, natural water content determinations, and compaction tests. Field testing will consist of in-place field density tests and determination of water contents.

1.3 SUBMITTALS

- A. Collection of samples and testing of all materials for submittals shall be performed by the 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 at the Owner's expense unless otherwise indicated (see Section 01400 - Quality Control).
- 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. The cost of retesting will be paid by Owner. The cost of retesting will be determined by Engineer and Owner will invoice Contractor for this cost. If unpaid after 60 days, the invoice amount for retesting will be deducted from the Contract Price. No allowance will be considered for delays in the performance of the work.
 - 2. If the test results pass and meet the requirements of these Specifications, the cost of the testing service will be borne by the Owner, but no allowance will be considered for delays in the performance of the work.

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 warrants 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. Aggregate Base: Shall be screened or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. Type B Aggregate for base shall not contain particles of rock that will not pass the 4 inch square mesh sieve. The gradation of the part that passes a 3-inch sieve shall meet the following grading requirements:

<u>Sieve</u> <u>Designation</u>	<u>Percent by Weight</u> <u>Passing Square Mesh Sieves</u>
	Type B <u>Aggregate</u>
1/2 inch	35-75
1/4 inch	25-60
No. 40	0-25
No. 200	0-5

- B. Aggregate Leveling Course and Untreated Surface Course: Shall be screened or crushed gravel consisting of hard durable particles which are free from vegetable matter, lumps or balls of clay and other deleterious substances. The gradation of the material shall meet the grading requirements of the following table:

<u>Sieve</u> <u>Designation</u>	<u>Percentage by Weight</u> <u>Passing Square Mesh Sieves</u>
1 inch	95-100
3/4 inch	90-100
No. 4	40-65
No. 10	10-45
No. 200	0-7

- C. 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.

<u>Sieve</u> <u>Designation</u>	<u>Percentage by Weight</u> <u>Passing Square Mesh Sieves</u>
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.

- D. Crushed Stone: Shall be a uniform material consisting of clean, hard, and durable particles or fragments, free from vegetable or other objectionable matter, containing angular pieces, as are those which come from a mechanical crusher. Gradation requirements shall be as follows:

<u>Sieve Designation</u>	<u>Percent by Weight Passing Square Mesh Sieve</u>
1-1/2 inch	100
1 inch	95-100
1/2 inch	25-60
No. 4	0-10

- E. Screened Stone: Shall be a well graded stone consisting of clean, hard, and durable particles or fragments, free from vegetable or other objectionable matter, meeting the following gradation requirements:

<u>Sieve Designation</u>	<u>Percent by Weight Passing Square Mesh Sieve</u>
1 inch	100
3/4 inch	90-100
3/8 inch	20-55
No. 4	0-10
No. 8	0-5

- F. Select Fill (Structural 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.

<u>Sieve Designation</u>	<u>Percent by Weight Passing Square Mesh Sieve</u>
4 inch	100
3 inch	90-100
1/4 inch	25-90
No. 40	0-30
No. 200	0-5

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

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

Sand conforming to the requirement for fine aggregate in ASTM Standard Specifications for Concrete Aggregate, Designation C-33, will meet the above requirement.

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 to be 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. Structural Excavation:
1. Shall consist of the removal, hauling, disposal, of all material encountered in the excavation to permit proper installation of structures.
 2. Excavations for structures shall be carried to the lines and subgrades shown on the Drawings.
 3. Excavate areas large enough to provide suitable room for building the structures.
 4. The extent of open excavation shall be controlled by prevailing conditions subject to any limits designated by the Engineer.

5. Provide, install, and maintain sheeting and bracing as necessary to support the sides of the excavation and to prevent any movement of earth which could diminish the width of the excavation or otherwise injure the work, adjacent structures, or persons and property in accordance with all state and OSHA safety standards.
 6. Erect suitable fences around structure excavation and other dangerous locations created by the work, at no additional cost to the Owner.
 7. Exposed subgrade surfaces shall remain undisturbed, protected, and maintained as uniform, plane areas and shape to receive the foundation components of the structure.
 - a. Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10', and extending a sufficient distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, other construction, and for inspection.
 - b. In excavating for footings and foundations, take care not to disturb bottom of excavation. Excavate by hand to final grade and trim bottoms to required lines and grades to leave solid base to receive the structure.
 - c. If a structure is to be constructed within the embankment, the fill shall first be brought to a minimum of 3 feet above the base of the footing. A suitable excavation shall then be made as though the fill were undisturbed earth.
- E. 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.
- F. 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.
- G. 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.
- H. 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.
- I. 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. Refer to Specification Section 02156.
 3. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Install shoring and bracing as excavation progresses.

- J. 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.
- K. 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. Refer to Specification Section 02401.
- L. Cold Weather Protection:
 - 1. Protect excavation bottoms against freezing when atmospheric temperature is less than 35°F.
 - 2. No frozen material shall be used as backfill or fill and no backfill shall be placed on frozen material.
- M. 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.
- N. Dust Control:
 - 1. During the progress of the work, the Contractor shall conduct his operations and maintain the area of his activities, including sweeping and sprinkling of streets as necessary, so as to minimize the creation and dispersion of dust. Refer to Specification Section 01562.
 - 2. If the Engineer decides that it is necessary to use calcium chloride for more effective dust control, the contractor shall furnish and spread the material, as directed.

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. Acceptance by Engineer of construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.
 - b. Inspection, approval, and recording locations of underground utilities.
 - c. Removal of concrete formwork.
 - d. Removal of shoring and bracing, and backfilling of voids with satisfactory materials. Temporary sheet piling driven below bottom of structures shall be removed in manner to prevent settlement of the structure or utilities, or cut off and left in place if required.
 - e. Removal of trash and debris.
 - f. Permanent or temporary horizontal bracing is in place on horizontally supported walls.
 - g. 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. All fill and backfill under structures and pavement, and adjacent to structures, shall be compacted crushed stone or select fill as specified or as indicated on the Drawings. The fill and backfill materials shall be placed in layers not exceeding 8 inches in thickness.
7. All structures (including manholes) shall be placed on a 6-inch mat of screened stone unless otherwise indicated.
8. 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.
9. 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.
10. Do not backfill with, or on, frozen materials.
11. Remove, or otherwise treat as necessary, previously placed material that has frozen prior to placing backfill.
12. Do not mechanically or hand compact material that is, in the opinion of the Engineer, too wet.
13. Do not continue backfilling until the previously placed and new materials have dried sufficiently to permit proper compaction.

14. 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.
 15. 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.
 16. Do not allow large masses of backfill material to be dropped into the excavation in such a manner that may damage pipes and structures.
 17. Place material in a manner that will prevent stones and lumps from becoming nested.
 18. Completely fill all voids between stones with fine material.
 19. Do not place backfill on or against new concrete until it has attained sufficient strength to support loads without distortion, cracking, and other damage.
 20. Deposit backfill and fill material evenly on all sides of structures to avoid unequal soil pressures.
 21. Keep stones or rock fragments with a dimension greater than two inches at least one foot away from the pipe or structure during backfilling.
 22. Leave sheeting in place when damage is likely to result from its withdrawal.
 23. 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. Refer to Section 02650 – Buried Utility Markings.
 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
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PVC or PE Pipe	Screened stone
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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. Embankment Compaction:
- 1. After each embankment layer has been spread to the required maximum 8-inch thickness and its moisture content has been adjusted as necessary, it shall be rolled with a sufficient number of passes to obtain the required compaction. One pass is defined as the required number of successive trips which by means of sufficient overlap will insure complete coverage and uniform compaction of an entire lift. Additional passes shall not be made until the previous pass has been completed.
 - 2. When any section of an embankment sinks or weaves excessively under the roller or under hauling units and other equipment, it will be evident that the required degree of compaction is not being obtained and that a reduction in the moisture content is required. If at any place or time such sinking and weaving produces surface cracks which, in the judgment of the Engineer are of such character, amount, or extent to indicate an unfavorable condition, he will recommend operations on that part of the embankment to be suspended until such time as it shall have become sufficiently stabilized. The ideal condition of the embankment is that attained when the entire embankment below the surface being rolled is so firm and hard as to show only the slightest weaving and deflection as the roller passes.
 - 3. If the moisture content is insufficient to obtain the required compaction, the rolling shall not proceed except with the written approval of the Engineer, and in that event, additional rolling shall be done to obtain the required compaction. If the moisture content is greater than the limit specified, the material of such water content may be removed and stockpiled for later use or the rolling shall be delayed until such time as the material has dried sufficiently so that the

moisture content is within the specified limits. No adjustment in price will be made on account of any operation of the Contractor in removing and stockpiling, or in drying the materials or on account of delays occasioned thereby.

4. If because of insufficient overlap, too much or too little water, or other cause attributable to defective work, the compaction obtained over any area is less than that required, the condition shall be remedied, and if additional rollings are ordered, they will be done at no cost to the Owner. If the material itself is unsatisfactory or if additional rolling or other means fails to produce satisfactory results, the area in question shall be removed down to material of satisfactory density and the removal, replacement, and re-rolling shall be done by the Contractor, without additional compensation.
 5. Material compaction by hand-operated equipment or power-driven tampers shall be spread in layers not more than 6 inches thick. The degree of compaction obtained by these tamping operations shall be equal in every respect to that secured by the rolling operation.
- E. **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.
- F. **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.

3.5 GRADING:

- A. **General:**
1. Grading shall consist of that work necessary to bring all areas to the final grades.
 2. Uniformly grade areas within limits of work requiring grading, including adjacent transition areas.

3. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- B. Grading Outside Building Lines:
 1. Grade areas adjacent to building to drain away from structures and to prevent ponding.
 2. Grade surfaces to be free from irregular surface changes, and as follows:
 - a. Lawn or Unpaved Areas: Finish grade areas to receive topsoil to within not more than 1" above or below the required subgrade elevations.
 - b. Walks: Shape surface of areas under walks to line, grade and cross-section, with finish surface not more than 1/2" above or below the required subgrade elevation.
 - c. Pavements: Shape surface of areas under pavement to line, grade and cross-section, with finish surface not more than 3/8" above or below the required subgrade elevation.
- C. Grading Surface of Fill Under Building Slabs:
 1. Grade surface to be smooth and even, free of voids, and compacted as specified, to the required elevation.
 2. Provide final grades within a tolerance of 1/2" when tested with a 10' straight edge.
- D. Compaction:
 1. After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.
- E. Protection of Graded Areas:
 1. Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
 2. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

3.6 BASE COURSE AND LEVELING COURSE

- A. General:
 1. Base course consists of placing the specified materials in layers to support a leveling course or paved surface, as indicated in the Drawings.
- B. Grade Control:
 1. During construction, maintain lines and grades including crown and cross-slope of base course and leveling course.
- C. Placing:
 1. Place base course on prepared subbase conforming to indicated cross-section and thickness. Maintain optimum moisture content for compacting base materials.
 2. Place leveling course on prepared base course, conforming to indicated cross-section and thickness. Maintain optimum moisture content for compaction.
- D. Shaping and Compacting:
 1. All layers of aggregate base course and leveling course shall be compacted to the required density immediately after placing. As soon as the compaction of any layer has been completed, the next layer shall be placed.

2. The Contractor shall bear full responsibility for and make all necessary repairs to the base leveling courses and the subgrade until the full depth of the base leveling courses is placed and compacted. Repairs shall be made at no additional cost to the Owner.
3. If the top of any layer of the aggregate base or leveling course becomes contaminated by degradation of the aggregate or addition of foreign materials, the contaminated material shall be removed and replaced with the specified material at the Contractor's expense.

END OF SECTION

SECTION 02620TEMPORARY SEWER FORCE MAINPART 1 - GENERAL1.1 DESCRIPTION

- A. Work Included: The Contractor shall design, furnish, install, test, operate, maintain and remove a 6-inch high-density polyethylene (HDPE) or polyvinylchloride (PVC) temporary sewer force main in order to divert sewage flow around the work area. Temporary sewer force main system shall be able to reliably convey the full range of wastewater flows, as shown on the Drawings and scheduled herein.

1.2 PROJECT CONDITIONS

- A. The work includes the installation of a temporary sewer force main in order to bypass an existing sewer force main that is to be removed and replaced as part of a separate contract. The temporary sewer main will be located on the temporary Stillwater Avenue Bridge, provide continuous wastewater collection service during construction, and discharge to the downstream sewer manhole.
- B. The wastewater force main experiences pressures up to 100 psi in this area of the wastewater collection system.
- C. The Contractor shall coordinate with the City of Old Town before making the connection of the temporary sewer main to the existing wastewater collection system.
- D. Temporary sewer mains shall be in operation from when the existing force main is taken off line until the new force main has been tested and accepted for permanent service.
- E. Contractor will need to provide bypass pumping of all sewer flows as needed when the existing force main or temporary force main are not in service.

1.3 QUALITY ASSURANCE

- A. The temporary sewer force main system shall meet all applicable local, state and federal requirements.
- B. Pressure rating or pressure class of pipe as detailed herein.

1.4 SUBMITTALS

- A. Temporary Sewer Force Main Plans shall be submitted to Engineer for review and approval prior to installation. Bypass plans shall include and consider the following:
 - 1. Proposed schedule for installing, testing, operating, and removing the temporary sewer force main.
 - 2. Details of the materials, size, and location of temporary facilities including list of duty equipment, pumps, bypass mains, fittings, valves, connections, and materials to be utilized by the Contractor for the temporary sewer force main pumping system.
 - 3. Catalog cut sheets/ technical data for equipment and appurtenances.
 - 4. Performance curves for wastewater bypass pumps and suction lift, static head, headloss, and total dynamic head (TDH) calculations.

5. List of standby equipment and spare parts available on-site and off-site in order to ensure uninterrupted operation of the bypass pumping system in the event of a utility power failure.
 6. Description of controls and alarm equipment to be utilized. Sample alarm log.
 7. All plans shall include provision of twenty-four/seven contact information for operation and maintenance of the temporary sewer force main system.
 8. Pressure testing shall comply with the requirements of Section 02755 prior to placing temporary sewer force main into service.
- B. No construction related activities requiring the need for bypass pumping operations shall begin until the related project submittals are reviewed and all provisions of the work have been fully coordinated with the Owner, Agency, Engineer and any other parties having jurisdiction for the proposed work activities.

PART 2 - PRODUCTS

2.1 TEMPORARY FORCE MAIN

A. Materials

1. Polyethylene Pipe:

- a. 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%.
- b. 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.
- c. Pipe shall be homogeneous throughout and free of visible cracks, holes, foreign material, blisters, or other deleterious faults.
- d. Polyethylene fittings shall have the same pressure rating as the pipe itself.
- e. Adaptors: When applicable, provide adaptors for connecting polyethylene pipe to pipes constructed from other materials. All flanges shall have metal backing rings.
- f. Pipe pressure rating shall be 150 psi (SDR-11) minimum.
- g. Pipe interior diameter shall be 6-inches

2. Polyvinyl Chloride (PVC) Pipe:

- a. PVC formulation shall contain impact modifiers and ultraviolet inhibitors for use in above-ground temporary applications.
- b. Pipe pressure rating shall be 150 psi (SDR-18) minimum.
- c. Pipe interior diameter shall be 6-inches.

B. Fabrication

1. Polyethylene Pipe:

a. Thermal Butt-Fusion:

- i. Join the pipe to itself, or to the polyethylene fittings or to the flange connections by means of thermal butt-fusion.
- ii. Have all fusion performed by personnel trained by the pipe supplier or other qualified persons, using tools approved by the pipe supplier.

- iii. 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.
- iv. Joint strength must be equal to that of the adjacent pipe.
- b. Mechanical Connections: The mechanical connections of the polyethylene pipe to auxiliary equipment shall be in accordance with the pipe suppliers written instructions.
- 2. Polyvinyl Chloride (PVC) Pipe:
 - a. Fittings shall be supplied with Teflon coated "O"-ring to minimize assembly and disassembly effort required to install, remove and reinstall the system.
 - b. Mechanical Connections: The mechanical connections of the PVC pipe to auxiliary equipment shall be in accordance with the pipe suppliers written instructions.

PART 3 - EXECUTION

3.1 COORDINATION OF WORK

- A. Provide all labor and equipment necessary to coordinate work of this section and maintain communications.
- B. Notify all personnel, including but not limited to Owner, Engineer and Utility Companies, seven days in advance of any changes to the temporary bypass pumping work. The Owner will identify personnel to be notified in addition to those identified by the Contractor.

3.2 INSTALLATION OF TEMPORARY SEWER FORCE MAIN

- A. Temporary sewer main shall be laid outside of the traveled and access ways whenever possible and trenched when crossing roadways. Temporary sewer force main shall be ramped when crossing driveways.
- B. Temporary sewer main shall be installed so that it may be operated during freezing weather down to -25°F.

3.3 PERFORMANCE:

- A. General
 - 1. The Contractor is responsible for maintaining continuous sewer conveyance.
 - 2. The Contractor shall install and test all sewer flow control methods to the satisfaction of the Owner and Engineer prior to proceeding with the Work.
 - 3. Contractor shall be responsible for cleanup, repairs, restoration and fines required to address spills or overflows from a failed temporary sewer force main system.
 - 4. Any temporary pumps, piping, fuel storage, or other appurtenances associated with the temporary sewer force main system shall be either located above the 100-year flood elevation or protected against flotation or other damage which would be caused by a flood event.

- B. The temporary sewer force main system shall be furnished, installed, tested, operated, maintained and removed as follows:
1. The Contractor shall furnish, install, and test temporary sewer force main pumping system and discharge pipelines.
 2. The Contractor shall test and debug all systems and verify that all necessary equipment, materials, spare parts, and labor are available on-site prior to operation of the system and prior to the demolition of any part of the existing force main facilities.
 3. The Contractor shall operate and maintain the system until the new Work is completed, demonstration tested and accepted by the Owner and Engineer.
 4. Contractor shall be responsible for making regulatory reporting notifications for any release of wastewater or fuel to the environment. Contractor shall provide copies of notifications to the Owner and Engineer.
 5. The Contractor shall anticipate that the Owner will require 7 calendar days of operation on the new, permanent force main following satisfactory completion of demonstration testing prior to beginning disassembly of the temporary sewer force main pumping system.
 6. Upon receipt of approval by the Owner and Engineer, the Contractor shall disassemble and remove the temporary sewer force main pumping system, including all appurtenant piping. Contractor shall restore the area impacted by the temporary sewer force main pumping system to a like-new condition.

END OF SECTION

SECTION 02655COUPLINGS & CONNECTORS FOR BURIED APPLICATIONSPART 1 - GENERAL1.1 DESCRIPTION

- A. Furnish and install couplings and connectors of the type and size in the location shown on the Drawings and as specified herein.

1.2 QUALITY ASSURANCE

- A. Minimum pressure rating equal to that of the pipeline in which they are to be installed.
- B. Couplings and connectors, other than those specified herein, are subject to the Engineer's approval. Acceptable Manufacturers:
 - 1. Romac Industries
 - 2. Krausz
 - 3. Smith Blair
 - 4. For Meter Box Company
 - 5. Or Equal
- C. Reference Standards:
 - 1. AWWA C104 – Cement-Mortar Lining for Ductile-Iron Pipe and Fittings
 - 2. AWWA C111 – Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
 - 3. AWWA C116 – Protective Fusion-Bonded Coatings for the Interior and Exterior Surfaces of Ductile-Iron and Gray-Iron Fittings
 - 4. AWWA C153 – Ductile-Iron Compact Fittings
 - 5. AWWA C213 – Fusion-Bonded Epoxy Coatings and Linings for Steel Water Pipe and Fittings
 - 6. AWWA C219 – Bolted, Sleeve-Type Couplings for Plain-End Pipe

1.3 SUBMITTALS

- A. Submit shop drawings in accordance with the applicable section of Division 1 and the General Conditions of the Construction Contract.
- B. Submit manufacturers product data and installation instructions.

PART 2 - PRODUCTS2.1 MATERIALS

- A. All Couplings and Connectors:
 - 1. Gasket Materials: Composition suitable for exposure to the liquids to be contained within the pipes.
 - 2. Diameters to properly fit the specific types of pipes on which couplings and connectors are to be installed.
- B. Sleeve Type Transition Couplings (for 4 – 12" pipe size)
 - 1. Buried Restrained Couplings:
 - a. Two top facing bolt design
 - b. Fusion bonded epoxy steel or ductile iron center sleeve and end rings.
 - c. Two wedge-section EPDM or NBR rubber gaskets compounded for water service and NSF-61 certified.

COUPLINGS & CONNECTORS FOR BURIED APPLICATIONS

- d. 304 Stainless Steel bridge or Armor over gasket in expansion zone.
- e. Nuts and bolts shall be 304 Stainless Steel with rolled thread and anti-galling compound.
- f. Couplings shall be long barrel type.
- g. Coupling shall be fusion bonded epoxy coated meeting AWWA C213 and NSF-61 standards for potable water applications
- h. Acceptable Manufacturers:
 - i. Romac Industries – Alpha™
 - ii. Krausz – Hymax Grip
 - iii. Smith Blair – Pipe Lock Coupling
 - iv. Or Equal
- C. Solid Sleeve Couplings
 - 1. Solid sleeves shall be ductile iron with mechanical joint ends.
 - 2. Couplings shall meet AWWA/ANSI C-153/A21.53 and C-111/A21.11 for joints, and C-104/A21.4 for cement lining in sizes 3"-24".
 - 3. Nuts and bolts shall be ductile iron low alloy steel per ANSI/AWWA A21.11/C-111.
 - 4. Acceptable Manufacturers:
 - a. Romac – Model 501
 - b. Smith Blair – Model 441.
 - c. Ford – Model FC1 or FC2A
 - d. Or Equal
- D. Mechanical Joint Adaptors (Foster Adaptor® – Infact Corporation)
 - 1. Required to connect fittings and valves with mechanical joints
 - 2. Ductile iron construction mechanical joint bolt pattern.
 - 3. Bolts and nuts shall meet AWWA C-111.

PART 3 - EXECUTION3.1 INSTALLATION

- A. Sleeve Type Couplings:
 - 1. Thoroughly clean pipe ends a minimum of 12-inches from the ends prior to installing couplings and use soapy water as a gasket lubricant.
 - 2. Slip an end ring and gasket over each pipe and place the center sleeve centered over the joint.
 - 3. Insert the other pipe length into the center sleeve the proper distance.
 - 4. Press the gaskets and end rings evenly and firmly into the center sleeve flares.
 - 5. For two-bolt systems, insert or tighten the bolts, finger tighten and progressively tighten nuts on the top of the coupling with a torque wrench applying the torque recommended by the manufacturer. For multiple bolt systems, insert or tighten the bolts, finger tighten and progressively tighten diametrically opposite nuts around the coupling with a torque wrench applying the torque recommended by the manufacturer.
 - 6. Insert and tighten the tapered threaded lock pins as needed.
- B. Install thrust rods, supports, and other provisions to properly support pipe weight and axial equipment loads.

END OF SECTION

SECTION 02755SEWER TESTINGPART 1 - GENERAL1.1 DESCRIPTION

A. Work Included:

1. Sewer testing work includes the performance of testing and inspecting each and every length of sewer pipe, pipe joints and each item of appurtenant construction.
2. Perform testing at a time acceptable to the Engineer, which may be during the construction operations, after completion of a substantial and convenient section of the work, or after the completion of all pipe laying operations.
3. Provide all labor, pumps, pipe, connections, gages, measuring devices and all other necessary apparatus to conduct tests.

B. Related Work Specified Elsewhere (When Applicable):

1. Excavation, backfill, dewatering, pipe, pipe fittings and manholes are specified in the appropriate Sections in this Division.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION3.1 PERFORMANCE

A. General:

1. All sewer force main and appurtenant work, in order to be eligible for acceptance by the Engineer, shall be subjected to tests that will determine the degree of watertightness and horizontal and vertical alignment.
2. Thoroughly clean and/or flush all sewer force mains to be tested, in a manner and to the extent acceptable to the Engineer, prior to initiating test procedures.
3. Perform all tests and inspections in the presence of the Engineer.
4. Perform testing by test patterns determined by or acceptable to the Engineer.
5. Remedial Work:
 - a. Perform all work necessary to correct deficiencies discovered as a result of testing and/or inspections.
 - b. Completely retest all portions of the original construction on which remedial work has been performed.
 - c. Perform all remedial work and retesting in a manner and at a time acceptable to by the Engineer at no additional cost to the Owner.

B. Inspection of Appurtenant Installations:

1. Completely inspect, at a time determined by the Engineer, all manholes and inlets to ascertain their compliance with the Drawings and Specifications.

2. Provide access to each manhole and inlet and check the following characteristics:
 - a. Shape and finish of invert channels,
 - b. Watertightness and finish of masonry structures,
 - c. Location, type, and attachment of stops,
 - d. Elevation and attachment of frames, covers, and openings,
 - e. Pattern and machining of covers, and
 - f. Drop connection arrangements.
- C. Testing Pressure Sewers:
 1. The section of pipe to be tested shall be filled with water of approved quality, and all air shall be expelled from the pipe. If blowoffs are not available at high points for releasing air, the Contractor shall make the necessary excavations backfilling and taps at such points and shall plug said holes after completion of the test.
 2. The section under test shall be maintained full of water for a period of 24 hours prior to the combined pressure and leakage test being applied.
 3. Perform pressure and leakage test at 1-½ times the maximum system pressure or 100 psi whichever is greater (based on the elevation of the lowest point of the section under test and corrected to the gage location). Test duration shall be two hours.
 4. While maintaining this pressure, the Contractor shall make a leakage test by metering the flow of water into the pipe. Leakage, if any, shall be equal to or less than the amounts as determined by Section 4.2 of AWWA C 600.

$$L = \frac{SD\sqrt{P}}{148,000}$$

L = allowable leakage in gallons per hour

S = length of pipe tested, in feet

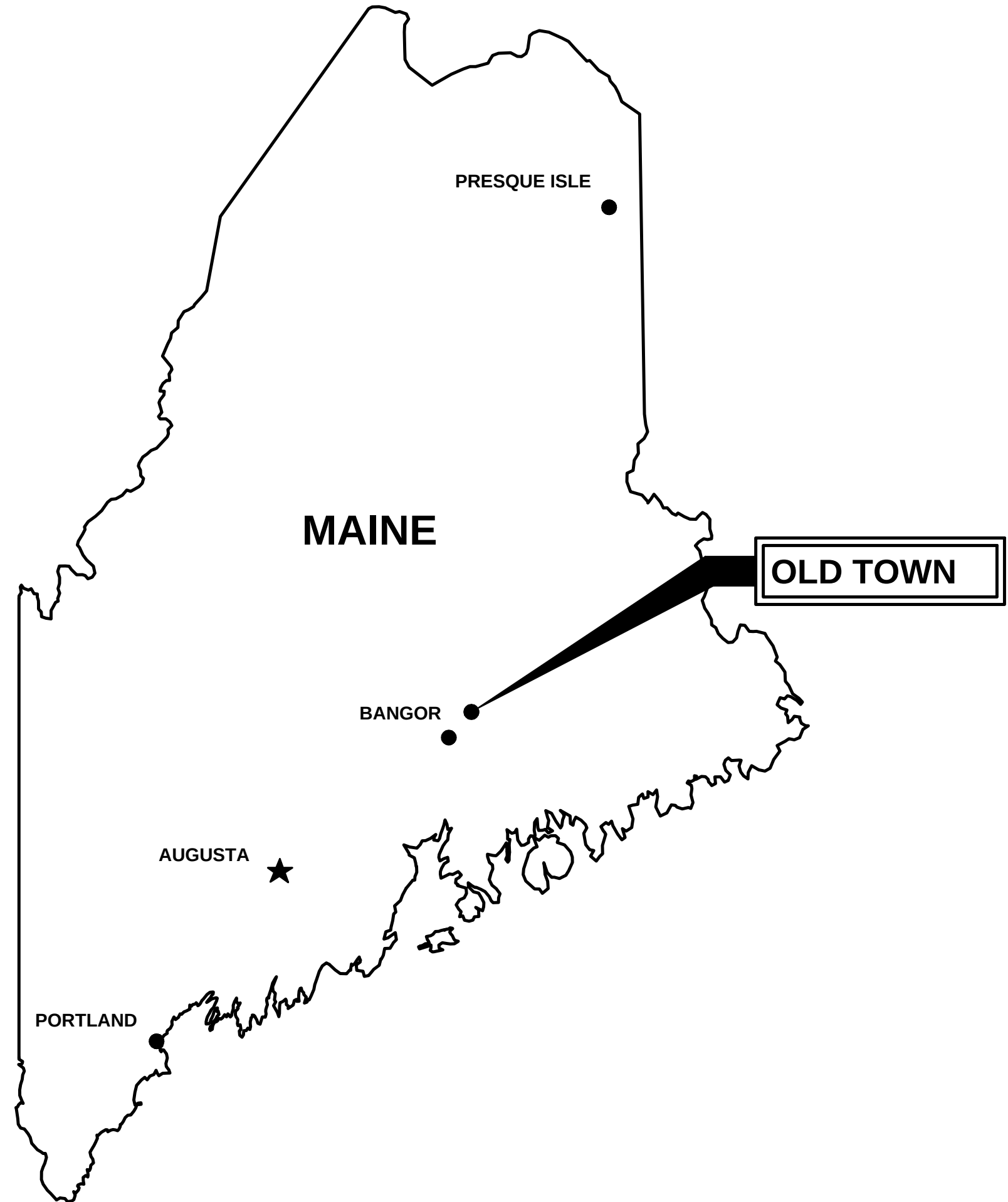
D = nominal diameter of pipe, in inches

P = average test pressure, in pounds per square inch

5. In addition to meeting the leakage testing above, all joints within chambers and all flanged joints shall have no visible leakage.
6. If the section fails to pass the pressure and leakage test, the Contractor shall do everything necessary to locate, uncover, and repair or replace the defective pipe, fitting, or joint, all at his own expense and without extension of time for completion of the work. Additional tests and repairs shall be made until the section passes the specified test.

END OF SECTION

CITY OF OLD TOWN, MAINE
CONTRACT DRAWINGS FOR
STILLWATER AVENUE PUMP STATION
PHASE B: TEMPORARY FORCE MAIN
FEDERAL AID PROJECT # 2189401
MAY 2023



DRAWING INDEX

GENERAL

COVER SHEET

CIVIL

C-1

C-2

GENERAL NOTES, LEGEND, ABBREVIATIONS, AND DETAILS
TEMPORARY FORCE MAIN PLAN



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GENERAL NOTES

1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
2. CONTRACTOR SHALL NOTE THAT, IN GENERAL, ALL EXISTING CONDITION INFORMATION ON THE DRAWINGS ARE SHOWN WITH A LIGHTER LINE WEIGHT AND WITH A SLANTED TYPE TEXT. REFER TO MAINE DOT DRAWINGS FOR ADDITIONAL INFORMATION ON BRIDGE STRUCTURE.
3. ALL EXISTING SEWER AND STORM DRAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. ANY EXISTING SEWERS, STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
4. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. DAMAGE TO ANY SUCH STRUCTURES CAUSED BY OR RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY.
5. FORCE MAINS SHALL SLOPE UNIFORMLY BETWEEN ELEVATIONS INDICATED ON THE DRAWINGS. NO CRESTS IN NEW PIPING WILL BE PERMITTED UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL BENDS SHALL BE SUITABLY RESTRAINED BY CAST-IN-PLACE CONCRETE THRUST BLOCKS. DUCTILE IRON RETAINER GLANDS MAY BE USED IN LIEU OF THRUST BLOCKS.

EXISTING SITE CONDITIONS

1. THE LOCATIONS OF UNDERGROUND UTILITIES AND STRUCTURES, AS SHOWN ON THE DRAWINGS, ARE APPROXIMATE AND MAY NOT BE COMPLETE. NO GUARANTEE IS MADE THAT UTILITIES OR STRUCTURES WILL BE ENCOUNTERED WHERE SHOWN, OR THAT ALL UNDERGROUND UTILITIES AND STRUCTURES ARE SHOWN. ALL LOCATIONS AND SIZES OF EXISTING UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD WITH TEST PITS AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION OF NEW FACILITIES OR PIPING THAT MAY BE AFFECTED. THE CONTRACTOR WILL REALIGN NEW PIPE LOCATIONS AS REQUIRED TO CONFORM TO EXISTING LINES AND AS APPROVED BY THE ENGINEER.
2. PRIVATE UNDERGROUND UTILITIES SUCH AS, BUT NOT LIMITED TO, SEWER LINES, WATER LINES AND BURIED ELECTRICAL SERVICE ENTRANCES ARE NOT SHOWN. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION AND SIZE OF EXISTING UTILITIES IN THE FIELD WITH THE RESPECTIVE UTILITY COMPANY REPRESENTATIVE PRIOR TO COMMENCING WORK. REFER TO MAINE DOT DRAWINGS AND SPECIFICATIONS REGARDING COORDINATION REQUIREMENTS.

SITE DEMOLITION

1. DEMOLISH/REMOVE EXISTING PIPING AS REQUIRED FOR CONSTRUCTION OF NEW FACILITIES. ALL PIPING, EQUIPMENT AND MATERIALS TO BE DEMOLISHED AND/OR REMOVED FROM SERVICE SHALL BE COORDINATED WITH THE OWNER AND ENGINEER BEFORE COMMENCING THAT WORK. EXISTING PIPING THAT NEEDS TO BE REMOVED TO CONSTRUCT THE NEW FACILITIES, BUT IS TO REMAIN, SHALL BE REINSTALLED/REPLACED AS NEEDED. EXISTING PIPES AND CONDUIT DESIGNATED AS "ABANDONED" MAY BE REMOVED IF THE CONTRACTOR SO CHOOSES. IF ABANDONED PIPE CONFLICTS WITH NEW SITE PIPING OR FACILITIES, THEN A PORTION OF THE ABANDONED PIPE SHALL BE REMOVED, AND THE NEW ENDS OF ABANDONED PIPE CAPPED OR PLUGGED WITH CONCRETE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ALL DEMOLISHED PIPING, EQUIPMENT AND MATERIALS. DISPOSAL SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS.
3. THE CONTRACTOR SHALL KEEP A RECORD OF DEMOLITION AS PART OF THE PROJECT RECORD DOCUMENTS IN ACCORDANCE WITH SPECIFICATION SECTION 01720.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE DISPOSAL OF FLOWS RESULTING FROM PRECIPITATION AND GROUNDWATER DEWATERING OPERATIONS.

SITE CLEARING, GRUBBING AND GRADING

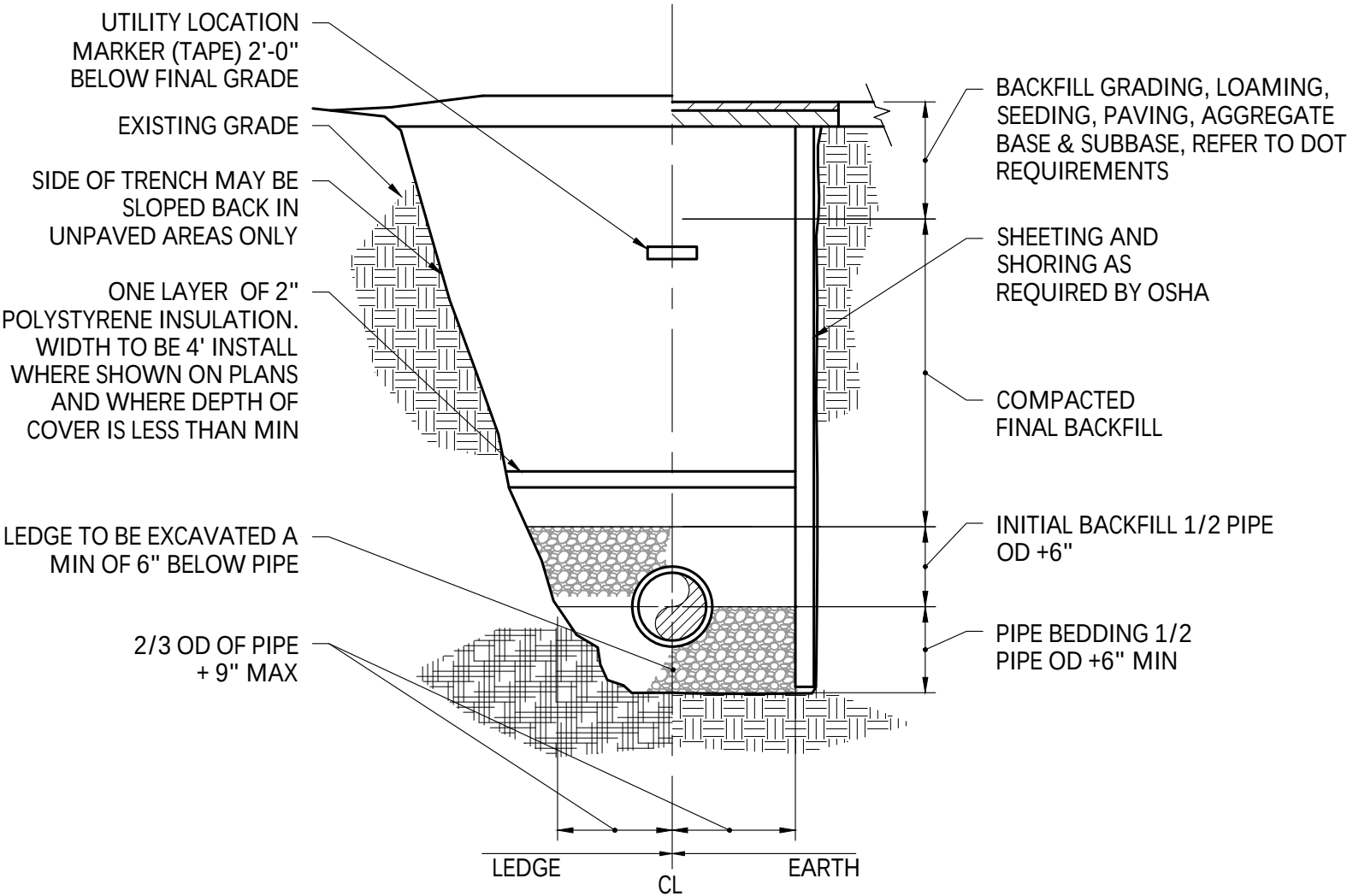
1. CONTRACTOR SHALL PROVIDE PROPER EROSION CONTROL AND DRAINAGE MEASURES IN ALL AREAS OF WORK. REFER TO MAINE DOT REQUIREMENTS FOR EROSION CONTROL.
2. THE CONTRACTOR SHALL NOT HAVE ANY RIGHT OF PROPERTY IN ANY MATERIALS TAKEN FROM ANY EXCAVATION. SUITABLE EXCAVATED MATERIAL MAY BE INCORPORATED IN THE PROJECT, WITH EXCESS MATERIAL DISPOSED OF AT A LOCATION PROVIDED BY THE CONTRACTOR. THESE PROVISIONS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF OBLIGATIONS TO PROPERLY DISPOSE OF AND REPLACE 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.

CIVIL SITE LAYOUT

1. FOR EASEMENTS, CONSTRUCTION LIMITS AND RIGHT OF WAY LINES, REFER TO THE MAINE DOT DRAWINGS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THIS PROVIDED LAYOUT INFORMATION THROUGHOUT THE COURSE OF CONSTRUCTION. REPORT ANY LAYOUT DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
3. IN GENERAL, THE GIVEN STRUCTURE LOCATIONS ARE TO THE OUTSIDE FACE OF THE STRUCTURE FOUNDATION WALL, NOT FOOTINGS. RADII SHOWN FOR ROADS ARE TO EDGE OF PAVEMENT.
4. WRITTEN DIMENSIONS SHALL PREVAIL. DO NOT SCALE DISTANCES FROM THE DRAWINGS. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
5. ALL ELEVATIONS REFER TO THE NAVD88 DATUM. SEWER FORCE MAIN DRAWINGS ARE BASED ON DOT SURVEY. REFER TO DOT DRAWINGS FOR INFORMATION ON COORDINATE SYSTEM AND PROJECT BENCH MARKS. CONTRACTOR SHALL VERIFY BENCHMARK ELEVATIONS PRIOR TO USING IN CONSTRUCTION.

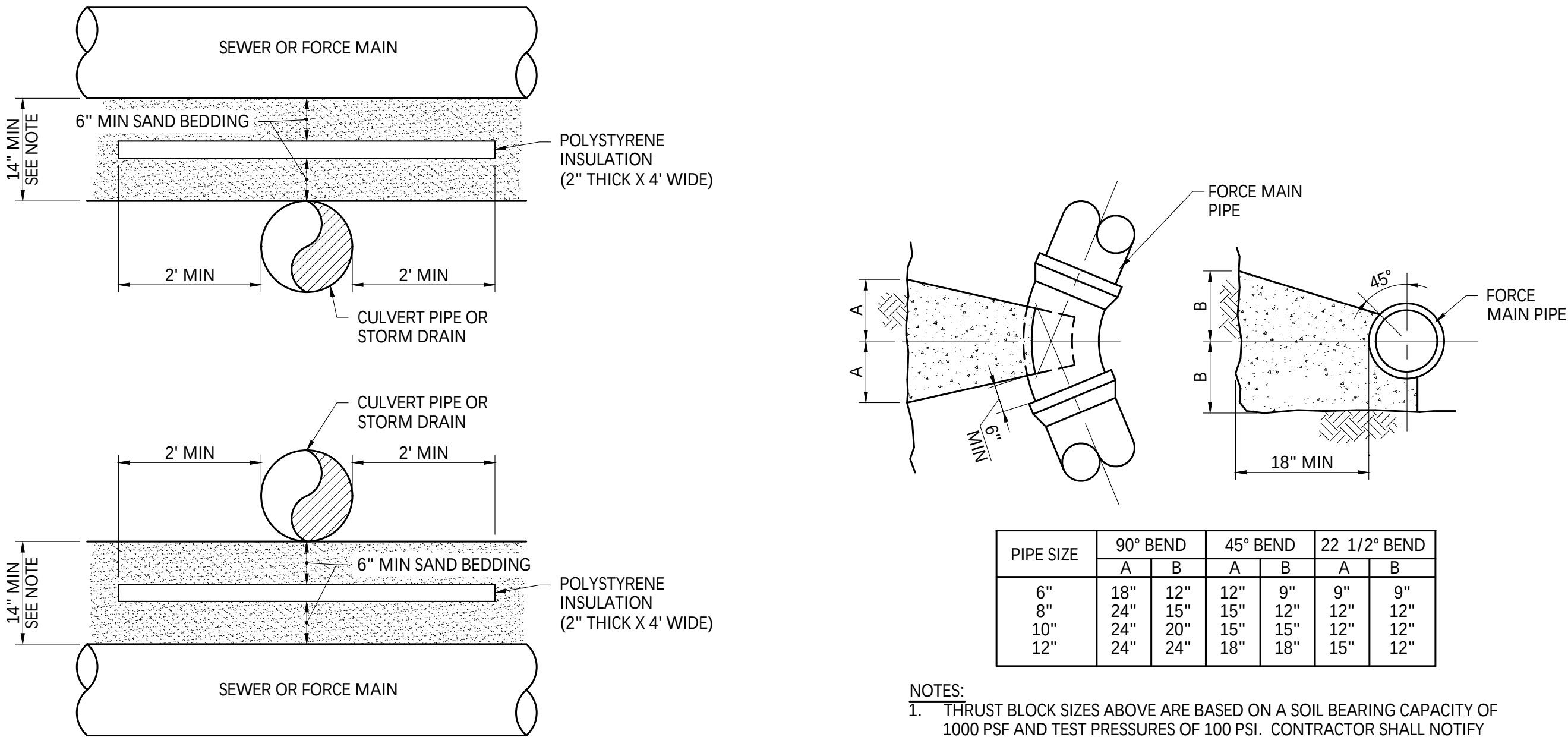
CIVIL SITE PIPING

1. TRENCH INSULATION SHALL BE USED WHERE DEPTH OF COVER IS LESS THAN 5.5-FEET. REFER TO THE CIVIL DETAIL DRAWINGS FOR THE TRENCH INSULATION DETAIL.
2. TRENCH INSULATION SHALL BE USED WHEN THERE IS LESS THAN 2-FEET BETWEEN THE SEWER OR FORCE MAIN AND A CULVERT. REFER TO THE CIVIL DETAIL DRAWINGS FOR THE TRENCH INSULATION DETAIL.
3. CONTRACTOR SHALL RE-SHAPE INVERTS AS REQUIRED WHEN CONNECTING INTO EXISTING MANHOLES.
4. REFER TO SPECIFICATION SECTION 02200 FOR PIPE AND STRUCTURE BEDDING AND BACKFILL REQUIREMENTS.
5. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS, AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE CONNECTION. CONTRACTOR SHALL VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION. TEST PITS SHALL BE USED AS REQUIRED.
6. ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE UNLESS OTHERWISE NOTED ON THE CIVIL EXISTING CONDITIONS AND DEMOLITION PLAN. ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.



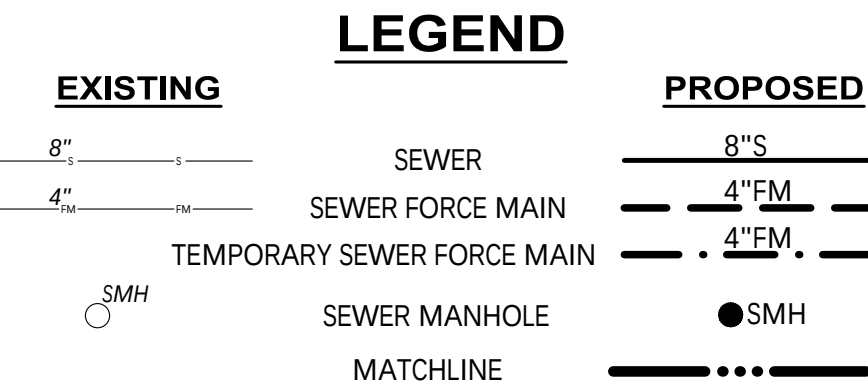
- NOTES:
1. ALL EXCAVATION MUST MEET OSHA STANDARDS.
2. SEE SPECIFICATIONS FOR BEDDING AND BACKFILL REQUIREMENTS.
3. PREINSULATED PIPE DOES NOT REQUIRE ADDITIONAL FOAM BOARD INSULATION

PIPE TRENCH
SCALE: "NTS"



- NOTES:
1. INSULATION TO BE USED WHERE PIPE SEPARATION IS 24" OR LESS.
2. PREINSULATED PIPE DOES NOT REQUIRE ADDITIONAL FOAM BOARD INSULATION

CULVERT PIPE / STORM DRAIN CROSSING
SCALE: NTS



- NOTES:
1. WORK BY OTHERS SHOWN IN THESE PLANS IS INDICATED BY THE FADED/LIGHT LINE WORK. REFER TO THOSE PLANS FOR EXISTING AND/OR PROPOSED WORK.
2. FOR ALL OTHER LEGEND SYMBOLS, AND ABBREVIATIONS, REFER TO MDOT DRAWINGS

CIVIL ABBREVIATIONS

CI	CAST IRON
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
DEMO	DEMOLITION
DMH	DRAIN MANHOLE
DI	DUCTILE IRON
DWG	DRAWING
EL	ELEVATION
FM	FORCE MAIN
FT	FEET
G	GAS
INV	INVERT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
N	NORTH
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
S	SLOPE, SEWER
SD	STORM DRAIN
SMH	SANITARY SEWER MANHOLE
STA	STATION
T, XFMR	TRANSFORMER
TOS	TOP OF STRUCTURE
TYP	TYPICAL

- NOTES:
1. THRUST BLOCK SIZES ABOVE ARE BASED ON A SOIL BEARING CAPACITY OF 1000 PSF AND TEST PRESSURES OF 100 PSI. CONTRACTOR SHALL NOTIFY THE ENGINEER IF LOW BEARING STRENGTH SOILS ARE ENCOUNTERED.
2. RETAINER GLANDS MAY BE USED IN LIEU OF THRUST BLOCKS ON DUCTILE IRON FORCE MAINS ONLY. INSTALL IN COMPLIANCE WITH DUCTILE IRON & PIPE MANUFACTURERS STANDARDS.

FORCE MAIN THRUST BLOCK
SCALE: "NTS"

APPD

DATE

REVISIONS

NO

△

△

△

△

△

PROJECT NO: 20593

DESIGNED: B.STILES

CAD COORD: D.METZ

CAD: D.METZ

CHECKED: DATE:

APPROVED: DATE:

SUBMISSION: CONTRACT DRAWINGS

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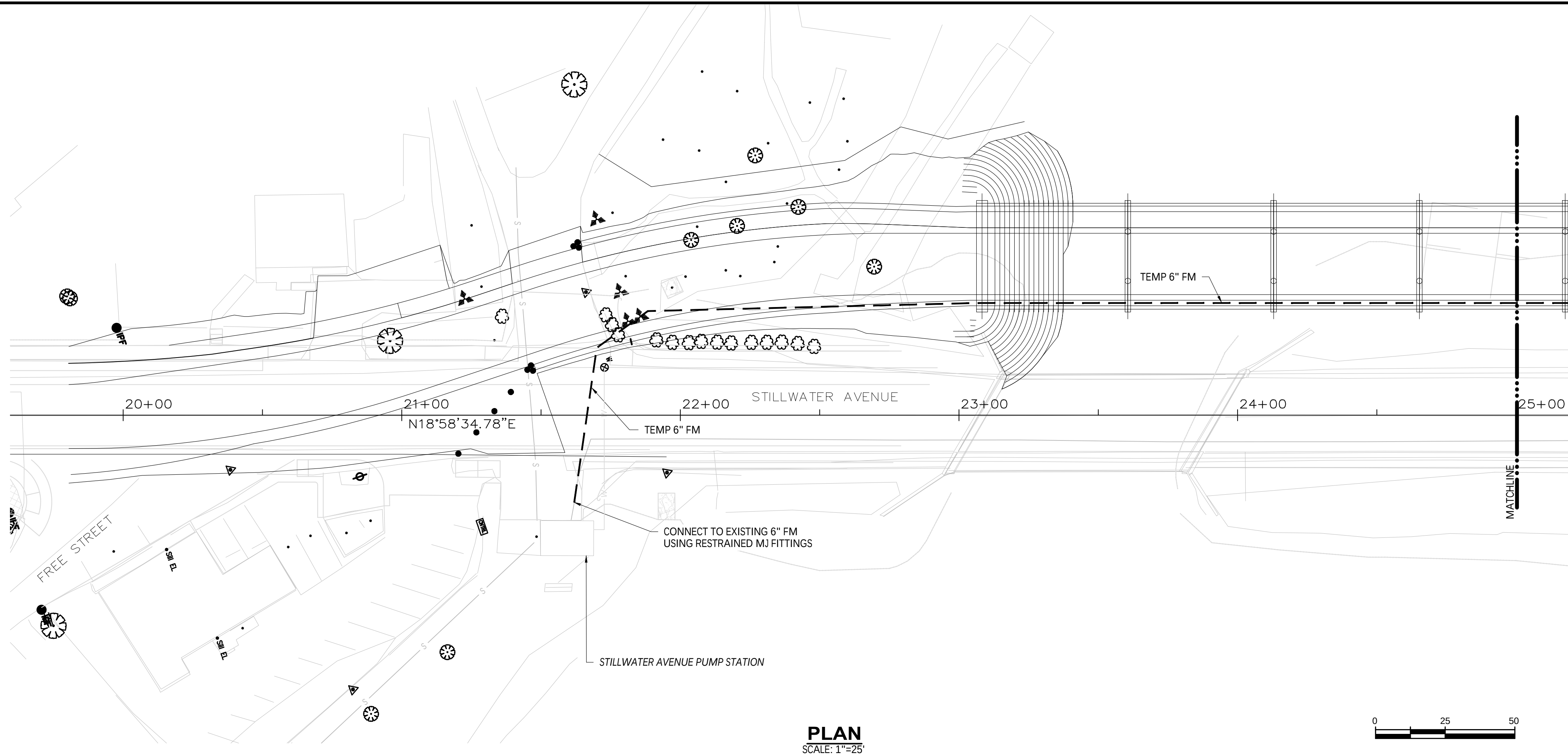
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

STILLWATER AVENUE
PUMP STATION
PHASE B: TEMPORARY FORCE MAIN

GENERAL NOTES, LEGEND, ABBREVIATIONS, AND DETAILS

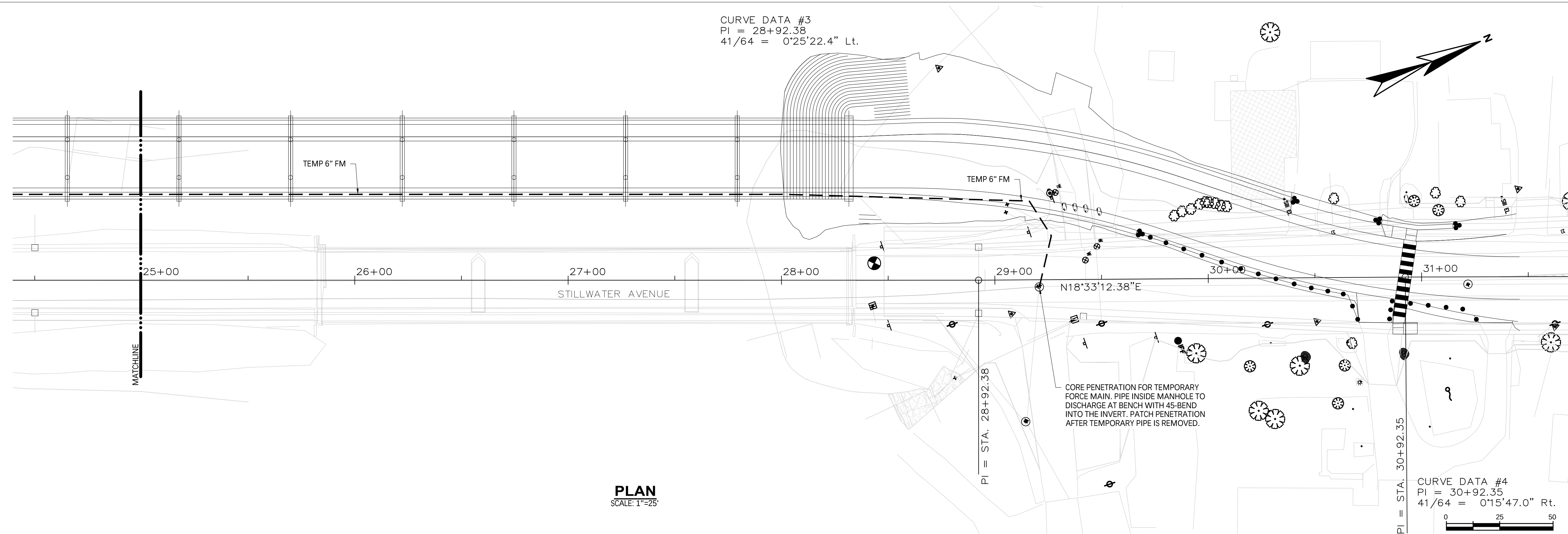
DRAWING

C-1



NOTES:

1. FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS REFER TO C-1
2. ALL BRIDGE AND ROADWAY WORK TO BE PERFORMED UNDER MDOT DRAWING SCOPE OF WORK. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS WITH BRIDGE AND ROADWORK COVERED UNDER MDOT DRAWINGS.



DRAWING	STILLWATER AVENUE PUMP STATION PHASE B: TEMPORARY FORCE MAIN	 207.725.8721 www.wright-pierce.com 11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086				PROJECT NO: 20593	NO	REVISIONS	APPD	DATE
	DESIGNED: B.STILES					△				
C-2	TEMPORARY FORCE MAIN PLAN					CAD COORD: D.METZ	△			
						CAD: D.METZ	△			
						CHECKED:	△			
						DATE:	△			
						APPROVED:	△			
						DATE:	△			
						SUBMISSION: CONTRACT DRAWINGS	△			



HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

PROJECT MANUAL

FOR THE

**OLD TOWN WATER DISTRICT
WATER SYSTEM IMPROVEMENTS
MDOT 22511.00, 22512.00 & 22950.00
OLD TOWN, MAINE**

Corporate Office

One Merchants Plaza
Suite 701
Bangor, ME 04401
T: 207.989.4824
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HALEYWARD.COM

MAY 2023
JN: 10345.003

**Prepared By:
Haley Ward**

One Merchants Plaza, Suite 701 | Bangor, Maine 04401

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DRAWINGS

C101 Proposed Water System Improvements

APPENDIX C

AIS Funding Agency Documents for an SRF Funded Utility Project Under a MaineDOT Project Contract



STATE REVOLVING FUND (SRF)

Utility Construction Contract Requirements To Supplement the Maine Department of Transportation (MDOT) General Conditions



Last Updates: October 2021

STATE REVOLVING FUND (SRF)
UTILITY CONSTRUCTION CONTRACT REQUIREMENTS
TO SUPPLEMENT THE
MAINE DEPARTMENT OF TRANSPORTATION
GENERAL CONDITIONS

Last Updates: October 2021

Utility Construction Supplementary Conditions

Gratuities

If Owner finds after a notice and hearing that Contractor, or any of Contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of Owner or Agency in an attempt to secure this Contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Contract, Owner may, by written notice to Contractor, terminate this Contract. Owner may also pursue other rights and remedies that the law or this Contract provides. However, the existence of the facts on which Owner bases such findings shall be an issue and may be reviewed in proceedings under the dispute resolution provisions of this Contract. In the event this Contract is terminated as provided in above paragraph, Owner may pursue the same remedies against Contractor as it could pursue in the event of a breach of this Contract by Contractor. As a penalty, in addition to any other damages to which it may be entitled by law, Owner may pursue exemplary damages in an amount (as determined by Owner) which shall not be less than three nor more than ten times the costs Contractor incurs in providing any such gratuities to any such officer or employee.

Environmental Requirements

When constructing a project involving trenching and/or other related earth excavations, Contractor shall comply with the following environmental constraints:

1. Floodplains – When disposing of excess, spoil, or other construction materials on public or private property, Contractor shall not fill in or otherwise convert 100 year floodplain areas delineated on the latest Federal Emergency Management Agency Floodplain Maps, or other appropriate maps, i.e., alluvial soils on NRCS Soil Survey Maps.
2. Endangered Species – Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of Contractor, Contractor will immediately report this evidence to Owner and a representative of Agency. Construction shall be temporarily halted

pending the notification process and further directions issued by Agency after consultation with the U.S. Fish and Wildlife Service.

Utility Construction Project Sign

At the start of the project, the Contractor shall provide and erect a project sign as detailed and specified in the attachment to these supplementary conditions. The location of the sign shall be as directed by the Engineer. No other contractor, subcontractor, or material references will be permitted on the sign. The Contractor shall maintain and keep the project sign in good condition until the work is completed when the sign will be removed. Provide adequate supports for the sign as site conditions may require and keep sign a proper distance above prevailing grade to permit public viewing.

Alternate methods of publicizing may be considered on a project specific basis for projects with a contract value less than \$250,000. Prior to the start of the project, the Contractor must obtain Agency approval, through the Owner, for use of a proposed method. Alternate methods that may be considered include: posters or wall signage on public buildings or at a public location, newspaper advertising, online signage, and press releases. Minimum public awareness requirements and sample language can be obtained from the Agency.

SRF Disadvantaged Business Enterprises Program

The contractor must maintain all records documenting its compliance with the requirements of this part, including documentation of its good faith efforts (such as copies of solicitation letters and emails) and data relied upon in formulating its fair share objectives.

1. During the bidding period, the Contractor is required to make the following good faith efforts if they will be awarding subcontracts:
 - (a) Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. This will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
 - (b) Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
 - (c) Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. This will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
 - (d) Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
 - (e) Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.

- (f) Employ the good faith efforts described above even if the prime contractor has achieved its fair share objectives under subpart D of this part.
- 2. The Contractor must comply with the following provisions when submitting their bid:
 - (a) The contractor must complete and submit SRF Form 6100-4, 'DBE Program Subcontractor Utilization Form' (copy attached) as part of the prime contractor's bid or proposal package to the Owner. Note, only DBE subcontractors should be listed. If no DBE subcontractors are to be used, the contractor must still complete and submit the form.
 - (b) The contractor must have each of its proposed DBE subcontractors complete the SRF Form 6100-3, 'DBE Program Subcontractor Performance Form' (copy attached). The completed forms must be submitted as part of the prime contractor's bid or proposal package to the Owner.
- 3. Prior to contract award, as the Successful Bidder, the Contractor must comply with the following provisions:
 - (a) The contractor must submit to the Owner documentation of its good faith efforts (such as copies of solicitation letters and emails) and data relied upon in formulating its fair share objectives. Solicitation documentation must include proof of receipt. The records must be submitted to the Owner even if the goals were met.
 - (b) The contractor must submit to the Owner a bidders list of all firms that bid or quote on subcontracts, including both MBE/WBEs and non-MBE/WBEs. The purpose of a bidders list is to provide contractors who conduct competitive bidding with as accurate a database as possible about the universe of MBE/WBE and non-MBE/WBE subcontractors. The list must include the following information:
 - (1) Entity's name with point of contact;
 - (2) Entity's mailing address, telephone number, and e-mail address;
 - (3) The procurement on which the entity bid or quoted, and when; and
 - (4) Entity's status as an MBE/WBE or non-MBE/WBE.
- 4. Following contract award, the Contractor must comply with the following additional provisions:
 - (a) The contractor must provide SRF Form 6100-2, 'DBE Program Subcontractor Participation Form' (copy attached) to all DBE subcontractors listed on Form 6100-4. SRF Form 6100-2 gives a DBE subcontractor the opportunity to describe the work the DBE subcontractor received from the prime contractor, how much the DBE subcontractor was paid and any other concerns the DBE subcontractor might have during the course of the project, for example, reasons why the DBE subcontractor believes it was terminated by the prime contractor. If DBE subcontractors choose to complete this form, the completed form should be given to the SRF Project Manager.
 - (b) Complete the SRF Progress Report of DBE Subcontractor Utilization Form (copy attached) for all contractor pay applications whether or not they include invoiced amounts

from DBE subcontractors. The progress report should be attached to the corresponding pay application for processing through the Owner.

- (c) Pay subcontractors for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the Owner.
- (d) Notify the Owner in writing prior to any termination of a DBE subcontractor for convenience by the prime contractor.
- (e) If a DBE subcontractor fails to complete work under the subcontract for any reason, the prime contractor must employ the good faith efforts described above if soliciting a replacement subcontractor. Documentation of good faith efforts shall be submitted to the Owner upon request.

American Iron and Steel (AIS) Requirements

The Contractor acknowledges, to and for the benefit of the Owner and the State (Maine Department of Environmental Protection and the Maine Department of Health and Human Services), that it understands the goods and services under this Agreement are being funded with monies made available by the State Revolving Fund (SRF) that have statutory requirements commonly known as "American Iron and Steel;" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contractor pursuant to this Agreement. See attached Public Law 113-76, Section 436. The Contractor hereby represents and warrants, to and for the benefit of the Owner and the State, that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Owner or the State. While the Contractor has no direct contractual privity with the State, as a lender to the Owner for the funding of its project, the Owner and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

The Owner shall maintain files on the project site for American Iron and Steel (AIS) manufacturer certifications. The Contractor and subcontractors shall provide step manufacturer certifications to the Owner for each AIS item delivered to the site. The files shall be made available to State and Federal officials for inspection upon request. See sample Step Manufacturer Certification attachment for information that should be included. The Contractor and its subcontractors shall submit to the Owner, an AIS Compliance Certification (see form attached) with each contractor pay application. The Owner, shall in turn, submit this certification from the Contractor, with their AIS Compliance Certification (see form attached), to the State with the SRF pay requisition. The nationwide waiver to the American Iron and Steel law permits the use of products when they occur in de minimis incidental components of such projects funded by the Act that may otherwise be prohibited under section 436(a). Funds used for such de minimis incidental components cumulatively may comprise no more than a total of 5 percent of the total cost of the materials used in and incorporated into a

project; the cost of an individual item may not exceed 1 percent of the total cost of the materials used in and incorporated into a project. It is the State's interpretation that all SRF projects will contain incidental components that might not comply with the law and therefore it is likely that the Owner will use the de minimis waiver. The Contractor is required to provide the necessary documentation. See attached sample de minimis tracking form. Owners should, in consultation with their contractors, determine the items to be covered by this waiver, must retain relevant documentation (i.e., invoices) as to those items in their project files, and must summarize the items to which this waiver is applied, the total cost of incidental components covered by the waiver, and the calculations by which they determined the total cost of materials used in and incorporated into the project. The Owner shall maintain files on the project site for this documentation. The files shall be made available to State and Federal officials for inspection upon request.

The Contractor shall refer to the attached guidance taken from an EPA Memorandum. Additional information regarding the AIS requirements can be found on this website http://water.epa.gov/grants_funding/aisrequirement.cfm

List of Attachments to the Utility Supplementary Conditions

(ALL attachments should follow this list)

- Utility Construction Project Sign Drawings
- Progress Report of DBE Subcontractor Utilization Form
- DBE Program Subcontractor Utilization Form - SRF 6100-2
- DBE Program Subcontractor Performance Form - SRF 6100-3
- DBE Program Subcontractor Participation Form - SRF 6100-4
- AIS Covered Products Q &A
- AIS Law
- AIS Certification by Owner
- AIS Certification by Contractor
- AIS Step Manufacturer Certification
- AIS De Minimis Tracking Form
- AD-1048 Certification Regarding Debarment

Select Utility Construction Project Sign Drawings As Appropriate

Temporary Utility Construction Sign for CWSRF Projects

WHITE BACKGROUND

Utility Project Title (include Town / District name)

Engineer:

Contractor:

Total Utility Project Cost:

Financed by:

**SRF Program: Maine Department of Environmental Protection
and Maine Municipal Bond Bank**

EPA United States Environmental Protection Agency

This institution is an equal opportunity provider

State Revolving Loan Fund

WAVE

BLUE, PMS 655 FADING TO 30% SCREEN
GREEN, PMS 627 @ 30% SCREEN DARKENING
TO 100% SCREEN THEN BACK TO 30% SCREEN

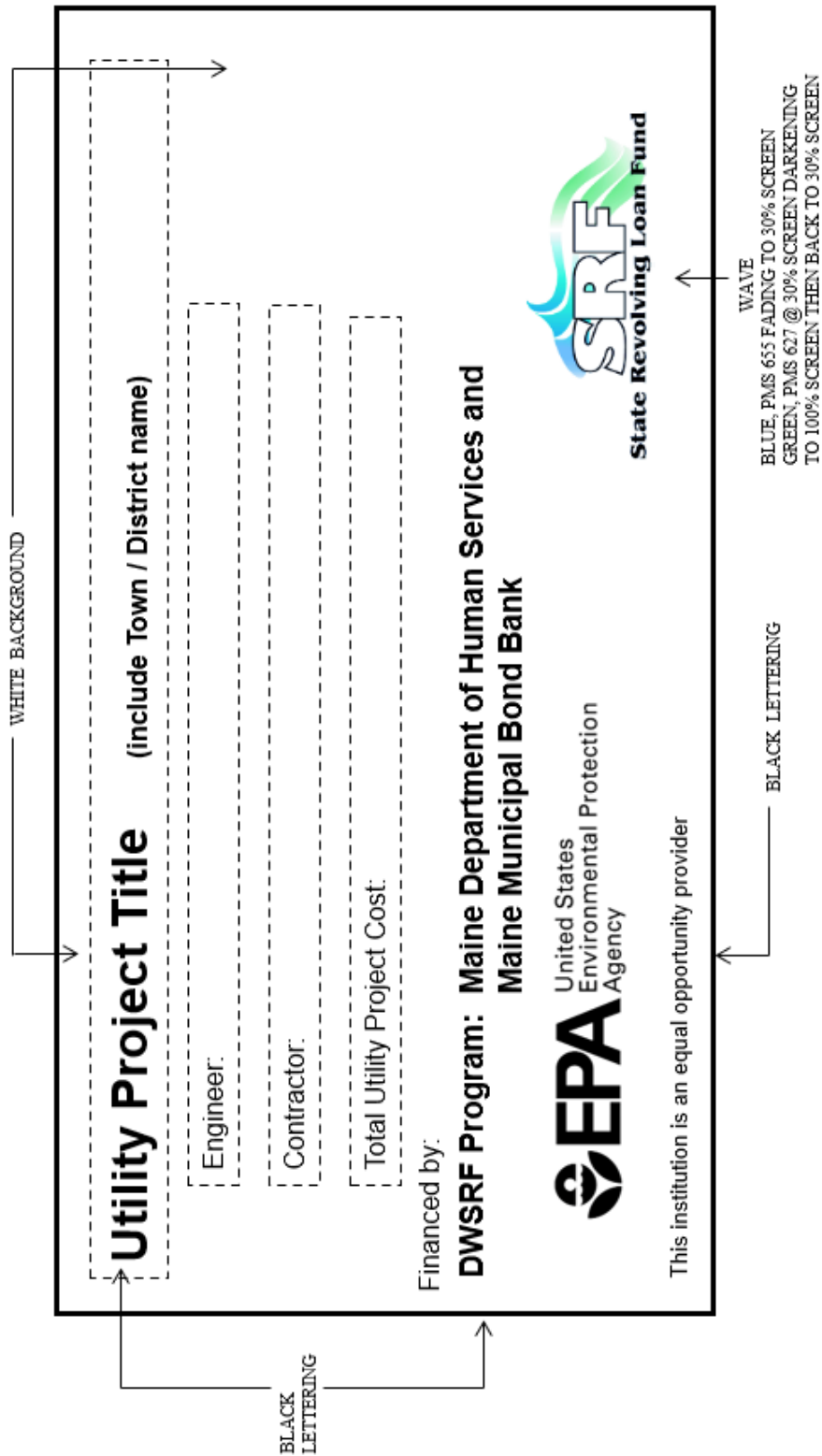
BLACK LETTERING

MINIMUM SIGN DIMENSIONS: 1200 x 2400 x 19 MM (4' x 8' x 3/4")

EXTERIOR PLYWOOD (A-B GRADE)

MINIMUM LETTERING SIZE: 5 CM (2-INCHES)

Temporary Utility Construction Sign for DWSRF Projects



MINIMUM SIGN DIMENSIONS: 1200 x 2400 x 19 MM (4' x 8' x 3/4")

EXTERIOR PLYWOOD (A-B GRADE)

MINIMUM LETTERING SIZE: 5 CM (2-INCHES)

Temporary Utility Construction Sign for CWSRF & DWSRF Projects

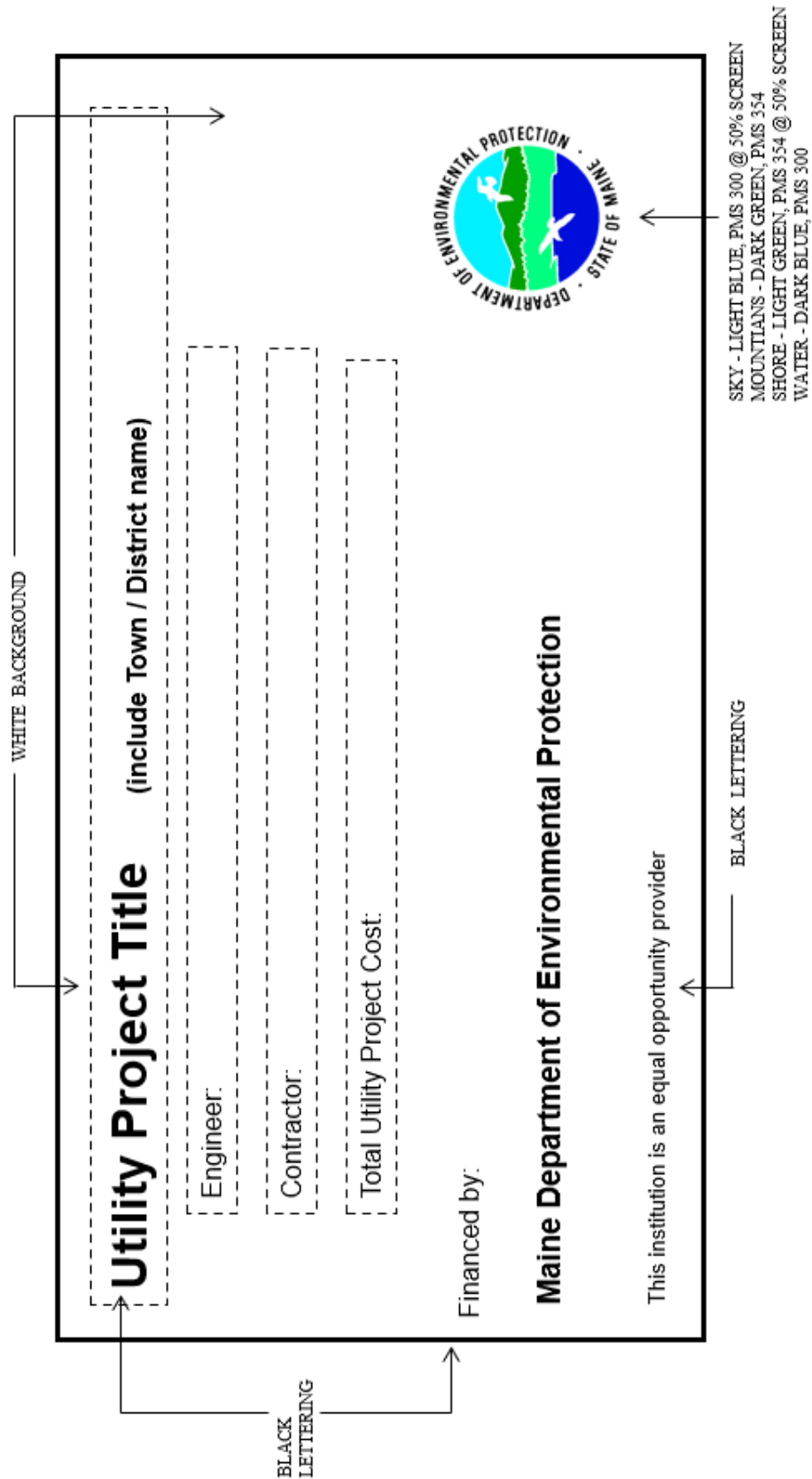


MINIMUM SIGN DIMENSIONS: 1200 x 2400 x 19 MM (4' x 8' x 3/4")

EXTERIOR PLYWOOD (A-B GRADE)

MINIMUM LETTERING SIZE: 5 CM (2-INCHES)

Temporary Utility Construction Sign for DEP Grant Projects



MINIMUM SIGN DIMENSIONS: 1200 x 2400 x 19 MM (4' x 8' x 3/4")

EXTERIOR PLYWOOD (A-B GRADE)

MINIMUM LETTERING SIZE: 5 CM (2-INCHES)



Disadvantaged Business Enterprise Program

(DBE) PROGRESS REPORT OF DBE SUBCONTRACTOR UTILIZATION FORM

TO ENSURE PROMPT PAYMENT THE FOLLOWING INFORMATION MUST BE SUBMITTED WITH ALL REIMBURSEMENT REQUESTS WHETHER THEY INCLUDE INVOICED AMOUNTS FROM A QUALIFYING WBE OR MBE PARTICIPANT OR NOT:

Municipality/District: _____ SRF #: _____

Name of Project: _____ Contractor: _____

Contractor's Payment Request No. _____ Period covered by the request _____

The accompanying Reimbursement Request includes the following WBE/MBE participation:

Name & Address of WBE/MBE firm to be paid	WBE	MBE	Source of Certification, i.e., DOT, EPA or SBA	Amount to be paid this request	Type of Work
	☐	☐			
	☐	☐			
	☐	☐			

This attachment must be signed by an authorized representative of the contractor.

Signature: _____ Date: _____

Name: _____ Title: _____

Address: _____

Phone: _____ E-Mail: _____



Disadvantaged Business Enterprise Program (DBE) Subcontractor Participation Form

DBE Subcontractor Participation Form) SRF FORM 6100-2, Page 1 of 2

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE¹ subcontractor² the opportunity to describe work received and /or report any concerns regarding the EPA-funded project (e.g. in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the DEP DBE Coordinator at any time during the project period of performance.

Subcontractor Name		Project Name	
Bid /Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services, Equipment or Supplies	Amount Received by Prime Contractor

¹A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

²Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

Please use the space below to report any concerns regarding the above EPA-funded project:

Subcontractor Signature	Print Name
Title	Date



Disadvantaged Business Enterprise Program (DBE) Subcontractor Participation Form

DBE Subcontractor Performance Form) SRF FORM 6100-3, Page 1 of 2

This form is intended to capture the DBE¹ subcontractor's² description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractors bid or proposal package.

Subcontractor Name		Project Name	
Bid /Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor

DBE Certified By: ☐ DOT ☐ SBA ☐ Other: _____	Meets/exceeds EPA certification standards? ☐ YES ☐ NO ☐ Unknown
--	---

¹A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

²Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

DBE Subcontractor Performance Form) SRF FORM 6100-3, Page 2 of 2

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form doesnot signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33Section 33.202 (c).

Prime Contractor Signature	Print Name
Title	Date

Subcontractor Signature	Print Name
Title	Date



Disadvantaged Business Enterprise Program (DBE) Subcontractor Participation Form

DBE Subcontractor Utilization Form) SRF FORM 6100-4, Page 1 of 2

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE¹ subcontractors² and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name		Project Name	
Bid /Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Issuing/Funding Entity:			

I have identified potential DBE certified subcontractors	☐ _ YES	☐ _ NO	
If yes, please complete the table below. If no, please explain:			
Subcontractor Name/Company Name	Company Address/Phone/Email	Est. Dollar Amt.	Currently DBE Certified ?

¹A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

²Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award or financial assistance.

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Section 33.202 (c).

Prime Contractor Signature	Print Name
Title	Date

Link to AIS Covered Products Q & A

<https://www.epa.gov/cwsrf/american-iron-and-steel-requirement-guidance-and-questions-and-answers>



From the “Consolidated Appropriations Act, 2014”

H.R. 3547 (PL113-76, enacted 1/17/2014)

USE OF AMERICAN IRON AND STEEL

“SEC. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j–12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works 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 Administrator of the Environmental Protection Agency (in this section referred to as the “Administrator”) 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 and 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 Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator 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 Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

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

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency’s capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.”



CERTIFICATION BY THE OWNER
OF COMPLIANCE WITH THE
USE OF AMERICAN IRON AND STEEL LAW
enacted on 1/17/2014

(To be attached to each Utility Construction SRF requisition submitted for payment)

We, the Owner named, _____, having obtained funding from the State of Maine, State Revolving Fund (SRF), for the Utility Construction Project named _____, hereby submit to the SRF program, certification from each contractor working on the Utility Construction Project that the use of American Iron and Steel in the construction of the project complies with the law, or that a waiver has been obtained from the U.S. Environmental Protection Agency. Thereby, it is to the best of the Owner's knowledge that the costs being requested with this SRF requisition # _____ are in compliance with the Use of American Iron and Steel Law.

Signature of Official

Printed name

Date

Attachment: Certification by Contractor



CERTIFICATION BY CONTRACTOR
OF COMPLIANCE WITH THE
USE OF AMERICAN IRON AND STEEL LAW
enacted on 1/17/2014

(To be attached to each Utility Construction payment application)

We, the Prime Contractor and Subcontractors, as named below, hereby certify that the use of American iron and steel in the utility construction of the Project named _____, being requested in the Utility Construction payment application (or invoice) # _____ and dated _____, complies with the Use of American Iron and Steel Law, or that a waiver been obtained from the U.S. Environmental Protection Agency.

Prime Contractor Name: _____

Signature of Official

Printed name

Date

Subcontractor Name

Signature of Official

Date



Sample Step Manufacturer Certification

(Documentation must be provided on company letterhead)

Date _____

Company Name _____

Company Address _____

City, State Zip _____

Subject: American Iron and Steel Step Manufacturer Certification

Project Name _____

I, _____ (company representative), certify that the _____ (melting, bending, coating, galvanizing, cutting, etc.) process for _____ (manufacturing or fabricating) the following products and/or materials shipped or provided for the project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. _____

2. _____

3. _____

Such process took place at the following location: _____(address)

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Company representative

Signature

Date

AIS De Minimis Tracking Form

State Revolving Fund (SRF) & Rural Development Projects

American Iron and Steel - De Minimis Tracking Form

The EPA has issued a public interest waiver for De Minimis incidental components. An Owner wishing to use this waiver should consult with their contractor(s) to maintain an itemized list to track the components covered under De Minimis. The Owner may create their own format for the list or use this sample form.

Owner: _____ Loan #: _____

Project Name: _____

NOTE: The De Minimis waiver is only applicable to the cost of materials for the entire project. Do not include other project costs (labor, installation costs, etc.) in the "Total Cost of Materials". The total cost of a material may be based on estimated, or if available, actual costs.

Funds used for de minimis incidental components cumulatively may comprise no more than a total of 5 percent of the total cost of the materials used in and incorporated into a project; the cost of an individual item may not exceed 1 percent of the total cost of the materials used in and incorporated into a project.

Total Cost of Materials: _____ 5% Limit: _____ 1% limit: _____

Manufacturer & Component Description	Part/Model #	Quantity (if applicable)	Cost per Unit (if applicable)	Component's Total Cost	Invoice or receipt attached	Backup Link

Use additional sheets as necessary

**Total Cost of Components
deemed to be De Minimis:**

Completed by:

Company: _____

Name: _____

Title: _____

Signature: _____

Date: _____

Appendix C Page 23 of 25

UTILITY POLICY No. 2021-1

AMERICAN IRON AND STEEL VS. BUY AMERICA REQUIREMENTS FOR
UTILITY WORK PERFORMED UNDER MAINEDOT PROJECT CONTRACTS

This form is available electronically.

Form Approved – OMB No. 0505-0027

Expiration Date: 04/30/2022



Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion AD-1048 Lower Tier Covered Transactions

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.)

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;

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, audiotope, 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 \(https://www.ascr.usda.gov/filing-program-discrimination-complaint-usda-customer\)](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.

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 SCOPE

- A. Payment for various items shown on the Bid Schedule, as further specified herein shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies, materials and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the work all in accordance with the requirements of the Contract Documents, including all appurtenances, thereto, and including all costs of compliance with the regulations of public agencies having jurisdiction. No separate payment will be made for any item that is not specifically set forth in the Bid Schedule, and all costs, therefore, shall be included in the prices named in the Bid Schedules for the various appurtenant items of work.

1.2 METHOD OF MEASUREMENT AND PAYMENT

Item 801.03: Test Pits

Each Test Pit shall be measured for payment as one unit, for providing all labor and equipment to perform the test pits, as required for the project.

Payment for the Test Pit will be at the contract unit price in the Bid Schedule under Item No. 801.03, which price shall be full compensation for all labor, equipment, materials, and incidentals required to perform the test pit. This item shall include the removal and disposal of the pavement, excavating, recording pertinent information, backfilling and compacting the test pit and surface restoration. Test pits must be authorized by the Engineer prior to performing. Failure to receive authorization from the Engineer prior to performing the test pit will result in no payment for the test pit.

Item 824.31: Remove Hydrant

Remove Hydrant shall be considered a lump sum item for providing all labor, equipment, tools and materials to remove and reset the hydrant as specified in the bid documents.

Payment to Remove Hydrant shall be made at the contract unit price in the Bid Schedule under Item No. 824.31 and shall be full compensation to include all labor, equipment, tools and materials to remove and store the existing hydrant assembly, saw cutting, excavation, shoring/bracing, removing and disposing existing pipe, restraining thrust with rods, restrained joint fittings, mega-lug fittings, capping existing water mains (as applicable), as shown on the Drawings

or required by field conditions.

Item 822.305: Water Main Insulation and Jacketing

Water Main Insulation and Jacketing measured for payment shall be the number of linear feet of Water Main Insulation and Jacketing procured as measured by the Engineer horizontally along the centerline of the pipe, accepted in accordance with the bid documents.

Payment for Water Main Insulation and Jacketing shall be at the contract unit price in the Bid Schedule under Item No. 822.305. The contract unit price per linear foot of pipe shall be full compensation for procuring the material including all labor and equipment required to satisfactorily complete the purchase.

Item 825.60: 12-Inch SDR 11 HDPE Water Main

Pipe measured for payment shall be the number of linear feet of 12-Inch SDR 11 HDPE Water Main as measured by the Engineer horizontally along the centerline of the pipe, installed and accepted in accordance with the Contract Documents.

Payment for 12-Inch SDR 11 HDPE Water Main shall be at the contract unit price in the Bid Schedule under Item No. 825.60. The contract unit price per linear foot of pipe shall be full compensation for purchasing the pipe including all labor, materials, and equipment required to satisfactorily complete the purchase.

Item 910.301: Special Work, Temp Water Main Installation

Special Work, Temp Water Main Installation shall be considered a lump sum item for providing all labor, equipment, tools and materials to provide temporary water to domestic connections, and all other incidentals including sub-surface tie-ins to existing service lines, including fittings, valves and valve boxes, protection of temporary lines at road crossings and driveways, expansion couplings, mitigation of pedestrian hazards, provision of individual service shut-off valves, tie-in to supply hydrants, disinfection of temporary lines, maintenance of the temporary system during construction, and removal of the system once permanent service is installed, complete in place, as specified, shown on the Drawings or required by field conditions. This item shall also include all labor, equipment, tools and materials to install two sixteen-inch gate valves and valve boxes, painting, restraining thrust with rods, mega-lug fittings or concrete thrust blocks, blocking, bedding, backfill and compaction, and all other incidentals necessary to install valves, complete in place, as specified, shown on the Drawings or required by field conditions.

Payment for Special Work, Temp Water Main Installation shall be at the contract unit price in the Bid Schedule under Item No. 910.301. The lump sum contract price shall be full compensation to complete Special Work, Temp Water Main Installation.

END OF SECTION

SPECIAL PROVISION
SECTION 801 – TEST PITS

Description: This work shall consist of furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to perform the excavation and restoration, if required, of test pits for the purpose of locating underground utilities and investigating soil types and conditions. These test pits shall be excavated to a depth not to exceed 10 feet, where shown on the drawings, or as directed by the Engineer.

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Test pits to locate underground utilities.
- B. Test pits to investigate soil conditions.

1.2 MATERIALS

- A. Where test pits have been ordered or as directed by the Engineer, restoration materials, as required, shall be in conformance with all applicable requirements.

1.3 SUBMITTALS

- A. Contractor to submit information gathered from the test pit to the Owner and Engineer. Information shall include but not limited to: utility size, material, and elevation; soil classification, condition, and elevations.

PART 2 – EXECUTION

2.1 GENERAL

- A. Contractor shall be responsible for means and methods necessary to excavate the test pit to the depth indicated by the Engineer.
- B. Restoration
 1. Test pits in paved areas shall be restored to their original condition and shall match existing gravel and pavement depth.
 2. Test pits in lawn areas shall be restored to the original condition with a minimum of 4-inches of loam.
 3. Where permanent restoration is not required due to impending construction activities, the area will be maintained at grade using materials necessary to provide a safe surface for pedestrian and vehicular traffic, as approved by the Engineer. Contractor shall be responsible for maintaining test pit restoration throughout the construction of the project.

END OF SECTION

SPECIAL PROVISION
SECTION 822 - PUBLIC WATER UTILITY DISTRIBUTION PIPING

Description: This work shall consist of the installation of temporary public water utility distribution piping in reasonably close conformity with the lines and grades shown on the plans or established. The installation shall include the assembly of all components, materials, and the completion of incidental work in accordance with the plans and specifications.

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Installation of temporary water mains and fittings.
- B. Flushing.
- C. Disinfection of temporary distribution system.
- D. Testing.

1.2 REFERENCE STANDARDS

- A. ANSI A21.4 Cement-mortar lining for ductile iron pipe and fittings for water.
- B. ANSI A21.10 Ductile iron and gray iron fittings 2 in. through 48 in. for water and other liquids.
- C. ANSI A21.11 Rubber-gasket joints for ductile iron and gray iron pressure pipe fittings.
- D. ANSI A21.50 Thickness design for ductile iron pipe.
- E. ANSI A21.51 Ductile iron pipe, centrifugally cast in metal molds or sand-lined molds, for water and other liquids.
- F. ANSI A21.53 Ductile iron compact fittings, 3 in. through 16 in. for water and other liquids.
- G. ANSI B18.2.1 Square and hex bolts and screws, including askew head bolts, hex cap screws, and lag screws.
- H. ASTM D3035 Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
- I. ASTM D3350: Standard Specification for Polyethylene Plastic Pipe and Fittings Materials.
- J. ANSI/AWWA C110/A21.10 Ductile Iron Tapping Saddles.
- K. AWWA C600 Installation of ductile iron water mains and their appurtenances.

- L. AWWA C651 Standard for Disinfecting Water Mains.
- M. AWWA C800 Underground Service Line Valves and Fittings
- N. AWWA C906 Standard for Polyethylene (PE) Pressure Pipe and Fittings, 4" (100 mm) through 63" (1,575 mm) for Water Distribution and Transmission.

1.3 SUBMITTALS

- A. Manufacturer's Literature: Supply copies of descriptive literature and recommendations for installation.
- B. Certificates: Supply copies of manufacturer's certification that supplied products comply with specification requirements.
- C. Testing Procedure: Indicate proposed methodology in advance for approval of Engineer and local utility district.
- D. Test Reports: Indicate results comparative to specified requirements.
 - 1. Certificate: Certify that cleanliness of water distribution system meets or exceeds specified requirements.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver products on manufacturer's original skids, or in original unopened protective packaging. Remove materials by lifting or skidding. Do not drop any materials.
- B. Store materials in the areas to prevent physical damage.
- C. Protect material during transportation and installation to avoid physical damage.

1.5 PROJECT RECORD DOCUMENTS

- A. Accurately record location of pipe runs, elbows, valves, and other appurtenances.
- B. Disinfection report:
 - 1. Type and form of disinfectant used.
 - 2. Date and time of disinfectant injection start and time of completion.
 - 3. Test locations.
 - 4. Initial and 24-hour disinfectant residuals (quantity in treated water) in parts per million (ppm) for each outlet tested.
 - 5. Date and time of flushing start and completion.
 - 6. Disinfectant residual after flushing in ppm for each outlet tested.
- C. Bacteriological report; record:
 - 1. Date issued, project name, and testing laboratory name, address, and telephone number.
 - 2. Time and date of water sample collection.
 - 3. Name of person collecting samples.
 - 4. Test locations.

5. Initial and 24-hour disinfectant residuals in ppm for each outlet tested.
6. Certification that water conforms, or fails to conform, to bacterial standards of State Public Health Department.
7. Bacteriologist's signature and authority.

PART 2 – PRODUCTS

2.1 GENERAL

- A. All materials, components, products, systems and coatings that come into contact with drinking water must be certified to meet NSF/ANSI Standard 61.
- B. The Contractor will supply the required pipe, fitting, and mechanical joint fasteners for the water distribution piping. It is the responsibility of the Contractor to adequately store the materials.

2.2 PIPE (BURIED)

- A. High Density Polyethylene (HDPE) Pipe, Conforming to ASTM D3035 and D3350.
 1. Class: PE 3408. PE 345434C
 2. SDR 11.
 3. Joints: Butt fusion weld or Electrofusion coupling
 4. Nominal Size: As indicated on Contract Drawings.
- B. Ductile Iron: Class 52, double cement lined pipe, conforming to ANSI A21.50, A21.51, and A21.4.
 1. Joints shall be rubber gasketed push-on or mechanical joint type. Gaskets shall be made of SBR Rubber. For water main located within petroleum hydrocarbon and/or chlorinated solvent contaminated soils, gaskets shall be made of oil resistant Buna-N (Nitrile) Rubber. When contaminated soil is encountered unexpectedly in the field, Contractor shall immediately notify the Engineer. All joints shall be in conformance with the requirements of ANSI/AWWA C111/A21.11.
 2. All pipe and fittings: Cement and mortar lined and bituminous seal coated per ANSI A21.4 except:
 - a. Cement lining thickness of 1/8 inch with plus 1/8 inch tolerance.
 3. Pipe and fitting exteriors: Zinc coated in accordance with ISO 8179-1 with Asphaltic Top Coat per AWWA C151, C110, and C153.
 4. Nominal Size: As indicated on Contract Drawings.

2.3 FITTINGS

- A. High Density Polyethylene (HDPE)
 1. Fittings: Same material as pipe, molded or formed to suit pipe size and end design, in required "T", bends, elbows, cleanouts, reducers, traps, and other configurations required. Polyethylene fittings to be minimum SDR 11 if fabricated rather than molded.
 2. All PE pipe connections to fittings or valves of differing materials shall be by an Engineer approved PE Mechanical Joint Adapter. Flanges and MJ adapters shall have a material designation code of PE4710. Flanges shall be made in accordance with ASTM F2880. MJ adapters shall be made to ASTM D3261. Flanges and MJ

adapters shall have a pressure rating equal to the pipe to which it is joined unless otherwise specified on the plans. Markings for molded or machined flange adapters or MJ adapters shall be per ASTM D3261. MJ adapters are the preferred connection method over mechanical fittings.

B. Ductile Iron:

1. Conform to ANSI A21.10 or A21.53, mechanical joint (MJ) with GripRing™ restraints or equal.
2. Rubber Gasket Joints: Conform to ANSI A21.11.
3. Fitting exteriors: Zinc coated in accordance with ISO 8179-1 with Asphaltic Top Coat per AWWA C151, C110, and C153.
4. Mechanical Joint Accessories: "T" type bolts, 3/4 inch, COR-TEN or equal.

2.4 RETAINER GLANDS

- A. Mechanical joint retainer glands shall be heavy duty ductile iron body, UL or FM approved, and shall have a minimum working pressure rating as follows:

4-inch	350 psi
6-inch	350 psi
8-inch and larger	250 psi

Set screws shall be either "Cor-Ten" steel, ductile iron, or approved equal. The number of set screws shall be equal to or greater than the number of nominal diameter of the gland (i.e. four- inch, four sets of screws; six-inch, six set of screws). GripRings are acceptable replacements for retainer glands for sizes 4" - 12". Larger than 12", Romac RomaGrips may be used. GripRings are not a replacement for thrust blocks. Megalugs are NOT acceptable.

2.5 BEDDING MATERIAL

- A. Bedding material for HDPE and ductile iron water main shall be the following:
1. Sand: Shall be well graded coarse sand without excessive fines and free from loam, clay, and organic matter. Beach sand shall not be used. The grading requirements are as follows:

<u>Sieve Size</u>	<u>Weight Passing (%)</u>
3/8"	100
No. 4	95-100
No. 16	50- 85
No. 50	0-30
No. 100	2-10

PART 3 - EXECUTION

3.1 GENERAL

- A. Locate no water line in same trench as sewer line unless:
1. Water line rests on solid upper shelf at trench side.

2. 18-inch vertical separation between top of sewer pipe and bottom of water pipe.
 3. Horizontal separation between pipes:
 - a. 10-feet minimum typically.
 - b. 5-feet under extenuating circumstances such as trench ledge, providing required vertical separation occurs.
- B. Contractor to furnish swing tie measurements for all services. Swing ties shall be measured from permanent structures; i.e. buildings, utility poles, hydrants, etc.

3.2 INSTALLATION

- A. Conform to Manufacturer's recommendation and AWWA Standard C600 and AWWA M55 Chapter 10, and PPI Handbook of Polyethylene Pipe Chapter 2, unless otherwise noted.
- B. Water Main Trenches: In accordance to details as shown by Contract Drawings unless otherwise directed.
 1. Backfill compaction: 95% of modified proctor.
 2. Select material: Notice soil classified as suitable material from trench excavation free of rocks, foreign material, and frozen earth.
- C. Lay no pipe directly on ledge or rock.
- D. Provide bells with bell-hole to remove stress of backfill on unsupported pipe lengths.
- E. Place no rocks or ledge larger than 2-inches within 6 inches of DI pipe.
- F. Place backfill in maximum 12-inch compacted lifts
- G. Increase compaction of successive lifts.
- H. Do not displace or damage pipe during compaction.
- I. Continue backfill placement to grade.
- J. Top of trench to be finished and or prepared for paving.
- K. Protect pipes against impact shocks and free falls.
 1. Remove and replace damaged pipe.
 2. Place and tamp sufficient bedding material over and around pipe to prevent damage and movement.
- L. Watertight plug open pipe ends when pipe laying not in progress.
- M. Joint deflection not to exceed 5 degrees.
- N. Install additional fittings as required for utility crossings.
- O. Use solid sleeves only with Engineer's approval.

- P. Cut pipe by mechanical methods without damage to pipe or cement lining leaving smooth end at right angles to axis of pipe.
- Q. Bevel cut pipe ends for use with a rubber joint conforming to manufactured spigot end.
- R. Install (4) four bronze wedges at all bell and spigot joints.
- S. Install concrete thrust blocks at fittings.
 - 1. Pour concrete backfill directly against undisturbed earth.
 - 2. Utilize retainer glands on branch line side of fittings.
 - 3. Schedule for thrust stock size provided on Contract Drawings.
- T. Clean pipe of all debris, e.g. rocks, gravel, etc., prior to making connection to existing water main.
- U. Installation of Tracer Wire. The Contractor shall be required to install #12 AWG tracer wire along the entire section of pipeline and along all service connections. The tracer wire shall be installed simultaneously with the polyethylene piping system. Tracer wire shall be properly spliced at each end connection and each service connection. Care should be taken to adequately wrap and protect wire at all splice locations. No bare tracer wire shall be accepted. Provide Magnesium alloy anode for cathodic protection that conforms to the requirements of ASTM B843. Install tracer wire per local and manufacturer's requirements.

3.3 JOINTING PIPE

- A. Joint pipe according to manufacturer's instruction.
- B. Mechanical joint fittings.
 - 1. Place gland and gasket over insertion pipe end.
 - 2. Mechanically fasten to bell end with "T" bolts.
 - 3. Deflect joints after assembly and before bolt tightening.
 - 4. Tighten bolts to 75-90 ft-lbs of torque (normal range for 4 to 24 inch diameter pipe with $\frac{3}{4}$ inch bolt size).
 - a. Tighten to normal bolt torque range.
 - b. Maintain same distance between gland and face of flange by partially tightening bolts on opposite sides of the joint until all bolts are within the appropriate range of torque.

3.4 VALVE INSTALLATION

- A. Set and join valves to pipe in accordance with manufacturer's instructions.
- B. Set valve box plumb with cover flush with finish grade or as otherwise directed.

3.5 FLUSHING

- A. Prior to testing and disinfection, flush the main to remove particulates. The flushing velocity in the main shall be no less than 2.5 feet/second unless the Engineer determines that conditions do not permit the required flow.

- B. The following table indicates rates of flow required to produce a velocity of 2.5 feet /second in pipes of various sizes.

REQUIRED FLOW and OPENINGS to FLUSH PIPELINES (40 psi residual pressure in water main)*					
Pipe Size	Flow Required to Produce 2.5 ft/s (approx.) Velocity in Main	Size of Tap (Inches)			Number of 2.5 in. Hydrant Outlets*
		1"	1.5"	2"	
		Number of Taps on Pipe†			
4"	100 gpm	1	-	-	1
6"	200 gpm	-	1	-	1
8"	400 gpm	-	2	1	1
10"	600 gpm	-	3	2	1
12"	900 gpm	-	-	2	2
16"	1600 gpm	-	-	4	2

* With a 40-psi pressure in the main with the hydrant flowing to atmosphere, a 2½" hydrant outlet will discharge approximately 1,000 gpm and a 4½" hydrant outlet will discharge approximately 2,500 gpm.

† Number of taps on pipe based on discharge through 5 feet of galvanized pipe with one 90° elbow.

- C. Accomplish flushing by partially opening and closing valves and hydrants several times under expected line pressure.
- D. Contractor shall coordinate energizing the main for flushing with the Old Town Water District.

3.6 TESTING

- A. Contact local utility prior to all testing. Provide all labor, equipment, material, gauges, pumps, etc., to test for leaks in accordance with AWWA Standard C600 as follows:
1. Test newly laid pipe and valved sections at hydrostatic pressure of at least 1.5 times working pressure at test location.
 - a. Test pressure: Not less than 1.25 times working pressure at highest point along line.
 - b. Test pressure: Not to exceed pipe or thrust restraint design pressures.
 - c. Test duration: 2 hours, minimum.
 - d. Pressure variation tolerance: less than +5 psi.
 - e. Test pressure not to exceed valve or hydrant pressure ratings on sections including closed valves or hydrants.
 2. Pressurization of Pipe
 - a. Fill each valved pipe section slowly with water at specified test pressure.
 - b. Apply by means of pump or other approved method.
 3. Air Removal
 - a. Expel all air from pipe, valves, and hydrants before applying test pressure.
 - b. Install corporation stops at high point to vent air if no release valves available.
 - c. After air removal close stops and apply test pressure.
 - d. After test, remove stops and plug holes or leave stops in place permanently if directed by Engineer. Test water to be removed from site and not allowed to remain in trench or on site or cause erosion.

4. Examination
 - a. Examine exposed pipe, fittings, valves, hydrants, and joints during test.
 - b. Repair or replace defective appurtenances discovered during test.
5. Leakage Test
 - a. Leakage: Quantity of water supplied to pipe test section to maintain pressure within +5 psi.
 - b. Ductile Iron Pipe Leakage shall not exceed the following limits:
$$L = \frac{SD\sqrt{P}}{133,200}$$

L = allowable leakage, in gallons per hour (gph)
S = length of pipe tested in feet
D = nominal pipe diameter, in inches
P = average pressure during test, in pounds per square inch (gauge)
 - c. When testing against closed Metal-seated valves, an additional leakage per closed valve of 0.0078 gph/inch of nominal valve size shall be allowed.
 - d. Repair visible leaks regardless of leakage amount.
 - e. If failing leakage tests:
 1. Locate and correct leak.
 2. Repeat leakage test until passing test attained.
 - f. HDPE Pipe Leakage Conduct hydrostatic leakage testing per ASTM F2164 and PPI TN-46. The test pressure shall be limited to a minimum of 1.5 x working pressure (and a maximum of 1.5 x PC) and shall not exceed the rating of the lowest component. In a fused HDPE water piping system, no leakage shall be present. If the test fails, the test section shall be depressurized and allowed to 'relax' for at least eight hours before starting the next testing sequence. Leaks, failure or defective construction shall be promptly repaired by the Contractor at the Contractor's sole expense. The Contractor is responsible for the safety of their employees during the testing and repair.

3.7 DISINFECTION OF PIPELINE

- A. Conform to State Public Health Department code or regulation for performing the work of this Section.
- C. Provide certificate of compliance from local Utility District indicating approval of water system.
- D. Verify that piping system has been cleaned, inspected, and pressure tested.
- E. Perform scheduling and disinfection activity with start-up, testing, adjusting and balancing, demonstration procedures, including coordination with related systems.
- F. Disinfect all new pipelines prior to being placed in service. Contact local Utility prior to disinfection and provide plan of action. Perform disinfection of water system in accordance with AWWA C651.
- G. Provide and attach required equipment to perform the work of this Section.
- H. Inject treatment disinfectant into piping system.

- I. Maintain disinfectant in system for 24 hours.
- J. Test samples in accordance with AWWA C651. The Old Town Water District will collect samples for testing. Contractor to coordinate collection of water samples with the Old Town Water District.
- K. Flush, circulate and clean until required cleanliness is achieved; use municipal domestic water.
- L. Replace permanent system devices removed for disinfection.
- M. Dechlorinate wasted water as directed by the Engineer to thoroughly neutralize the residual chlorine.
- N. Following a successful round of disinfection testing the Contractor shall coordinate opening the new main with the Old Town Water District.

END OF SECTION

SPECIAL PROVISION
SECTION 823 - WATER UTILITY DISTRIBUTION VALVES

Description: This work shall consist of furnishing all labor, equipment, and incidentals required and providing all buried valves and all accessories as shown on the plans and as specified herein.

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Furnish all labor, materials, equipment, and incidentals required and provide all buried valves and all accessories as shown on the Drawings and as specified herein.

1.2 REFERENCE STANDARDS

- A. Comply with applicable provisions and recommendations of the following, except as otherwise shown or specified.
- B. American Water Works Association (AWWA)
 - 1. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron and Pressure Pipe and Fittings.
 - 2. AWWA C500 - Metal-Seated Gate Valves, for Water Supply Service.
 - 3. AWWA C502 - Dry-Barrel Fire Hydrants.
 - 4. AWWA C504 - Rubber-Seated Butterfly Valves.
 - 5. AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service.
- C. American National Standards Institute (ANSI)
 - 1. ANSI B16.1 – Cast Iron Pipe Flanges and Flanged Fittings.
- D. American Society for Testing and Materials (ASTM)
 - 1. ASTM A48 - Standard Specification for Gray Iron Castings.
 - 2. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings
 - 3. ASTM A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
 - 4. ASTM A276 - Standard Specification for Stainless Steel Bars and Shapes.
 - 5. ASTM A536 - Standard Specification for Ductile Iron Castings.
- E. Steel Structure Painting Council (SSPC)
 - 1. SSPC SP-6 - Joint Surface Standard Commercial Blast Cleaning
- F. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.3 SUBMITTALS

- A. Submittals shall include the following:
 - 1. Manufacturer's literature, illustrations, specifications and engineering data including:
 - a. Dimensions.
 - b. Size.
 - c. Materials of construction.
 - d. Weight.
 - e. Protection coating.
- B. Test Reports
 - 1. Four copies of all certified shop test results specified herein.
- C. Operation and Maintenance Manuals
 - 1. Submit complete operation and maintenance manuals including copies of all approved Shop Drawings.
- D. Certificates
 - 1. Certificates of compliance where required by referenced standards: For each valve specified to be manufactured and/or installed in accordance with AWWA and other standards, submit an affidavit of compliance with the appropriate standards, including certified results of required tests and certification of proper installation.

1.4 QUALITY ASSURANCE

- A. Manufacturer's Qualifications
 - 1. Valves and appurtenances provided under this Section shall be the standard product in regular production by manufacturers whose products have proven reliable in similar service for at least 5 years. If required, the manufacturer shall furnish evidence of installation in satisfactory operation.
 - 2. All units of the same type shall be the product of one manufacturer.
- B. Design Criteria
 - 1. All valves and appurtenances shall be new and in perfect working condition. Valves shall be designed for continuous use with a minimum of maintenance and service required and shall perform the required function without exceeding the safe limits for stress, strain or vibration. In no case will used or damaged valves be acceptable. The selection of equipment to meet the specified design conditions is the responsibility of the Contractor. Both workmanship and material shall be of the very best quality and shall be entirely suitable for the service conditions specified.
- C. Source Quality Control
 - 1. Valves shall be shop tested in accordance with the following:
 - a. Gate valves: AWWA C500.
 - 2. Obtain each type of valve from no more than one manufacturer.

1.5 SYSTEM DESCRIPTION

A. General

1. All valves and appurtenances shall be suitable for use on potable water systems and must be certified to meet NSF/ANSI Standard 61.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the site to ensure uninterrupted progress of the work.
- B. Protect threads and seats from corrosion and damage. Rising stems and exposed stem valves shall be coated with a protective oil film which shall be maintained until time of use.
- C. Furnish covers for all openings.
 1. All valves 3-in and larger shall be shipped and stored on site until time of use with wood or plywood covers on each valve end.
 2. All valves smaller than 3-in shall be shipped and stored as above except that heavy card board covers may be furnished instead of wood.
- D. Store equipment to permit easy access for inspection and identification. Any corrosion in evidence at the time of Owner acceptance shall be removed, or the valve shall be removed from the job.
- E. Store all equipment in covered storage off the ground.

1.7 COORDINATION

- A. Review installation procedures under other Sections and coordinate with the work which is related to this Section including buried piping installation, site utilities, control building construction, storage tank construction, heating, ventilating and air conditioning, and plumbing.
- B. Coordinate the location and placement of concrete thrust blocks when required.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All materials, components, products, systems and coatings that come into contact with drinking water must be certified to meet NSF/ANSI Standard 61.
- B. The Contractor will supply the required valves, mechanical joint fasteners, and valve boxes for the water utility distribution valves. It is the responsibility of the Contractor to adequately store the materials.
- C. All buried valves shall open counter-clockwise (left).

- D. The use of a manufacturer's name and/or model or catalog number is for the purpose of establishing the standard of quality and general configuration desired.
- E. Valves shall be of the size shown on the Drawings or as noted and as far as possible equipment of the same type shall be identical and from one manufacturer.
- F. Valves shall have the name of the maker, nominal size, flow directional arrows, working pressure for which they are designed and standard to which they are manufactured cast in raised letters on some appropriate part of the body.
- G. Unless otherwise noted, valves shall have a minimum working pressure of 200 psi or be of the same working pressure as the pipe they connect to, whichever is higher, and suitable for the pressures noted where they are installed.
- H. Valves shall be of the same nominal diameter as the pipe or fittings they are connected to. Except as otherwise noted, joints shall be mechanical joints, with joint restraint where the adjacent piping is required to be restrained.
- I. Valves shall be especially constructed for buried service.

2.2 VALVE BOXES

- A. All gate and butterfly valves shall be provided with, operating nuts and valve boxes as follows:
 - 1. Valve boxes shall be a heavy-pattern cast iron, three-piece, telescoping type box with dome base suitable for installation on the buried valves. Inside diameter shall be at least 4-1/2-in. Barrel length shall be adapted to the depth of cover, valve box bottom section shall be 5-feet long and valve box top section shall be 2-feet long, with a lap of at least 6-inches when in the most extended position. Covers shall be cast iron with "WATER" clearly cast into the cover. Aluminum or plastic are not acceptable.
 - 2. The upper section of each box shall have a top flange of sufficient bearing area to prevent settling. The bottom of the lower section shall enclose the stuffing box and operating nut of the valve and shall be oval.

2.3 RESILIENT SEATED GATE VALVES

- A. End connections: Mechanical joint (MJ) conforming to AWWA Standard C509. Provide tapping end connections at tapping sleeves.
- B. Dual O-ring seals and bronze stem, exceeding AWWA C500 requirements.
- C. Epoxy coated inside and outside.
- D. Ductile iron body.
- E. AVK Series 45 resilient wedge gate valve, or approved equal.

- F. Size: As indicated on Contract Drawings.
- G. Operation: Counter-clockwise (left) opening and non-rising stem (NRS).
- H. Operating Nut: 2-inch square shafts shall be designed to provide a factor of safety of not less than four operating nuts shall be pinned to the shafts.

2.4 BEDDING MATERIAL

- A. Bedding material for water utility distribution valves shall be the following:
 - 1. Crushed Stone: shall be durable crushed rock consisting of the angular fragments obtained by breaking and crushing solid or shattered natural rock and reasonably free from thin, flat, elongated, or other objectionable pieces. The crushed stone shall be reasonably free from sand, clay, loam, chemical decay, or deleterious materials and not more than one percent of material passing a No. 200 sieve will be allowed to adhere to the crushed stone. The crushed stone shall be uniformly blended according to the grading requirements listed in the following table:

3/4" inch crushed stone:

<u>Sieve Size</u>	<u>Weight Passing (%)</u>
1"	100
3/4"	95-100
1/2"	35-70
3/8"	0-25

PART 3 - EXECUTION

3.1 INSPECTION AND PREPARATION

- A. During installation of all valves and appurtenances, verify that all items are clean, free of defects in material and workmanship and function properly.
- B. All valves shall be closed and kept closed until otherwise directed by the Engineer.

3.2 INSTALLATION OF BURIED VALVES AND VALVE BOXES

- A. Buried valves shall be cleaned and manually operated before installation. Buried valves and valve boxes shall be set with the stem vertically aligned in the center of the valve box. Valves shall be set on a firm foundation and supported by tamping pipe bedding material under the sides of the valve. The valve box shall be supported during backfilling and maintained in vertical alignment with the top flush with finish grade. The valve box shall be set so as not to transmit traffic loads to the valve.
- B. Before backfilling, all exposed portions of any bolts shall be coated with two coats of bituminous paint.

3.3 FIELD TESTS AND ADJUSTMENTS

- A. Conduct a functional field test of each valve, including actuators and valve control equipment, in presence of Engineer to demonstrate that each part and all components together function correctly. All testing equipment required shall be furnished by the Contractor.

END OF SECTION

SPECIAL PROVISION
SECTION 825 - PUBLIC WATER UTILITY SERVICE PIPING

Description: This work shall consist of installation of public water utility service piping in reasonably close conformity with the lines and grades shown on the plans or established. The installation shall include the assembly of all components, materials, and the completion of incidental work in accordance with the plans and specifications.

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Installation of water service and fittings.
- B. Disinfection of distribution system.
- C. Testing.

1.2 REFERENCE STANDARDS

- A. AWWA C600 - Installation of ductile iron water mains and their appurtenances.
- B. AWWA C800 - Underground Service Line Valves and Fittings
- C. AWWA C651- Standard for Disinfecting Water Mains.

1.3 SUBMITTALS

- A. Manufacturer's Literature: Supply copies of descriptive literature and recommendations for installation.
- B. Certificates: Supply copies of manufacturer's certification that supplied products comply with specification requirements.
- C. Product Data: Submit data on pipe materials, pipe fittings, corporation stop assemblies, curb stop assemblies, meters, meter setting equipment, service saddles, backflow preventer, and accessories.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver products on manufacturer's original skids, or in original unopened protective packaging. Remove materials by lifting or skidding. Do not drop any materials.
- B. Store materials in the areas to prevent physical damage.
- C. Protect material during transportation and installation to avoid physical damage.

1.5 PROJECT RECORD DOCUMENTS

- A. Accurately record location of pipe runs, elbows, valves, and other appurtenances.
- B. Provide swing tie measurements to corporations, curb stops and connections to existing services.

PART 2 – PRODUCTS

2.1 GENERAL

- A. All materials, components, products, systems, and coatings that come into contact with drinking water must be certified to meet NSF/ANSI Standard 61.
- B. The Contractor shall supply the required pipe, fittings, curb stops, service boxes, and corporations for the water services. The Contractor shall be responsible for the coordination and delivery of materials. Once delivered it is the responsibility of the Contractor to adequately store the materials.

2.2 SERVICE LINES

- A. All water service materials shall meet or exceed current ANSI/AWWA-C800 specifications and shall be made in accordance with ASTM B-62. The manufacturer shall furnish a certificate indicating all new materials meet the specifications. All valves, fittings, and pipe shall be inspected several times during the manufacturing process and pressure tested with air under water before shipment. All water service materials shall be visually inspected before installation. Brass and copper are soft metals and care in handling shall be exercised to avoid damaging threads or distorting piping, valves, or fitting bodies.
- B. All copper water service line material shall be new 1" diameter Type "K" copper piping, unless otherwise noted and shall comply with ASTM B88. Piping shall be supplied in coils. No couplings or connections will be permitted under the paving.
 - 1. Provide swing ties to all services.
 - 2. Cap any unconnected services.
 - 3. Bend pipe with suitable tools to provide smooth bends, free of any cracks or buckles.
 - 4. Test services in accordance with the requirements of the Old Town Water District.
- C. All corporation and curb stops shall be brass with ball type valves. Corporations and curb stops shall comply with ASTM B62.
- D. Products manufacturers that are acceptable include:
 - 1. Mueller.
 - 2. McDonald.
 - 3. or approved equal
- E. Service Boxes shall be Erie Style with Plug Covers and service boxes.

- F. Rods for services boxes must be 24-inches long, ½-inch stainless steel with brass pins.

2.3 BEDDING MATERIAL

- A. Bedding material for copper water service shall be the following:
1. Sand: Shall be well graded coarse sand without excessive fines and free from loam, clay, and organic matter. Beach sand shall not be used. The grading requirements are as follows:

<u>Sieve Size</u>	<u>Weight Passing (%)</u>
3/8"	100
No. 4	95-100
No. 16	50- 85
No. 50	0-30
No. 100	2-10

PART 3 - EXECUTION

3.1 GENERAL

- A. Locate no water line in same trench as sewer line unless:
1. Water line rests on solid upper shelf at trench side.
 2. 18-inch vertical separation between top of sewer pipe and bottom of water pipe.
 3. Horizontal separation between pipes:
 - a. 10-feet minimum typically.
 - b. 5-feet under extenuating circumstances such as trench ledge, providing required vertical separation occurs.
- B. Contractor to furnish swing tie measurements for all services. Swing ties shall be measured from permanent structures; i.e. buildings, utility poles, hydrants, etc.

3.2 INSTALLATION

- A. Conform to Manufacturer's recommendation and AWWA Standard C800, unless otherwise noted.
- B. Water Service Trenches: In accordance to details as shown by Contract Drawings unless otherwise directed.
1. Backfill compaction: 95% of modified proctor.
 2. Select material: Notice soil classified as suitable material from trench excavation free of rocks, foreign material, and frozen earth.
- C. Corporation Stop Assemblies:
1. Make connection for each different kind of water main using suitable materials, equipment, and methods as approved by Engineer.
 2. Provide service clamps for mains constructed of materials other than cast iron or ductile iron.

3. Location:
 - a. Screw corporation stops directly into tapped and threaded iron main at 10 and 2 o'clock positions along main's circumference.
 - b. Locate and stagger corporation stops at least 12 inches (300 mm) apart longitudinally.
 4. Use proper seals or other devices such that no leaks are present in mains at points of tapping.
 5. Do not backfill and cover service connections until installation is approved by Engineer.
- D. Pipe and Fittings:
1. Maintain separation of water main from sewer mains.
 2. Route pipe in straight line.
 3. Install pipe to allow for expansion and contraction without stressing pipe or joints.
 4. No couplings or connections will be permitted under the paving.
 5. Install marker ribbon tape continuous 2'-0" over top of pipe.
- E. Curb Stop Assemblies:
1. Set curb stops on compacted soil.
 2. Boxes:
 - a. Center and plumb curb boxes over curb stops.
 - b. Set box cover flush with finished grade.

3.3 TESTING

- A. Contact local utility prior to all testing. Provide all labor, equipment, material, gauges, pumps, etc., to test for leaks in accordance with AWWA Standard C600 as follows:
1. Test newly laid pipe and valved sections at hydrostatic pressure of at least 1.5 times working pressure at test location.
 - a. Test pressure: Not less than 1.25 times working pressure at highest point along line.
 - b. Test pressure: Not to exceed pipe or thrust restraint design pressures.
 - c. Test duration: 2 hours, minimum.
 - d. Pressure variation tolerance: less than +5 psi.
 - e. Test pressure not to exceed valve or hydrant pressure ratings on sections including closed valves or hydrants.
 2. Pressurization of Pipe
 - a. Fill each valved pipe section slowly with water at specified test pressure.
 - b. Apply by means of pump or other approved method.
 3. Air Removal
 - a. Expel all air from pipe, valves, and hydrants before applying test pressure.
 - b. Install corporation stops at high point to vent air if no release valves available.
 - c. After air removal close stops and apply test pressure.
 - d. After test, remove stops and plug holes or leave stops in place permanently if directed by Engineer. Test water to be removed from site and not allowed to remain in trench or on site or cause erosion.
 4. Examination
 - a. Examine exposed pipe, fittings, valves, hydrants, and joints during test.
 - b. Repair or replace defective appurtenances discovered during test.

5. Leakage Test

- a. Leakage: Quantity of water supplied to pipe test section to maintain pressure within +5 psi.
- b. Leakage shall not exceed the following limits:
$$L = \frac{SD\sqrt{P}}{133,200}$$

L = allowable leakage, in gallons per hour (gph)
S = length of pipe tested in feet
D = nominal pipe diameter, in inches
P = average pressure during test, in pounds per square inch (gauge)
- c. When testing against closed Metal-seated valves, an additional leakage per closed valve of 0.0078 gph/inch of nominal valve size shall be allowed.
- d. Repair visible leaks regardless of leakage amount.
- e. If failing leakage tests:
 1. Locate and correct leak.
 2. Repeat leakage test until passing test attained.

3.4 DISINFECTION OF PIPELINE

- A. Conform to State Public Health Department code or regulation for performing the work of this Section.
- B. Provide certificate of compliance from local Utility District indicating approval of water system.
- C. Verify that piping system has been cleaned, inspected, and pressure tested.
- D. Perform scheduling and disinfection activity with start-up, testing, adjusting and balancing, demonstration procedures, including coordination with related systems.
- E. Disinfect all new pipelines prior to being placed in service. Contact local Utility prior to disinfection and provide plan of action. Perform disinfection of water system in accordance with AWWA C651.
- F. Provide and attach required equipment to perform the work of this Section.
- G. Inject treatment disinfectant into piping system.
- H. Maintain disinfectant in system for 24 hours.
- I. Test samples in accordance with AWWA C651. The Old Town Water District will collect samples for testing. Contractor to coordinate collection of water samples with the Old Town Water District.
- J. Flush, circulate and clean until required cleanliness is achieved; use municipal domestic water.
- K. Replace permanent system devices removed for disinfection.

- L. Dechlorinate wasted water as directed by the Engineer to thoroughly neutralize the residual chlorine.
- M. Following a successful round of disinfection testing the Contractor shall coordinate opening the new main with the Old Town Water District.

END OF SECTION

SPECIAL PROVISION
SECTION 830 - PUBLIC WATER UTILITY DISTRIBUTION-BRIDGE CROSSING

Description: This work shall consist of the installation of temporary public water utility distribution piping associated with the temporary bridge crossing shown on the plans or established. The installation shall include the assembly of all components, materials, and the completion of incidental work in accordance with the plans and specifications.

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Installation of temporary water mains and fittings on the temporary bridge.
- B. Installation of the pipe insulation.
- C. Installation of the water main hangers and supports.
- D. Flushing, Disinfection and Testing of temporary water main.

1.2 REFERENCE STANDARDS

- A. ANSI A21.4 Cement-mortar lining for ductile iron pipe and fittings for water.
- B. ANSI A21.10 Ductile iron and gray iron fittings 2 in. through 48 in. for water and other liquids.
- C. ANSI A21.11 Rubber-gasket joints for ductile iron and gray iron pressure pipe fittings.
- D. ANSI A21.50 Thickness design for ductile iron pipe.
- E. ANSI A21.51 Ductile iron pipe, centrifugally cast in metal molds or sand-lined molds, for water and other liquids.
- F. ANSI A21.53 Ductile iron compact fittings, 3 in. through 16 in. for water and other liquids.
- G. ANSI B18.2.1 Square and hex bolts and screws, including askew head bolts, hex cap screws, and lag screws.
- H. ANSI/AWWA C110/A21.10 Ductile Iron Tapping Saddles
- N. AWWA C600 Installation of ductile iron water mains and their appurtenances.
- O. AWWA C651- Standard for Disinfecting Water Mains.
- P. ASTM A992/A992M Standard Specification for Structural Steel Shapes. 2019

Q. ASTM F3125 – Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength. 2019.

R. ASTM A563 – Standard Specification for Carbon and Alloy Steel Nuts. 2015.

S. ASTM A123/A123M – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products. 2017.

T. AWS A2.4 – Standard Symbols for Welding, Brazing, and Nondestructive Examination. American Welding Society. 2020.

U. AWS D1.1/D1.1M – Structural Welding Code – Steel; American Welding Society. 2020.

V. ASTM A536 – Standard Specification for Ductile Iron Castings. 2019.

W. ASTM A307 – Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60000 PSI Tensile Strength. 2014.

X. ASTM F2320 – Standard Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners.

Y. ASTM D3035 Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter

Z. ASTM D3350: Standard Specification for Polyethylene Plastic Pipe and Fittings Materials.

AA. AWWA C906 Standard for Polyethylene (PE) Pressure Pipe and Fittings, 4" (100 mm) through 63" (1,575 mm) for Water Distribution and Transmission.

1.3 SUBMITTALS

A. Manufacturer's Literature: Supply copies of descriptive literature and recommendations for installation for pipe, fittings, expansion joints, insulation, hangers and supports.

B. Certificates: Supply copies of manufacturer's certification that supplied products comply with specification requirements.

C. Testing Procedure: Indicate proposed methodology in advance for approval of Engineer and local utility district.

D. Test Reports: Indicate results comparative to specified requirements.

1. Certificate: Certify that cleanliness of water distribution system meets or exceeds specified requirements.

- E. Steel Shop Drawings: Contractor to submit steel fabrication drawings prior to installation. Steel fabrication drawings to show structural steel lengths, connections, and locations. Refer to Contract Drawings for details.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver products on manufacturer's original skids, or in original unopened protective packaging. Remove materials by lifting or skidding. Do not drop any materials.
- B. Store materials in the areas to prevent physical damage.
- C. Protect material during transportation and installation to avoid physical damage.

1.5 PROJECT RECORD DOCUMENTS

- A. Accurately record location of pipe runs, elbows, valves, and other appurtenances.
- B. Disinfection report:
 - 1. Type and form of disinfectant used.
 - 2. Date and time of disinfectant injection start and time of completion.
 - 3. Test locations.
 - 4. Initial and 24-hour disinfectant residuals (quantity in treated water) in parts per million (ppm) for each outlet tested.
 - 5. Date and time of flushing start and completion.
 - 6. Disinfectant residual after flushing in ppm for each outlet tested.
- C. Bacteriological report; record:
 - 1. Date issued, project name, and testing laboratory name, address, and telephone number.
 - 2. Time and date of water sample collection.
 - 3. Name of person collecting samples.
 - 4. Test locations.
 - 5. Initial and 24 hour disinfectant residuals in ppm for each outlet tested.
 - 6. Certification that water conforms, or fails to conform, to bacterial standards of State Public Health Department.
 - 7. Bacteriologist's signature and authority.

PART 2 – PRODUCTS

2.1 GENERAL

- A. All materials, components, products, systems and coatings that come into contact with drinking water must be certified to meet NSF/ANSI Standard 61.
- B. The Contractor shall supply the required pipe, fittings, valves, hangers, supports, insulation, and appurtenances for the temporary and proposed water distribution piping associated with the bridge. It is the responsibility of the Contractor to adequately store the materials.

- C. Contractor shall be responsible for installing and maintaining the temporary water system on the temporary bridge.
 - 1. Contractor shall protect temporary water from damage during construction.
 - 2. Contractor shall be responsible for all repairs to the temporary
- D. Contractor to submit a Temporary Bridge Water Plan, outlining the temporary water system for the temporary bridge, including supports and insulation to provide potable water throughout the construction of the new bridges. The Temporary Bridge Water Plan shall include but not be limited to, plans, calculations, and specifications, and must be approved by the Owner and Engineer prior to installation.

2.2 PIPE (TEMPORARY WATER MAIN: BRIDGE CROSSING)

- A. High Density Polyethylene (HDPE) Pipe, Conforming to ASTM D3035 and D3350.
 - 1. Class: PE 3408. PE 345434C
 - 2. SDR 11.
 - 3. Joints: Butt fusion weld or Electrofusion coupling
 - 4. Nominal Size: As indicated on Contract Drawings.
- B. Fittings
 - 1. High Density Polyethylene (HDPE)
 - a. Same material as pipe, molded or formed to suit pipe size and end design, in required "T", bends, elbows, cleanouts, reducers, traps, and other configurations required. Polyethylene fittings to be minimum SDR 11 if fabricated rather than molded.
 - b. All PE pipe connections to fittings or valves of differing materials shall be by an Engineer approved PE Mechanical Joint Adapter.
 - 2. Expansion Joints
 - a. Flanged, ductile iron, restraint expansion joint conforming to AWWA C213 and NSF 61 certified.
 - b. Body: The casing, ball and sleeve are cast of ductile iron, meeting or exceeding ASTM A 536, Grade 65-45-12
 - c. Flange: Compatible with ANSI Class 150 bolt circle
 - d. Bolts and Nuts: Trackhead bolts, heavy hex nuts, 5/8" UNC rolled thread, high strength, low alloy, corrosion resistant Stainless steel per AWWA C111.
 - e. Locking Ring: Series 400 stainless steel. Limits expansion and contraction up to maximum working pressure.
 - f. Ring Gasket: Ring gaskets are made of dual Ethylene Propylene Diene Methylene (EPDM) compounded for water service.
 - g. Exterior Coating: Fusion bonded epoxy.
 - h. Nominal Size: As indicated on Contract Drawings.
 - i. Expansion Joint to be EBAA Iron, Inc. Force Balanced EX-TEND Expansion Joint or approved equal.

2.3 PIPE SLEEVE (IF REQUIRED BY INSTALLATION PLAN)

- A. Provide pipe wall sleeves and seal penetrations as indicated or required to complete the Work. All pipe sleeves shall be constructed of 304L stainless steel. Pipe sleeves shall have a 2-inch (minimum) circumferential water stop welded or integrally molded to the exterior of the sleeve at its midpoint. Pipe wall sleeve shall be Schedule 40, min. Refer to drawings for pipe sleeve diameter.
- B. The pipe wall sleeve shall be specifically coordinated with bridge abutment. The ends of sleeves shall extend a minimum of 4-inches beyond face of abutment wall on the water side to allow for the installation of a neoprene rubber boot seal and 6-feet beyond the face of the abutment wall on the land side to extend past the sidewalk approach slab.
 - 1. Boot to be Pull-on type constructed of 1/8-inch thick neoprene rubber and connected to the sleeve and pipe with 1/2-inch wide T304 stainless steel bands.
 - 2. Boots to be BWM Company Model BWM-PO, CCI Pipeline Systems Model ESC Pull-on, or approved equal.
- C. Casing Spacer: Casing spacer shall be GPT Model S12GN2 17.40"x25.25" CR, or approved equal.
- D. Refer to the piping penetration details on the Drawings for additional information and requirements.

2.4 PIPE INSULATION (BRIDGE CROSSING)

- A. Pipe insulation for bridge crossing shall be a factory installed pre-insulated pipe, jacket and associated components to insulate joints and fittings. Insulation product shall be manufactured in accordance with ISO 9001 Standard, or approved equal.
- B. Insulation shall meet the following requirements:
 - 1. Material: Factory applied, rigid polyurethane foam.
 - 2. Thickness: 2-inches
 - 3. Density: 2.2 to 3.0 lbs/cf (ASTM D1622)
 - 4. Closed Cell Content: 90% min. (ASTM D6226)
 - 5. Water Absorption: 4.0% by volume (ASTM D2842)
 - 6. Thermal Conductivity: 0.14 to 0.17 Btu-in/ft²-hr-deg F (ASTM C518)
 - 7. Temperature Range: Cryogenic to 200 deg F
 - 8. Outer protective jacket shall be factory applied, black polyethylene, UV inhibited.
 - a. Casing shall be extruded from polyethylene resin with cell class requirements 334360C as defined in ASTM D3350-12;
 - b. Polyethylene compound shall be of color and UV stabilizer Code C (black) as specified in ASTM D3350, with a target range of 2 to 2.5% well dispersed carbon black (max. 2.8%).

9. Joints: Provide insulation kits consisting of pre-formed rigid polyurethane foam shells matching pipe insulation thickness with polymer coating, fabricated metal jacket matching pipe jacket system, and stainless-steel gear clamps. Kits shall match pipe joint types.
10. Insulation Shield shall be Newman Associates Model 170, Shield Type D, 24-inches long, 14 gauge, or approved equal.
11. Pre-insulated pipe system shall be provided by Urecon, or approved equal.

2.5 SUPPORTS AND HANGERS

A. Beams:

1. Material: ASTM A36.
2. Finish: Galvanized according to ASTM A123.
3. Size and Shape: In accordance with Contract Drawings.

B. Cast-Iron Rollers

1. Material: ASTM A536.
2. Type: Cast-Iron Rollers shall be Newman Associates adjustable double pipe roller support or approved equal.

C. Threaded Rod: In accordance with details as shown in Contract Drawings. Material to conform to ASTM A307.

D. Bolts: In accordance with details as shown in Contract Drawings. Material to conform to ASTM F3125.

E. Nuts In accordance with details as shown in Contract Drawings. Material to conform to ASTM A563.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install pipe, hangers, supports, fittings, expansion joints, insulation in accordance with manufacturer's instructions.
- B. Conform to Manufacturer's recommendation and AWWA Standard C600 or C906 as applicable, unless otherwise noted.
- C. Use solid sleeves only with Engineer's approval.
- D. Cut pipe by mechanical methods without damage to pipe or cement lining leaving smooth end at right angles to axis of pipe.

3.2 JOINTING PIPE

- A. Joint pipe according to manufacturer's instruction.

- B. Mechanical joint fittings.
1. Place gland and gasket over insertion pipe end.
 2. Mechanically fasten to bell end with "T" bolts.
 3. Deflect joints after assembly and before bolt tightening.
 4. Tighten bolts to 75-90 ft-lbs of torque (normal range for 4 to 24 inch diameter pipe with $\frac{3}{4}$ inch bolt size).
 - a. Tighten to normal bolt torque range.
 - b. Maintain same distance between gland and face of flange by partially tightening bolts on opposite sides of the joint until all bolts are within the appropriate range of torque.

3.3 FLUSHING

- A. Prior to testing and disinfection, flush the main to remove particulates. The flushing velocity in the main shall be no less than 2.5 feet/second unless the Engineer determines that conditions do not permit the required flow.
- B. The following table indicates rates of flow required to produce a velocity of 2.5 feet /second in pipes of various sizes.

REQUIRED FLOW and OPENINGS to FLUSH PIPELINES (40 psi residual pressure in water main)*					
Pipe Size	Flow Required to Produce 2.5 ft/s (approx.) Velocity in Main	Size of Tap (Inches)			Number of 2.5 in. Hydrant Outlets*
		1"	1.5"	2"	
		Number of Taps on Pipe†			
4"	100 gpm	1	-	-	1
6"	200 gpm	-	1	-	1
8"	400 gpm	-	2	1	1
10"	600 gpm	-	3	2	1
12"	900 gpm	-	-	2	2
16"	1600 gpm	-	-	4	2

* With a 40-psi pressure in the main with the hydrant flowing to atmosphere, a 2½" hydrant outlet will discharge approximately 1,000 gpm and a 4½" hydrant outlet will discharge approximately 2,500 gpm.

† Number of taps on pipe based on discharge through 5 feet of galvanized pipe with one 90° elbow.

- C. Accomplish flushing by partially opening and closing valves and hydrants several times under expected line pressure.
- D. Contractor shall coordinate energizing the main for flushing with the Old Town Water District.

3.4 TESTING

- A. Contact local utility prior to all testing. Provide all labor, equipment, material, gauges, pumps, etc., to test for leaks in accordance with AWWA Standard C600 as follows:
1. Test newly laid pipe and valved sections at hydrostatic pressure of at least 1.5 times working pressure at test location.
 - a. Test pressure: Not less than 1.25 times working pressure at highest point along line.

- b. Test pressure: Not to exceed pipe or thrust restraint design pressures.
- c. Test duration: 2 hours, minimum.
- d. Pressure variation tolerance: less than +5 psi.
- e. Test pressure not to exceed valve or hydrant pressure ratings on sections including closed valves or hydrants.
- 2. Pressurization of Pipe
 - a. Fill each valved pipe section slowly with water at specified test pressure.
 - b. Apply by means of pump or other approved method.
- 3. Air Removal
 - a. Expel all air from pipe, valves, and hydrants before applying test pressure.
 - b. Install corporation stops at high point to vent air if no release valves available.
 - c. After air removal close stops and apply test pressure.
 - d. After test, remove stops and plug holes or leave stops in place permanently if directed by Engineer. Test water to be removed from site and not allowed to remain in trench or on site or cause erosion.
- 4. Examination
 - a. Examine exposed pipe, fittings, valves, hydrants, and joints during test.
 - b. Repair or replace defective appurtenances discovered during test.
- 5. Leakage Test
 - a. Leakage: Quantity of water supplied to pipe test section to maintain pressure within +5 psi.
 - b. HDPE Pipe Leakage Conduct hydrostatic leakage testing per ASTM F2164 and PPI TN-46. The test pressure shall be limited to a minimum of 1.5 x working pressure (and a maximum of 1.5 x PC) and shall not exceed the rating of the lowest component. In a fused HDPE water piping system, no leakage shall be present. If the test fails, the test section shall be depressurized and allowed to 'relax' for at least eight hours before starting the next testing sequence. Leaks, failure or defective construction shall be promptly repaired by the Contractor at the Contractor's sole expense. The Contractor is responsible for the safety of their employees during the testing and repair.
 - c. When testing against closed Metal-seated valves, an additional leakage per closed valve of 0.0078 gph/inch of nominal valve size shall be allowed.
 - d. Repair visible leaks regardless of leakage amount.
 - e. If failing leakage tests:
 - 1. Locate and correct leak.
 - 2. Repeat leakage test until passing test attained.

3.5 DISINFECTION OF PIPELINE

- A. Conform to State Public Health Department code or regulation for performing the work of this Section.
- B. Provide certificate of compliance from local Utility District indicating approval of water system.
- C. Verify that piping system has been cleaned, inspected, and pressure tested.

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- D. Perform scheduling and disinfection activity with start-up, testing, adjusting and balancing, demonstration procedures, including coordination with related systems.
- E. Disinfect all new pipelines prior to being placed in service. Contact local Utility prior to disinfection and provide plan of action. Perform disinfection of water system in accordance with AWWA C651.
- F. Provide and attach required equipment to perform the work of this Section.
- G. Inject treatment disinfectant into piping system.
- H. Maintain disinfectant in system for 24 hours.
- I. Test samples in accordance with AWWA C651. The Old Town Water District will collect samples for testing. Contractor to coordinate collection of water samples with the Old Town Water District.
- J. Flush, circulate and clean until required cleanliness is achieved; use municipal domestic water.
- K. Replace permanent system devices removed for disinfection.
- L. Dechlorinate wasted water as directed by the Engineer to thoroughly neutralize the residual chlorine.
- M. Following a successful round of disinfection testing the Contractor shall coordinate opening the temporary main with the Old Town Water District.

END OF SECTION

SPECIAL PROVISION
SECTION 101.2.1
SUPPLEMENTAL DEFINITIONS

The following definitions are amended in Section 101.2 Definitions.

Successful Bidder Bidder to whom the Department intends to award the Contract.

Contractor After the Department has executed the Contract by cosigning the Contract Agreement, Offer, & Award form, previously signed by the successful bidder, the Successful Bidder becomes the Contractor. The Contractor will be the single point of responsibility for all Contract obligations to the Department. The Contractor shall be an independent Contractor with respect to the Department and shall not be an employee, agent, or representative of the Department. Alternatively, “contractor”, with a lower case “c”, may mean a firm engaged in construction Work.

SPECIAL PROVISIONS
SECTION 104
Utilities

UTILITY COORDINATION

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

THE CONTRACTOR SHALL PLAN AND CONDUCT WORK ACCORDINGLY.

MEETING

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

GENERAL INFORMATION

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

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

Overview & Utility/Railroad Contact Information:

Utility/Railroad	Aerial	Underground	Contact Name	Contact Number
City of Old Town	X	X	John Rouleau	944-0921
Charter Communications	X		Debora Barrett	404-5545
Consolidated Communications	X	X	Brian Smith	712-8604
FirstLight	X		Mike Ellingwood	462-2759
Old Town Sewer Department		X	David Smith	299-4459
Old Town Water District		X	Steven Lane	852-2720
University of Maine System	X		Corey Lavoie	949-4227
Versant Power	X	X	Dave Perkins and Scott Richardson	949-3918 949-3970

Temporary utility adjustments **ARE** anticipated. If any unexpected utility relocations become necessary, they shall be scheduled in accordance with Section 104 of the Standard Specifications and shall be performed by the appropriate utility company in conjunction with the work by the Contractor. Should the Contractor choose to have any poles temporarily relocated, all work shall be done at the Contractor's request and expense, with no additional cost or schedule impacts to the Department.

Unless otherwise specified, any underground utility/railroad facilities shown on the project plans represent approximate locations gathered from available information. The Department cannot certify the level of accuracy of this data. Underground facilities indicated on the topographic sheets (plan views) have been collected from historical records and/or on-site designations provided by the respective utility/railroad companies. Underground facilities indicated on the cross-sections have been carried over from the plan view

data and may also include further approximations of the elevations (depths) based upon straight-line interpolation from the nearest manholes, gate valves, or test pits.

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

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

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

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

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

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

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

AERIAL

Summary:

Utility	Pole Set	New Wires/ Cables	Trans. Wires/ Cables	Remove Poles	Estimated Working Days
Versant Power	X		X	X	1
FirstLight		X	X		20
Consolidated Communications	X	X	X	X	20
Total:					41

Utility Specific Issues:

Versant Power

Versant Power has approximately **1 pole** to set as per the pole list included in this specification and has cables to run/transfer to the new pole locations. The contractor shall notify Versant once all poles are staked, pole access is provided, and the clearing and spot cuts/fills are completed. **Versant will require two weeks to schedule their work after notice is received that the prep work is completed.** Once work is scheduled Versant estimates **1 working day to complete their work** Versant will remove the old pole once all transfers are complete.

Charter Communications

Charter Communications has cables within the project limits that will not be affected by the temporary bridge construction. **No impacts are anticipated**

FirstLight

FirstLight has cables to run/transfer to the new pole locations. After Versant has completed their work & CCI has set the new pole, FirstLight shall begin their work. The contractor and/or Versant & CCI shall notify FirstLight once all of Versant's work is completed & CCI has set the new pole. **FirstLight will require two weeks to schedule their work after notice is received.**

FirstLight will remove their cable from Station 20+75 to 29+83 Rt. and temporarily attach them to the temporary bridge during construction. FirstLight has entered into an Agreement with the Maine Department of Transportation to include the attachment of the conduit to run their temporary cable within in the Department's contract. The Contractor shall perform the conduit work as part of the contract with the appropriate bid items (Item #626.26, 3 Inch Diameter Utility Conduit System, Temporary). The conduit will be installed from 22+32 Lt to 29+48 Lt. FirstLight will run an aerial cable from 20+75 Rt. to 22+32 Lt. and drop their cable into the temporary conduit and rise back up on the pole at 29+48 Lt. and run an aerial cable from there to 29+83 Rt. Once the temporary conduit is installed on the temporary bridge FirstLight estimates **20 working days to complete this temporary cable work.** The aerial line from 20+75 to 29+83 Rt. cannot be abandoned until the temporary conduit and cable is installed.

University of Maine System

University of Maine System leases bandwidth from FirstLight's line. **No impacts are anticipated.**

Consolidated Communications

Consolidated Communications (CCI) has approximately **1 pole** to set as per the pole list included in this specification (temporary pole #100D at Station 22+32 Rt.) and has cables to run/transfer to the new pole locations. The contractor shall notify CCI once the pole is staked, pole access is provided, and the clearing and spot cut/fill is completed. After Versant has completed their work, CCI will set the new pole before FirstLight can do their cable work. After FirstLight has completed their cable work, CCI shall begin their cable work. The contractor and/or FirstLight shall notify CCI once all of FirstLight's work is completed. **CCI will require two weeks to schedule their work after notice is received that the prep work is completed.**

CCI will remove their cable from Station 20+75 to 29+83 Rt. and temporarily attach them to the temporary bridge during construction. CCI has entered into an Agreement with the Maine Department of Transportation to include the attachment of the conduit to run their temporary cable within in the Department's contract. The Contractor shall perform the conduit work as part of the contract with the appropriate bid items (Item # 626.271, 5 Inch Diameter Utility Conduit System, Temporary). The conduit will be installed from 22+32 Lt to 29+48 Lt. CCI will run an aerial cable from 20+75 Rt. to 22+32 Lt. and drop their cable into the temporary conduit and rise back up on the pole at 29+48 Lt. and run an aerial cable from there to 29+83 Rt. Once the temporary conduit is installed on the temporary bridge CCI estimates **20 working days to complete this temporary cable work.** The aerial line from 20+75 to 29+83 Rt. cannot be abandoned until the temporary conduit and cable is installed.

Pole List:

Existing Pole #	Existing Station	Left/Right		Existing Offset	Proposed Station	Left/Right		Proposed Offset	Comments
		L T	R T			L T	R T		
NEW POLES SET WITH SEPARATE HIGHWAY PROJECT									
6/101	19+55.9		X	23.20	19+58		X	24'	REPLACE
6/100	20+85.0		X	22.01	20+75		X	24'	RELOCATE
6/99	21+95.4		X	20.58					REMAIN UNTIL BRIDGE REPLACE
NEW POLES SET FOR TEMPORARY BRIDGE PROJECT									
100D					22+32	X		80'	TEMP. POLE/BRIDGE CROSSING
6/98 1/3	24+02.5		X	20.75					REMAIN UNTIL BRIDGE REPLACE
6/98 1/2	25+74.3		X	21.64					REMAIN UNTIL BRIDGE REPLACE
6/98	28+80.0		X	20.70					REMAIN UNTIL BRIDGE REPLACE
6/97 1/2s	29+49.9	X		20.70	29+48	X		75'	MOVE, IN SIDEWALK
NEW POLES SET WITH SEPARATE HIGHWAY PROJECT									
6/97 1/2	29+48.5		X	20.74	29+48		X	24'	REPLACE, ADD TEMP. PUSH BRACE
6/97	30+27.6		X	21.70	29+83		X	27'	MOVE, IN NEW ROADWAY
6/96	31+62.5		X	22.03	31+58		X	32'	MOVE, IN NEW ROADWAY

UNDERGROUND

Old Town Sewer Department

Old Town Sewer Department has sewer mains within the limits of the project. The Sewer Department intends to install temporary sewer facilities on the temporary bridge. The Sewer Department has entered into an Agreement with the Maine Department of Transportation to include the sewer work in the Department's contract. The Contractor shall perform the sewer work as part of the contract and shall include the sewer work in the schedule for construction. The work shall be completed in accordance with the plans and special provisions for the sewer work included in the contract documents and shall be completed in a manner that the system remains fully functional at all times unless otherwise approved by the Sewer Department. The Sewer Department requires 2 weeks notification prior to work taking place to schedule their on-site representative for inspection purposes. If a suspension of sewer work occurs the Sewer Department requires 2 weeks notification prior to sewer work starting back up to schedule inspection.

Old Town Water District

Old Town Water District has water mains within the limits of the project. The Water District intends to install temporary water facilities on the temporary bridge. The Water District has entered into an Agreement with the Maine Department of Transportation to include the water work in the Department's contract. The Contractor shall perform the water work as part of the contract and shall include the water work in the schedule for construction. The work shall be completed in accordance with the plans and special provisions for the water work included in the contract documents and shall be completed in a manner that the system remains fully functional at all times unless otherwise approved by the Water District. The Water District requires 2 weeks notification prior to work taking place to schedule their on-site representative for inspection purposes. If a suspension of water work occurs the Water District requires 2 weeks notification prior to water work starting back up to schedule inspection.

AMERICAN IRON AND STEEL REQUIREMENTS

New water and sewer utility construction for Old Town Sewer Department and Old Town Water District is funded by the SRF Program. Therefore, **Clean Water Act (CWA) 2014, Section 608**, requirements for the use of AIS in Clean Water State Revolving Fund (CWSRF) projects and **America's Water Infrastructure Act of 2018' (AWIA)** updates and revisions to the Safe Drinking Water Act (SDWA), including the Drinking Water State Revolving Fund (DWSRF) provisions applies an American Iron and Steel (AIS) requirement to this project. Those requirements are incorporated and made a part hereof by reference.

Also see the Old Town Sewer Department and Old Town Water District construction specifications for details of the American Iron and Steel requirements. Note that both AIS and Buy America certifications will be collected for the project files. The AIS certifications will be collected to satisfy the AIS funding agency requirements and documents while the Buy America certifications will be collected to satisfy FHWA project requirements.

BUY AMERICA

Consolidated Communications and FirstLight utility construction work performed as part this federal-aid project is subject to the requirements of Buy America in accordance with Federal Regulation 23 CFR 635.410 Section 1518. Specific requirements are presented in MaineDOT Standard Specification Section 100, Appendix A, Section 3.A., Buy America.

PLEASE NOTE

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

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

MAINTAINING UTILITY LOCATION MARKINGS

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

UTILITY SIGNING

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

SPECIAL PROVISION
SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES
(Cooperation With Other Contractors)

Subsection 104.4.7 Cooperation with Other Contractors is amended by adding the following:

A Highway Reconstruction project is planned for Stillwater Avenue in Old Town, including intersection improvements at Bennoch Road and College Avenue. This project has advertised under WIN 022950.01 and plans and specifications are available from the MaineDOT website. Highway work is planned at both ends of the bridge to stop at STA 21+50 and begin again at STA 30+50, and is expected to be in progress simultaneously with the construction of the temporary detour for the bridge. Coordination of exact start and stop stationing will be ongoing as part of the final design for the Llewellyn Estes Bridges.

The Contractor shall coordinate all activities including traffic control with others to ensure safe travel for all road users. This shall be specifically addressed within the Contractor's Traffic Control Plan.

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
(Traffic Control)

Subsection 105.3 Traffic Control and Maintenance shall be amended by the addition of the following:

Vehicular Traffic:

Two lanes of vehicular traffic, one in each direction, shall be maintained at all times on Stillwater Avenue with a minimum total width of 24 feet split evenly except as allowed below:

1. Two one-day road closures of Stillwater Avenue will be allowed between July 5th and August 15th to allow for the erection of the contractor's crane boom or other work as approved by the Resident. Traffic officers shall be used during nighttime road closures. The Contractor shall provide a minimum of 3 days of advanced notice of road closures. Messages shall be displayed on variable message boards located on Stillwater Avenue at both ends of the bridge. The Contractor shall contact the following entities a minimum of 3 days in advanced of any road closure:
 - a) MaineDOT Region 4 Office
 - b) MaineDOT Transportation Management Center (TCM)
 - c) Old Town Police
 - d) Old Town Fire Department
 - e) Orono Police
 - f) Orono Fire Department
 - g) University of Maine Police Department
 - h) Maine State Police Troop E
 - i) Penobscot County Regional Communications Center (207-945-4636)
 - j) Penobscot County Sheriff's office
 - k) Bureau of Maine Vehicles – Over size/Overweight Permits

Stillwater Avenue can be reduced to a single 12' wide traffic lane using flaggers or temporary signals for two two-week periods between July 5th and August 15th. Traffic will be restored to two-way traffic when the contractor is not on site.

After August 18th, the Contractor may use flaggers to reduce traffic to a single lane of alternating one-way traffic for a duration of 30 minutes or less for incidental material deliveries as approved by the Project Resident.

The Contractor shall keep all traffic lanes and turn lanes in operations during the following major events at the University of Maine.

1. University of Maine Hello Weekend starting at 6 am on the Friday of Hello Weekend and ending on Sunday at 6 pm. Hello Weekend is typically the last weekend of August before school starts.
2. All University of Maine home football games at the Harold Alfond Sports Stadium starting 5 hours before the games start time to 2 hours after the game is over including any overtime.
3. Any high school state championships sponsored by the Maine Principals Association (MPA) held at the University of Maine. The Contractor shall contact the Maine Principals Association (207-622-1513) to confirm the date and times for any future championships.

The Contractor shall cease all operations and have all travel lanes open to traffic and the roadway in safe operating condition during the following holidays:

July 4th Weekend - July 3rd at 3 pm to July 5th at 6 am

Pedestrian Traffic:

A 5' wide ADA compliant sidewalk shall be maintained at all times within the project limits except during the two one-day closures. If a temporary crosswalk is installed, rectangular rapid flashing beacons shall be installed and operational before pedestrians make use of the temporary crosswalk. The rectangular rapid flashing beacons shall be furnished and installed in accordance with Special Provision 643 Temporary Rectangular Rapid Flashing Beacon.

Access to adjacent property owners:

The Contractor shall maintain access at all times to the Brookfield dam property located at station 29+25 right. During work on Brookfield's driveway itself or drainage in front of the driveway, the Contractor shall be able to provide access within 20 minutes.

Access to the driveway for the Riverside House of Pizza at station 21+06 right shall be maintained at all times.

SPECIAL PROVISION
SECTION 107
TIME
(Supplemental Liquidated Damages)

The Contractor will be assessed supplemental liquidated damages at the rate of \$1,500 per each 1 hour, or any part thereof, for not reopening Stillwater Avenue after the allotted maximum duration of one Calendar Day for each road closure as specified in Section 105 General Scope of Work (Traffic Control).

Assessment of supplemental liquidated damages will be in addition to the liquidated damages specified in Section 107 of the Standard Specifications.

SPECIAL PROVISION
SECTION 107
TIME
(Contract Completion Date)

The Contractor shall plan their work accordingly such that the temporary detour bridge and approaches are Substantially Complete and open to traffic on or before April 30, 2024.

The temporary detour bridge will be considered Substantially Complete when two lanes of vehicular traffic and the pedestrian sidewalk are maintained and the following items are complete, in place, and accepted: riprap, temporary pavement, bridge rail, crash cushions, approach guardrail, and temporary pavement markings.

SPECIAL PROVISION
SECTION 108
PAYMENT
(Invoices and Payment)

The Contractor shall submit an itemized invoice to the Department for services monthly and at the completion of the Work or as otherwise noted in the Contract documents for approval and payment.

At a minimum, invoices shall be on a Contractor's letterhead and shall include the following information:

- Contractor name, address & Contract Number
- Invoice Date & Number
- Period during which Work was performed or Dates of Service
- Description and Location of Work or Service
- Quantities at the Prices contained in the Contractor's Bid
- Percent complete of each Item priced at the Unit cost for each Item at the Unit Prices contained in the Contractor's Bid
- Extra Work agreed to by written Contract Modification
- Total amount due

The Department will make payments based upon approved complete and correct invoices for accepted Work invoiced at bid prices. No such payment will be made if, in the judgment of the Department, the Work is not in accordance with the provisions of the Contract.

Payments to the Contractor shall be full compensation for furnishing all labor, equipment, materials, services, and incidentals used to perform all Work under the Contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of any kind arising from the nature or execution of the Work. The Contractor shall pay all taxes, charges, fees, and allowances. Except as expressly provided otherwise in this Contract, all such taxes, charges, fees, and allowances are Incidental to the Contract. Most items are exempt from Maine sales tax. The Contractor shall Bid in accordance with the Maine statutory exemption from sales tax. No payments due the Contractor will be adjusted for inflation. No interest shall be due and payable on any payment due the Contractor. The Department may require that the Contractor submit backup documentation including copies of receipts, invoices, and itemized payments to Subcontractors.

The Department may withhold payments claimed by the Contractor on account of:

- A. Incomplete, Inaccurate or Incorrect Invoices,
- B. Defective Work or non-conforming Work,

- C. Damages for Non-conforming, Defective or Unauthorized Work or Equipment,
- D. Damage to a third party,
- E. Claims filed or reasonable evidence indicating probable filing of claims,
- F. Failure of the Contractor to make payments to Subcontractors or for Materials or labor,
- G. Regulatory non-compliance or enforcement,
- H. Failure to submit Documentation
- I. All other causes that the Department reasonably determines negatively affect the State's interest.

SPECIAL PROVISION
SECTION 461
LIGHT CAPITAL PAVEMENT
(Temporary Pavement)

Description:

This work shall consist of furnishing all labor, materials and equipment, for the manufacturing, installation and removal of all Temporary Pavement in accordance with these specifications, Special Provision 403 Hot Mix Asphalt, and the Plans. Temporary pavement shall meet all mix design requirements of a 12.5 mm surface mix for the top 1½ inches, and a 12.5 mm base mix for the remaining 1½ inches.

Method of Measurement:

This work will be measured for payment by the Ton, complete in place and accepted.

Basis of Payment:

The work shall be paid for at the contract Ton price for the manufacturing, installation and removal of all Temporary Pavement.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
461.131 Temporary Pavement	Ton

SPECIAL PROVISION
SECTION 510
SPECIAL DETOUR

510.01 Description

The following paragraph is added:

This work shall also include installing and maintaining a temporary 8' tall solid fence located immediately behind the temporary sidewalk and along the property owned by Chris Manlove/Jane C. Adams property located between station 29+58 left to station 31+09 left. The temporary 8' tall fence shall extend a sufficient distance along the house to block headlights from vehicles on the temporary bridge from shining into the windows.

510.032(c) Approach Road Guardrail

This subsection is replaced with the following:

The Special Detour approaches shall have guardrail or concrete barrier where side slopes are steeper than 3 horizontal to 1 vertical, or as specified on the Plans. Approach guardrail shall be Type 3 guardrail or an approved equal and shall be attached to the bridge rail in a manner that develops the guardrail in tension. Approach barrier shall be attached to the bridge rail with a rigid connection with a similar strength capacity to the bridge rail. If the Plans specify a type of rail or barrier, that type shall be used.

The termination of approach guardrail or barrier and the end treatment of the rail shall be in accordance with the current AASHTO Roadside Design Guide.

510.033 Navigation Channel Design

The following subsection is added:

The Contractor shall maintain a navigational opening for recreational boating use near the west side of the river during construction. The minimum marine navigational opening shall be 22 feet measured perpendicular to flow. Additional markers or signage to designate the navigation opening are required. The Contractor may close the navigational channel during the following activities or during any activity that may prove a safety risk:

1. Installation of temporary bridge superstructure over the navigational channel.
2. Existing bridge removal over the navigational channel.
3. Installation of new steel beams over the navigational channel.
4. Installation and removal of deck formwork over the navigational channel.

The Contractor shall inform the following entities a minimum of 10 days before any navigational channel closure:

1. Brookfield Dam
Stillwater Station B
1052 Stillwater Avenue
Old Town, Maine

866-714-6110
Robert Brochu 207-827-4067
Robert.Brochu@brookfieldrenewable.com

2. <https://oronopaddlers.org> orono.paddlers@gmail.com
3. <https://paddleandchowder.org>
4. City of Old Town
5. Old Town Police
6. Old Town Fire Department

The Contractor shall also publish a notice in the following newspapers before each river closure and when the river is reopened to boaters:

1. Bangor Daily News
2. The Penobscot Times

510.06 Special Detour Construction

The following sentences are added:

The temporary 8' tall solid fence located by the Chris Manlove/Jane C. Adams shall be in place before the detour is opened to traffic.

510.09 Basis of Payment

This subsection is amended as follows:

The following sentences are inserted in the first paragraph after the second sentence:

All guardrail or concrete barrier required solely for the Special Detour shall be incidental to this item. The temporary 8' tall solid fence as described above shall be incidental to this item.

The second paragraph is replaced with the following:

Traffic control devices, work zone crash cushions, temporary erosion control, pavement, and dust control will be paid for in accordance with the applicable Contract items.

The following sentences are added:

Materials previously procured under Early Release Package #1 for use in the construction of the Special Detour shall be excluded from payment.

Highway Lighting Quality Control Checklist

Subsection 634.09 Field Testing

Project Pin # _____

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

Grounding Electrode Resistance at service _____

Number of Circuits _____

Hand-Off-Auto Switch? _____

Circuit #1

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

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

Current draw- (during normal operation)

Leg #1

Leg #2

Operating Voltage at last pole _____

Circuit #2

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

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

Current draw- (during normal operation)

Leg #1

Leg #2

Operating Voltage at last pole _____

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

Electrician's Signature _____

Electrician's License # _____

Highway Lighting Quality Control Checklist

Subsection 634.09 Field Testing

Project Pin # _____

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

Grounding Electrode Resistance at service _____

Number of Circuits _____

Hand-Off-Auto Switch? _____

Circuit #3

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

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

Current draw- (during normal operation)

Leg #1

Leg #2

Operating Voltage at last pole _____

Circuit #4

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

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

Current draw- (during normal operation)

Leg #1

Leg #2

Operating Voltage at last pole _____

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

Electrician's Signature _____

Electrician's License # _____

Traffic Signal Quality Control Checklist

Subsection 643.14 Field Testing

Project Pin # _____

Grounding Electrode Resistance at service _____

ID tags on loop amps / detector cards? _____

Location _____

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

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

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

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

Electrician's Signature _____

Electrician's License # _____

SPECIAL PROVISION
SECTION 534
PRECAST STRUCTURAL CONCRETE

Revise Paragraph 2 of 534.07 Quality Control to say:

Provide a copy of the Quality System Manual (QSM) to the Fabrication Engineer for review and approval.

Add the following Paragraph to 534.07 Quality Control:

QC staff shall be separate from production and shall not perform any production work.

Revise Sentence 1 in 534.17 Finishing Concrete to say:

Concrete Products shall be finished to meet the Standard Grade finish as described in the MNL-116.

SPECIAL PROVISION
SECTION 643
TRAFFIC SIGNALS
(Temporary Rectangular Rapid Flashing Beacon)

This section is amended by addition of the following:

Description

The Contractor shall furnish and install temporary rectangular rapid flashing beacons including signage assemblies at pedestrian crossings as shown on the Plans or at locations identified in the approved Traffic Control Plan.

Materials

Each rectangular rapid flashing beacon (RRFB) assembly shall consist of two rectangular-shaped yellow indications, each with an LED-array based light source. Each RRFB indication shall be a minimum of approximately 5 inches wide by approximately 2 inches high. The light intensity of the yellow indications shall meet the minimum specifications for Class 1 yellow peak luminous intensity of the latest version of Society of Automotive Engineers (SAE) standard J595 (Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles). To minimize excessive glare during nighttime conditions, an automatic signal dimming device should be used to reduce the brilliance of the RRFB indications during nighttime conditions.

Temporary poles with the appropriate breakaway device and foundation systems shall be provided. A shop drawing submittal is required for the pole, foundation, and beacon assembly device proposed.

Signs for RRFB signage assemblies shall meet the requirements of Section 652 Maintenance of Traffic. The signage assemblies shall include a W11-2 pedestrian crossing sign, W16-7p diagonal downward arrow plaque, and R10-25 pedestrian pushbutton signs.

Pedestrian pushbutton assemblies for activating RRFB indications shall be installed on each RRFB support pole, mounted at 42 inches above sidewalk grade and within 10 inches of the edge of sidewalk. Pushbuttons shall meet Americans with Disabilities Act vibrotactile technical requirements for accessible pedestrian signals (APS). The pushbutton assembly shall include a raised directional arrow indicating the direction of crossing. Audible locator and percussive crossing tones are required.

Construction and Operation

Flashing lights and signage shall be in both directions of vehicle travel.

The two RRFB indications in an assembly shall be aligned horizontally, with the longer dimension horizontal and with a minimum space between the two indications of approximately 7 inches, measured from inside edge of one indication to inside edge of the other indication.

The outside edges of the RRFB indications, including any housing, shall not project beyond the outside edges of the W11-2 sign in the beacon signage assembly.

As a specific exception to Paragraph 5 of 2009 MUTCD Section 4L.01 guidance, the RRFB indications shall be located between the bottom of the W11-2 crossing warning sign and the top of the supplemental W16-7p downward diagonal arrow plaque, rather than 12 inches above or below the sign assembly.

When activated, the two yellow indications in each RRFB shall flash in a rapidly alternating "wig-wag" flashing sequence (left light on, then right light on). As a specific exception to the requirements for the flash rate of beacons provided in Paragraph 3 of MUTCD Section 4L.01, RRFBs shall use a much faster flash rate and shall provide 75 flashing sequences per minute. During each 800-millisecond flashing sequence, the left and right RRFB indications shall operate using the following sequence:

The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds.

Both RRFB indications shall be dark for approximately 50 milliseconds.

The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds.

Both RRFB indications shall be dark for approximately 50 milliseconds.

The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds.

Both RRFB indications shall be dark for approximately 50 milliseconds.

The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds.

Both RRFB indications shall be dark for approximately 50 milliseconds.

Both RRFB indications shall be illuminated for approximately 50 milliseconds.

Both RRFB indications shall be dark for approximately 50 milliseconds.

Both RRFB indications shall be illuminated for approximately 50 milliseconds.

Both RRFB indications shall be dark for approximately 250 milliseconds.

The flash rate of each individual yellow indication, as applied over the full on-off sequence of a flashing period of the indication, shall not be between 5 and 30 flashes per second, to avoid frequencies that might cause seizures.

The RRFBs, normally dark, shall initiate operation only upon pedestrian pushbutton actuation, and shall cease operation at a predetermined time after the pedestrian actuation. For this project, the duration of operation of the RRFBs following each actuation shall be 15 seconds. All RRFBs associated with a given crosswalk shall, when activated, simultaneously commence

operation of their alternating rapid flashing indications, and shall cease operation simultaneously.

Communication between the devices may be either by spread spectrum wireless or hardwired.

MUTCD R10-25 pedestrian instruction signage with the legend PUSH BUTTON TO TURN ON WARNING LIGHTS shall be mounted adjacent to or integral with each pedestrian pushbutton.

Method of Measurement

All rectangular rapid flashing beacon and sign assemblies associated with a single crosswalk shall constitute a single installation. Each installation will be measured for payment by each in place.

Basis of Payment

Rectangular Rapid Flashing Beacon will be paid for at the contract each price, which payment will be full compensation for furnishing and installing all materials including, but not limited to, the RRFB LED arrays, flasher, timer, lockable controller cabinet, pole and foundation, breakaway devices, conduit, wiring and power service, pole risers, pedestrian push button assemblies, crosswalk signage, radio communication devices, and all appurtenances and incidentals required for a complete and functioning installation.

Payment will be made under:

	<u>Pay Item</u>	<u>Pay Unit</u>
643.62	Rectangular Rapid Flashing Beacon	Each

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Portable-Changeable Message Sign)

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

652.2.5 Portable-Changeable Message Sign

Portable-Changeable Message Signs shall be furnished by the Contractor for installation and use at the following locations:

1. Old Town, Route 2/Stillwater Avenue, located between the beginning of the project and Route 16/Bennoch Road
2. Old Town, Route 2/Stillwater Avenue, located between Sewall Road and the east end of the project

The exact location of any Portable-Changeable Message Signs shall be approved by the Resident. The Contractor shall provide, operate, and maintain the Portable-Changeable Message Signs. The Contractor shall remove, transport, and maintain the signs as directed by the Resident. The Contractor will be responsible for the day-to-day programming and operation of the signs.

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Work Zone Traffic Control)

652.3.4 General Requirements. The following paragraphs are added:

The Contractor's Traffic Control Plan shall address bicycle traffic. The following sign shall be used on the project:

Bikes May Use Full Lane (MUTCD R4-11)



Painted Shared Lane Markings from MUTCD figure 9C-9 shall be used during construction.

**Maine Department of Transportation
Special Provisions for the Purchase of
Supplies, Materials or Equipment for a Specific Project
Pursuant to 23 MRSA § 52**

1) **WARRANTY.** Contractor warrants:

- a) That all articles and services to be supplied by it under this contract are fit and sufficient for the purpose intended;
- b) That all articles and services covered by this contract will conform to the specifications, drawing samples, symbols or other description specified by the Department;
- c) That such articles are merchantable, good quality and free from defects whether patent or latent in material and workmanship;
- d) That all workmanship, materials and articles to be provided are of the best grade and quality; and,
- e) That it has good and clear title to all articles to be supplied by it and the same are free and clear from all liens, encumbrances and security interest.

Neither the final certificate of payment nor any provision herein, nor partial nor entire use of the articles provided shall constitute an acceptance of work not done in accordance with this Contract or relieve the Contractor from liability in respect of any warranties or responsibility for faulty material or workmanship. The Contractor shall remedy any defects in the materials and articles delivered pursuant to this Contract and pay any damages resulting from such defects which shall appear within 1 year from the date of final acceptance of the materials and articles provided hereunder. The Department shall give written notice of observed defects with reasonable promptness.

- 2) **TAXES.** Contractor agrees that, unless otherwise indicated in this Contract, the prices herein do not include federal, state or local sales, or use the tax from which an exemption is available for purposes of this order. Contractor agrees to accept and use tax exemption certificates when supplied by the Department as applicable. In case it shall ever be determined that any tax included in the prices herein was not required to be paid by Contractor, Contractor agrees to notify the Department and to make prompt application for the refund thereof, to take all proper steps to procure the same and when received to pay the same to the Department.
- 3) **PACKING & SHIPMENT.** Deliveries shall be made as specified without charge for boxing, shipping or storage, unless otherwise specified. Articles shall be suitably packed to secure lowest transportation cost and to conform with the requirements of common carriers and any applicable specifications. Order numbers and symbols must

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be plainly marked on all invoices, packages, bills of lading and shipping orders. Bill of lading should accompany each invoice. Count or weight shall be final and conclusive on shipments not accompanied by packing lists. Shipping terms F.O.B. destination.

- 4) **DELIVERY.** Delivery should be strictly in accordance with delivery schedule. Articles fabricated beyond the Department's releases are at Contractor's risk. Contractor shall not make material commitments or production arrangements in excess of the amount or in advance of the time necessary to meet delivery schedule. Unless otherwise specified herein, or receipt of written approval, no deliveries shall be made in advance of the Department's delivery schedule. Neither party shall be liable for excess costs of deliveries or defaults due to causes beyond its control and without its fault or negligence, provided, however, that when the Contractor has reason to believe that the deliveries will not be made as scheduled, written notice setting forth the cause of the anticipated delay will be given immediately to the Department. If the Contractor's delay or default is caused by the delay or default of a subcontractor, such delay or default shall be excusable only if it arose out of causes beyond the control of both Contractor and subcontractor and without fault of negligence or either of them and the articles or services to be furnished were not obtainable from other sources in sufficient time to permit Contractor to meet the required delivery schedule.
- 5) **REMEDY.** If Contractor's deliveries fail to meet such schedule, the Department, without limiting its other remedies, may direct expedited shipping, and the difference between the expedited routing and the order routing costs shall be paid by the Contractor.
- 6) **INSPECTION.** All articles and work will be subject to final inspection and approval after delivery, notwithstanding prior payment, it being expressly agreed that payment will not constitute final acceptance. The Department at its option may either reject any article or work not in conformity with the requirements and terms of this order, or re-work the same at Contractor's expense. The Department may reject an entire shipment of similar articles if a sample inspection discloses that ten (10%) percent of the articles inspected are defective. This may be waived if the Contractor agrees to reimburse the Department for the cost of a complete inspection of the articles included in such shipment. Rejected material will be returned at Contractor's risk and expense at the full invoice price plus applicable transportation charges, if any. No replacement of defective articles of work shall be made unless specified by the Department.

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Supplies, Materials or Equipment for a Specific Project
Pursuant to 23 MRSA § 52**

- 7) **BENEFITS AND DEDUCTIONS.** If the Contractor is an individual, the Contractor understands and agrees that he/she is an independent contractor for whom no Federal or State Income Tax will be deducted by the Department, and for whom no retirement benefits, survivor benefit insurance, group life insurance, vacation and sick leave, and similar benefits available to State employees will accrue. The Contractor further understands that annual information returns, as required by the Internal Revenue Code or State of Maine Income Tax Law, will be filed by the State Controller with the Internal Revenue Service and the State of Maine Bureau of Revenue Services, copies of which will be furnished to the Contractor for his/her Income Tax records.
- 8) **INDEPENDENT CAPACITY.** In the performance of this Contract, the parties hereto agree that the Contractor, and any agents and employees of the Contractor shall act in the capacity of an independent contractor and not as officers or employees or agents of the State.
- 9) **DEPARTMENT'S REPRESENTATIVE.** The Contract Administrator shall be the Department's representative during the period of this Contract. He/she has authority to curtail services if necessary to ensure proper execution. He/she shall certify to the Department when payments under the Contract are due and the amounts to be paid. He/she shall make decisions on all claims of the Contractor.
- 10) **CHANGES IN THE WORK.** The Department may make changes to its order, the Contract Amount will be amended accordingly, these changes will not invalidate this Contract. In no event shall Contractor fail or refuse to continue the performance of its obligations under this Contract because of the inability of the parties to agree on an adjustment or adjustments. Any monetary adjustment or any substantive change in the articles or materials shall be in the form of an amendment, signed by both parties and approved by the MaineDOT. Said amendment must be effective prior to delivery of the articles or materials.
- 11) **SUBLETTING, ASSIGNMENT OR TRANSFER.** The Contractor shall not sublet, sell, transfer, assign or otherwise dispose of this Contract or any portion thereof, or of its right, title or interest therein, without written request to and written consent of the Contract Administrator. No subcontracts or transfer of Contract shall in any case release the Contractor of its liability under this Contract.
- 12) **PERSONNEL.** The Contractor warrants that it has not employed or contracted with any company or person, other than for assistance with the normal study and preparation of a proposal, to solicit or secure this Contract and that it has not paid, or agreed to pay, any company or person, other than a bona fide employee working solely for the Contractor, any fee, commission, percentage, brokerage fee, gifts, or

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any other consideration, contingent upon, or resulting from the award for making this Contract. For breach or violation of this warranty, the Department shall have the right to annul this Contract without liability or, in its discretion to otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

13) **EQUAL EMPLOYMENT OPPORTUNITY.** During the performance of this Contract, the Contractor agrees as follows:

- a) The Contractor shall not discriminate against any employee or applicant for employment relating to this Contract because of race, color, religious creed, sex, national origin, ancestry, age, physical or mental disability, or sexual orientation, unless related to a bona fide occupational qualification. The Contractor shall take affirmative action to ensure that applicants are employed and employees are treated during employment, without regard to their race, color, religion, sex, age, national origin, physical or mental disability, or sexual orientation.

Such action shall include but not be limited to the following: employment, upgrading, demotions, or transfers; recruitment or recruitment advertising; layoffs or terminations; rates of pay or other forms of compensation; and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices setting forth the provisions of this nondiscrimination clause.

- b) The Contractor shall, in all solicitations or advertising for employees placed by or on behalf of the Contractor relating to this Contract, state that all qualified applicants shall receive consideration for employment without regard to race, color, religious creed, sex, national origin, ancestry, age, physical or mental disability, or sexual orientation.
- c) The Contractor shall send to each labor union or representative of the workers with which it has a collective bargaining agreement, or other agreement or understanding, whereby it is furnished with labor for the performance of this Contract a notice to be provided by the contracting agency, advising the said labor union or workers' representative of the Contractor's commitment under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- d) The Contractor shall inform the Department's Equal Employment Opportunity Coordinator of any discrimination complaints brought to an external regulatory body (Maine Human Rights Commission, EEOC, Office of Civil Rights) against

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their agency by any individual as well as any lawsuit regarding alleged discriminatory practice.

- e) The Contractor shall comply with all aspects of the Americans with Disabilities Act (ADA) in employment and in the provision of service to include accessibility and reasonable accommodations for employees and clients.
- f) Contractors and subcontractors with contracts in excess of \$50,000 shall also pursue in good faith affirmative action programs.
- g) The Contractor shall cause the foregoing provisions to be inserted in any subcontract for any work covered by this Contract so that such provisions shall be binding upon each subcontractor, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials.

14) **STATE EMPLOYEES NOT TO BENEFIT.** No individual employed by the State at the time this Contract is executed or any time thereafter shall be admitted to any share or part of this Contract or to any benefit that might arise therefrom directly or indirectly that would constitute a violation of 5 MRSA § 18 or 17 MRSA § 3104. No other individual employed by the State at the time this Contract is executed or any time thereafter shall be admitted to any share or part of this Contract or to any benefit that might arise therefrom directly or indirectly due to his employment by or financial interest in the Contractor or any affiliate of the Contractor. The Contractor shall cause the foregoing provisions to be inserted in any subcontract for any work covered by this Contract so that such provisions shall be binding upon each subcontractor, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials.

15) **MATERIAL SAFETY DATA SHEETS.** All manufacturers, importers, suppliers, or distributors of hazardous chemicals doing business in this State must provide a copy of the current material safety data sheet for any hazardous chemical to their direct purchasers of that chemical.

16) **ACCESS TO RECORDS.** The Contractor shall maintain all books, documents, payrolls, papers, accounting records and other evidence pertaining to this Contract and make such materials available at its offices at all reasonable times during the period of this Contract and for such subsequent period as specified under Maine Uniform Accounting and Auditing Practices for Community Agencies (MAAP) rules. The Contractor shall allow inspection of pertinent documents by the Department or

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any authorized representative of the State of Maine or Federal Government, and shall furnish copies thereof, if requested.

- 17) **TERMINATION.** The performance of work under the Contract may be terminated by the Department in whole, or in part, whenever the Contract Administrator determines that such termination is in the best interest of the Department including but not limited to the following circumstances:
- (a) The Contractor fails to make delivery of articles, or to perform services within the time or time specified herein, or
 - (b) The Contractor fails to make delivery of articles, or specified materials, or
 - (c) If Contractor defaults under any other term or condition of this contract, or
 - (d) If Contractor fails to make progress as to endanger the performance of this contract in accordance with its terms; or,
 - (e) If Contractor is adjudged bankrupt, or if it makes a general assignment for the benefit of its creditors or if a receiver is appointed on account of its insolvency.

In the event that the Division terminates this agreement in whole or in part pursuant to this paragraph, the Division may procure (articles and services similar to those so terminated) upon such terms and in such manner as deemed appropriate by the Department, and Contractor shall be liable to the Department for any excess cost incurred.

- 18) **GOVERNMENTAL REQUIREMENTS.** The Contractor warrants and represents that it will comply with all governmental ordinances, laws and regulations.
- 19) **GOVERNING LAW.** This Contract is pursuant to 23 M.R.S.A. §52, and shall be governed in all respects by the laws, statutes, and regulations of the United States of America and of the State of Maine. Any legal proceeding against the State regarding this Contract shall be brought in State of Maine administrative or judicial forums. The Contractor consents to personal jurisdiction in the State of Maine.
- 20) **STATE HELD HARMLESS.** The Contractor agrees to indemnify, defend and save harmless the State, its officers, agents and employees from any and all claims, costs, expenses, injuries, liabilities, losses and damages of every kind and description (hereinafter in this paragraph referred to as “claims”) resulting from or arising out of the performance of this Contract by the Contractor, its employees, agents, or

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subcontractors. This indemnification includes all legal costs and other expenses of defense against any asserted claims to which this indemnification applies. This indemnification does not extend to a claim that results solely and directly from (i) the Department's negligence or unlawful act, or (ii) action by the Contractor taken in reasonable reliance upon an instruction or direction given by an authorized person acting on behalf of the Department in accordance with this Contract.

- 21) **NOTICE OF CLAIMS.** The Contractor shall give the Department Contract Administrator immediate notice in writing of any legal action or suit filed related in any way to the Contract or which may affect the performance of duties under the Contract, and prompt notice of any claim made against the Contractor by any subcontractor which may result in litigation related in any way to the Contract or which may affect the performance of duties under the Contract.

- 22) **NON-APPROPRIATION.** Notwithstanding any other provision of this Contract, if the State does not receive sufficient funds to fund this Contract and other obligations of the State, if funds are de-appropriated, or if the State does not receive legal authority to expend funds from the Maine State Legislature or Maine courts, then the State is not obligated to make payment under this Contract.

- 23) **SEVERABILITY.** The invalidity or unenforceability of any particular provision or part thereof of this Contract shall not affect the remainder of said provision or any other provisions, and this Contract shall be construed in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

- 24) **FORCE MAJEURE.** The Department may, at its discretion, excuse the performance of an obligation by a party under this Contract in the event that performance of that obligation by that party is prevented by an act of God, act of war, riot, fire, explosion, flood or other catastrophe, sabotage, severe shortage of fuel, power or raw materials, change in law, court order, national defense requirement, or strike or labor dispute, provided that any such event and the delay caused thereby is beyond the control of, and could not reasonably be avoided by, that party. The Department may, at its discretion, extend the time period for performance of the obligation excused under this section by the period of the excused delay together with a reasonable period to reinstate compliance with the terms of this Contract.

- 25) **DEBARMENT, SUSPENSION, INELIGIBILITY, OR EXCLUSION.** By signing the Contract, the Contractor certifies that it has not been debarred, suspended, declared ineligible or voluntarily excluded from contracts by the Federal Government or any state agency within the last 3 years.

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- 26) **SET-OFF RIGHTS.** The State shall have all of its common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, the State's option to withhold for the purposes of set-off any monies due to the Contractor under this Contract up to any amounts due and owing to the State with regard to this Contract, any other Contract, any other Contract with any State department or agency, including any Contract for a term commencing prior to the term of this Contract, plus any amounts due and owing to the State for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. The State shall exercise its set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audit by the State agency, its representatives, or the State Controller.

2020 STANDARD DETAIL UPDATES

Standard Details and Standard Detail updates are available at:
<http://maine.gov/mdot/contractors/publications/standarddetail/>

<u>Detail #</u>	<u>Description</u>	<u>Revision Date</u>
502(19)	Bridge Drains	3/17/2023
502(15)	Bridge Drains	3/17/2023
502(20)	Bridge Drains	3/17/2023
502(23)	Bridge Drains	3/17/2023
502(24)	Bridge Drains	3/17/2023
502(25)	Bridge Drains	3/17/2023
502(26)	Bridge Drains	3/17/2023
504(07)	Diaphragm & Crossframe Notes	3/17/2023
507(20)	Steel Approach Railing 3-Bar	2/11/2021
507(21)	Steel Approach Railing 3-Bar	2/11/2021
507(22)	Steel Approach Railing 3-Bar	2/11/2021
507(23)	Steel Approach Railing 3-Bar	2/11/2021
507(27)	Steel Approach Railing	2/11/2021
526(01)	Portable Concrete Barrier	1/14/2021
526(01A)	Portable Concrete Barrier	1/14/2021
526(01B)	Portable Concrete Barrier	1/14/2021
526(02)	Portable Concrete Barrier	1/14/2021
526(02A)	Portable Concrete Barrier	1/14/2021
526(03)	Portable Concrete Barrier	1/14/2021
526(04)	Portable Concrete Barrier	1/14/2021
526(04A)	Portable Concrete Barrier	1/14/2021
526(04B)	Portable Concrete Barrier	1/14/2021
526(05)	Permanent Concrete Barrier	3/17/2023
526(21)	Permanent Concrete Barrier	3/17/2023
526(22)	Concrete Transition Barrier	3/17/2023
526(38)	Concrete Transition Barrier	3/17/2023
526(39)	Texas Classic Rail	3/17/2023
526(55)	Texas Classic Rail	3/17/2023

603(10)	Concrete Pipe Ties	6/10/2021
605(01)	Underdrain	7/8/2022
605(01)	Underdrain Notes	7/8/2022
606(17)	Midway Splice Guardrail Transition	6/10/2022
606(23)	Standard Bridge Transition – Type “1”	2/11/2021
606(24)	Standard Bridge Transition – Type “1A”	2/11/2021
608(02)	Detectable Warnings	6/10/2021
609(09)	Precast Concrete Vertical Curb	2/11/2021
627(07)	Crosswalk	2/22/2022
627(08)	Crosswalk	2/22/2022
643(11)	ATCC Cabinet	12/14/2020
801(11)	Pedestrian Ramp Notes	6/10/2021
801(12)	Pedestrian Ramp Requirements	8/13/2021
801(13)	Ramp Length Table	6/10/2021
801(14)	Parallel Pedestrian Ramp	6/10/2021
801(15)	Perpendicular Pedestrian Ramp – Option 1	6/10/2021
801(16)	Parallel Pedestrian Ramp – Option 2A	6/10/2021
801(17)	Perpendicular Pedestrian Ramp – Option 2A	6/10/2021
801(18)	Parallel Pedestrian Ramp – Option 2B	6/10/2021
801(19)	Perpendicular Pedestrian Ramp – Option 2B	6/10/2021
801(20)	Parallel Pedestrian Ramp – Option 3	6/10/2021
801(21)	Perpendicular Pedestrian Ramp – Option 3	6/10/2021
801(22)	Side Street Pedestrian Ramp	6/10/2021
801(23)	Parallel Pedestrian Ramp – Esplanade	6/10/2021
801(24)	Perpendicular Pedestrian Ramp – Esplanade	6/10/2021
801(25)	Island Crossings	6/10/2021
801(26)	Blended Transition	6/10/2021
801(27)	Pedestrian Ramp Adjacent to Driveway or Entrance	6/10/2021
802(05)	Roadway Culvert End Slope Treatment	1/03/2017

SUPPLEMENTAL SPECIFICATIONS
(Corrections, Additions, & Revisions to Standard Specifications – March 2020)

SECTION 101
CONTRACT INTERPRETATION

101.2 Definitions

Holidays Amend this paragraph by adding “**Juneteenth**” between ‘Memorial Day’ and ‘Independence Day’.

Plans Revise this paragraph by removing “**Standard Details, Supplemental Standard Details**” from the first sentence.

SECTION 102
BIDDING

102.11 Bid Responsiveness Revise the paragraph that states
“The Bid is not signed by a duly authorized representative of the Bidder.” So that it reads:

“**The Bid is not signed by a duly authorized representative of the Bidder.**

- **Properly submitted electronic bids meet this requirement.**
- **Paper bids must include at least one signed copy of the Contract Agreement Offer & Award form.”**

SECTION 103
AWARD AND CONTRACTING

103.3.1 Qualification Requirement for Award Revise this subsection so that it reads:

“**103.3.1 Qualification Requirement for Award If the Notice to Contractors lists a Prequalification requirement, the Apparent Successful Bidder must successfully complete the Prequalification process as a condition of Award. The Apparent Successful Bidder who does not already hold an Annual Prequalification shall have 21 days to provide the Department with their Prequal documents or the Department may move on to the next low bidder.”**

SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

104.2.1 Furnishing of Right-of-Way Revise 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 105 GENERAL SCOPE OF WORK

105.10.2 Requirements Applicable to All Contracts Under section A, number 2, in the first sentence of the first paragraph, revise this Section by replacing the word “handicap” in two places with the word “disability” so it now reads:

“2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, State that all qualified applicants will receive consideration for employment without regard to race, color, sexual orientation, religious creed, sex, national origin, ancestry, age, physical disability, or mental disability.”

SECTION 106 QUALITY

106.6 Acceptance Revise this Subsection by replacing the paragraph beginning with “Acceptance of Hot Mix Asphalt Pavement will be based” with:

“Acceptance of Hot Mix Asphalt Pavement will be based on Method A or C Statistical Acceptance, or Method B or D Acceptance as specified. The method of acceptance for each item is defined in Special Provision, Section 403, Hot Mix Asphalt Pavement. When items of Hot Mix Asphalt Pavement are not so designated, Method A will be utilized whenever there are more than 1000 tons per Hot Mix Asphalt Pavement item, and Method B will be utilized when there are less than or equal to 1000 tons per Hot Mix Asphalt Pavement item.”

Revise Subsection “B” by removing it and replacing it with:

“B. Items not designated for Statistical Acceptance will utilize Method B or D Acceptance testing to validate the quality of the material incorporated into the Project. For material paid under Item 403.209 – Method D, or designated to be visually accepted, the Contractor shall provide the Department with a Certification Letter that indicates that the material supplied complies with the Specifications. Test results representative of the certified material shall be attached to the letter.

The Department will randomly sample and test the certified Material for properties noted in Table 1 of Section 502 - Structural Concrete or Table 14 of Section –401.21 Acceptance Method B & D. Material will be subject to rejection as noted in Structural Concrete Section 502.195 - Quality Assurance Method C Concrete or Hot Mix Asphalt, Section 401.2022 Pay Adjustment – Method B & D.”

106.7.1 Standard Deviation Method Revise 106.7.1, subsection H by removing the following from the first paragraph:

“Method B: $PF = [70 + (Quality\ Level * 0.33)] * 0.01$ ”

SECTION 107 TIME

107.3.1 General Amend this paragraph by adding “**Juneteenth**” between ‘Patriot’s Day’ and ‘the Friday after Thanksgiving’.

SECTION 108 PAYMENT

108.3 Retainage Revise the third paragraph of this section so that it reads:

“Upon Final Acceptance, and determination by the department that there are no claims either by or on the Contractor or Subcontractors; no over payments by the department; no LDs due; and no disincentives due, the Department will reduce Retent to 1% of the original Contract Award amount, or \$100,000, whichever is less, as it deems desirable and prudent.”

108.4.1 Price Adjustment for Hot Mix Asphalt Revise the first paragraph of this section by replacing the first sentence with the following:

“For each Contract, a price adjustment for performance graded binder will be made for the following pay items, when the total quantity of Hot Mix Asphalt included in these items is in excess of 500 tons, based on the estimated quantities of these items at the time of bid.”

Amend this section by adding “**Item 461.2101 Polymer Modified 9.5 mm**” to the list of Pay Items that are eligible for a price adjustment. Also add “**Item 461.2101 - 6.4%**” to the list of Asphalt percentages.

SECTION 110 INDEMNIFICATION, BONDING, AND INSURANCE

110.3.9 Administrative & General Provisions Amend this subsection by adding “**Automobile Liability**” under letter A) Additional Insured to the list of exceptions.

SECTION 206 STRUCTURAL EXCAVATION

206.01 Description – *Structural Earth Excavation, Below Grade* delete the entire sentence and replace with “**shall consist of the removal of excavation required for unknown or unanticipated subsurface condition. See 206.04 – Method of Measurement for pay limits.**”

206.04 Method of Measurement – Drainage and Minor Structures Paragraph 1, sentence 2, delete the remainder of the sentence beginning with “...provided the maximum allowable...”

And replace with: “...in accordance with the following limits:”

- **Vertical pay limits:**
 - **Below a plane parallel with and 12 inches below the bottom of the drainage or minor structure or**
 - **Below the excavation limits shown in the Bid Documents; whichever is greater.**
- **Horizontal pay limits – The maximum allowable horizontal dimensions shall not exceed those bounded by vertical surfaces 18 inches outside the base, or extreme limits of, the structure, and to the vertical neat lines of underdrain trenches, as shown in the Contract Documents.**

SECTION 401 HOT MIX ASPHALT PAVEMENT

401.19 Contractor Quality Control Amend this Section by adding the following to the end:
“Failure to comply with the approved QCP will result in work suspension and pay reductions as outlined in Section 106.4.6. The Quality Control Plan Value shall be the total bid value for all items covered by the QCP as identified in Special Provision 403.”

SECTION 501 FOUNDATION PILES

501.05 Method of Measurement

c. Piles in Place Revise the third paragraph by replacing the “10” with “20” so that it reads:

Unused pile cutoffs **20** feet or more in length, except those required to accommodate the Contractor’s construction method, as discussed herein, will remain the property of the Department and will be stored at a bridge maintenance yard nearest the project. Hauling and unloading of piles will be done by the Contractor or by the Department, depending upon availability of services.

SECTION 502 STRUCTURAL CONCRETE

502.09 Forms and Falsework Amend this subsection by adding the subsection title “**502.10 Placing Concrete**” after section “D” Removal of Forms and False work” and after the paragraph beginning with “2. Forms and False work, including blocking...”. So that a new subsection starts and reads:

502.10 Placing Concrete

A. **General** Concrete shall not be placed until forms”

502.1701 Quality Control, Method A and B Revise this Section so that the first paragraph and the first sentence of the second paragraph read:

“502.17 Quality Control The Contractor shall control the quality of the concrete through testing, inspection, and practices which shall be described in the QCP, sufficient to assure a product meeting the Contract requirements. The QCP shall meet the requirements of Section 106, Quality, and this specification. No work under this item shall proceed until the QCP is submitted to and approved by the Department. Failure to comply with the approved QCP will result in work suspension and pay reductions as outlined in Section 106.4.6. The Quality Control Plan Value shall be the total bid value for all cast-in-place items covered by the QCP, using the P value listed in Special Provision 502. If no P value is listed, a value of \$350, or bid value per cubic yard, whichever is less, shall be used.

502.1701 Quality Control, Method A and B The QCP shall address all elements that affect the quality of the structural concrete including, but not limited to, the following: “

Section 502.1701, Quality Control, Revise Table 4 of this Subsection by removing it in its entirety and replacing it with:

TABLE 4
METHOD A & B MINIMUM QUALITY CONTROL TESTING REQUIREMENTS *

TEST	TEST METHOD	SAMPLING LOCATION	FREQUENCY
Gradation	AASHTO T-27 & T-11	Stockpile	One set per proposed grading before production. One set every 100 yd ³ (Min. 1 set per month)
Organic Impurities	AASHTO T-21	Stockpile	Once per fine aggregate per year **
% Absorption	AASHTO T-84 & T-85	Stockpile	Once per aggregate per year
Specific Gravity	AASHTO T-84 & T-85	Stockpile	Once per aggregate per year
Total Moisture in Aggregate	AASHTO T-255	Stockpile	One set per day's production
Free Water and Aggregate Wt.	N/A		One per day's production
% Entrained Air	AASHTO T-152	On Project	On first two loads and every third load thereafter provided consistent results are achieved
Compressive Strength	AASHTO T-22	On Project	One set per subplot
Compressive Strength	AASHTO T-22 @ 7days	On Project	One set per subplot

- * Additional QC testing will be required any time a process change occurs during a placement, including changes in type or dosage of admixture. Additional testing shall include, but is not limited to, entrained air testing.
- ** **If the color produced is a laboratory designation Plate III, then the fine aggregate shall be tested once per month.**

502.18, Method of Measurement, Revise Subsection ‘F’ by removing the word ‘transverse’ so that it reads: **“Saw cut grooving of concrete wearing surfaces, complete and accepted, will be measured for payment as one lump sum.”**

502.19, Basis of Payment, Revise the third paragraph by removing the word ‘transverse’ so that it reads: **“Saw cut grooving of concrete wearing surfaces will be paid for at the Contract Lump Sum Price, which shall be payment for furnishing all materials, labor, and equipment, including depth gauges and all incidentals, to satisfactorily complete the work.”**
(Also see 535.24 and 535.25 for related changes)

SECTION 503 REINFORCING STEEL

Section 503.07 Splicing Revise this section by removing the table and following footnote and replacing them with:

Minimum Lap Splice Length (inches)									
Bar Type	Bar Size								
	#3	#4	#5	#6	#7	#8	#9	#10	#11
Plain or Galvanized	16	20	24	29	38	47	59	72	85
Epoxy or Dual Coated	17	24	36	43	56	71	88	107	128
Stainless	19	24	30	36	47	59	73	89	107
Low-carbon Chromium	24	32	39	47	63	78	97	119	142

“The minimum lap splice lengths in the table above are based on the parameters below. When any of these parameters are altered, appropriate minimum lap splice lengths will be as shown on the Plans.

- Normal weight concrete
- Minimum 28-day concrete compressive strength from 4,000 psi to 10,000 psi
- Class B tension lap splice
- Minimum center-to-center spacing between bars of 6 inches
- Minimum clear cover of 2 inches
- Nominal reinforcing steel yield strengths
 - Low-carbon Chromium = 100 ksi
 - Stainless = 75 ksi
 - All others = 60 ksi

- **Reinforcement with yield strengths greater than 75 ksi shall have beam transverse reinforcement and column ties provided over the required lap splice length in accordance with the current edition of the AASHTO LRFD Bridge Design Specifications**

When lap splices are placed horizontally in an element where the concrete depth below the splice will be 12 inches, or more, the indicated lap splice lengths shall be multiplied by a factor of 1.3.”

SECTION 506 **SHOP APPLIED PROTECTIVE COATING – STEEL**

506.13 Surface Preparation Amend this section by adding this paragraph to the end:

“Steel shall meet the requirements of SSPC SP8 Pickling prior to being immersed in the zinc tanks. Verification of the surface preparation shall be included in the QC documentation.”

SECTION 523 **BEARINGS**

523.051 Protective Coating Revise this subsection by removing the paragraph beginning with “Anchor rods shall be galvanized...” and replacing with:

“Anchor rods shall be galvanized. When anchor rods are designated to secure bare unpainted steel or painted steel, a dielectric coating (epoxy or bituminous type coatings are acceptable) shall be applied to the anchor rod and/or adjacent steel to prevent contact between galvanized surfaces and painted or unpainted steel.”

523.22 Fabrication Amend this subsection by adding the following: **“Elastomeric Bearings shall be fabricated in accordance with AASHTO M251.”**

SECTION 526 **CONCRETE BARRIER**

Amend this section by deleting it in its entirety and replacing it with:

“526.01 Description This work shall consist of the furnishing, constructing, erecting, setting, resetting, and removal of concrete barrier and associated elements in accordance with these specifications, the Standard Details, and the lines and grades shown on the Plans or established by the Resident.

The types of concrete barrier are designated as follows:

Portable Concrete Barrier Type I Double faced removable barrier in accordance with the Standard Details.

Permanent Concrete Barrier Type II Double faced barrier as shown on the Plans.

Permanent Concrete Barrier Type IIIa Single faced barrier 32 inches high in accordance with the Standard Details or as shown on the Plans.

Permanent Concrete Barrier Type IIIb Single faced barrier 42 inches high in accordance with the Standard Details or as shown on the Plans.

Permanent Concrete Transition Barrier Barrier of various heights joining steel bridge rail to steel guardrail in accordance with the Standard Details or as shown on the Plans.

Permanent Texas Classic Rail Barrier Traffic rail or sidewalk rail, in accordance with the Standard Details or as shown on the Plans.

526.02 Materials

a. **Concrete** Concrete for barriers, both permanent and portable, shall have a design strength of 5,000 psi.

For cast-in-place barrier: The concrete shall be Class LP, in accordance with Standard Specification Section 502, Structural Concrete.

For precast barrier: The concrete shall meet the requirements of Standard Specification 712.061, Structural Precast Concrete Units, except that the stripping strength for precast barriers is 4,000 psi.

b. **Reinforcing Steel** Reinforcing steel shall meet the requirements of Section 503, Reinforcing Steel.

c. **Structural Steel** Plates and barrier connections shall meet the requirements specified in Standard Specification 504 - Structural Steel and shall be hot dip galvanized after fabrication in accordance with Standard Specification 506, Shop Applied Protective Coating – Steel

d. **Bolts** Bolts shall meet the requirements specified in Section 713.02, High Strength Bolts.

e. **Connecting Pins for Portable Concrete Barrier** Portable concrete barriers must be connected using a 1- inch diameter pin. The connecting pin must be smooth, not deformed, i.e., reinforcing bar may not be used, and shall meet the strength requirements of ASTM A449 steel. Materials with greater strength may be used with the approval of the Department.

f. **Anchor Pins for Portable Concrete Barrier** Anchoring to concrete or asphalt will be required when specified on the Plans. When required, portable concrete barriers must be anchored using a 1 ½ - inch diameter anchor pin. The anchor pin must be smooth, not deformed, i.e., reinforcing bar may not be used, and shall meet the strength requirements

of ASTM A36 steel. Materials with greater strength may be used with the approval of the Department.

g. Device Crashworthiness MaineDOT is transitioning to MASH2016 criteria for Portable Concrete Barrier on the following schedule:

New Portable Concrete Barrier shall be crash tested and/or evaluated to MASH2016 criteria.

Current Portable Concrete Barrier in useful serviceable condition that is successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.

Other current Portable Concrete Barrier that is deemed acceptable by the Department may be utilized on projects off the National Highway System through December 31, 2024.

526.03 Construction Requirements

Cast-in-place barriers shall be fabricated in accordance with Standard Specification Section 502, Structural Concrete. Precast barriers shall be fabricated in accordance with Standard Specification 534, Precast Structural Concrete.

Concrete finish for permanent barrier shall be rubbed as defined in Standard Specification Section 502, Structural Concrete, 502.13 D2 or an approved equal.

Portable concrete barrier shall be generally free from fins and porous areas and shall present a neat and uniform appearance.

Permanent barrier shall have a protective coating applied in accordance with Standard Specification Section 515, Protective Coating for Concrete Surfaces.

Reflective delineators for concrete median barrier shall meet the requirements of Special Provision 645, Highway Signing.

Preformed Joint Filler shall meet the requirements specified in Subsection 705.01, Preformed Expansion Joint Filler.

Permissible dimensional tolerances for all concrete barriers shall be as follows:

a. Cross-sectional dimensions shall not vary from design dimensions by more than $\frac{1}{4}$ inch. The vertical centerline shall not be out of plumb by more than $\frac{1}{4}$ inch.

b. Longitudinal dimensions shall not vary from the design dimensions by more than $\frac{1}{4}$ inch per 10 feet of barrier section and shall not exceed $\frac{3}{4}$ inches per section.

c. Location of anchoring holes shall not vary by more than $\frac{1}{2}$ inch from the dimensions shown in the concrete barrier details on the Plans.

d. Surface straightness shall not vary more than ¼ inch under a 10-foot straightedge.

e. The barrier shall have no significant cracking. Significant cracking is defined as fractures or cracks passing through the section, or any continuous crack extending for a length of 12 inches or more, regardless of position in the section.

526.04 Method of Measurement Permanent Concrete Barrier Type II, IIIa, IIIb, Texas Classic Rail, and Precast Median Barrier will be measured for payment by lump sum, complete in place.

Portable concrete barrier, both anchored and unanchored will be measured for payment by lump sum. Lump sum measurement will include verification of the installation and removal of all portable concrete at the completion of the Contractor's operations.

The Contractor shall replace sections of portable concrete barrier, including anchored barrier damaged by the traveling public when directed by the Resident. Replacement sections will be measured for payment in accordance with Standard Specification 109.7, Equitable Adjustments to Compensation and Time.

Transition barrier will be measured by each, complete in place.

526.05 Basis of Payment The accepted quantities of Concrete Barrier Type II, IIIa, IIIb, Texas Classic Rail, and Precast Median Barrier will be paid for at the Contract lump sum price for the type specified, complete in place.

The accepted quantities of Portable Concrete Barrier Type I, both anchored and unanchored will be paid for at the Contract lump sum price. Such payment shall be full compensation for furnishing all materials, assembling, moving, resetting, transporting, temporarily storing, removing barrier, furnishing new parts as necessary, and all incidentals necessary to complete the work.

Portable barrier shall become the property of the Contractor upon completion of the use of the barrier on the project and shall be removed from the project site by the Contractor.

Transition barrier will be paid for at the Contract price each, complete in place.

The accepted quantity of all types of concrete barrier, whether portable or permanent, will be paid for at the lump sum or per each price, as applicable, which payment shall be full compensation for all materials, including reinforcing steel, protective coating, reflective delineators, steel plates and hardware, equipment, labor and incidentals required, as necessary, to complete the work.

Payment will be made under:

	<u>Pay Item</u>	<u>Pay Unit</u>
526.301	Portable Concrete Barrier, Type I	Lump Sum
526.304	Portable Concrete Barrier, Anchored Type I	Lump Sum
526.312	Permanent Concrete Barrier Type II	Lump Sum
526.321	Permanent Concrete Barrier Type IIIa	Lump Sum
526.323	Texas Classic Rail	Lump Sum
526.331	Permanent Concrete Barrier Type IIIb	Lump Sum
526.34	Permanent Concrete Transition Barrier	Each
526.502	Precast Concrete Median Barrier	Lump Sum”

SECTION 527 ENERGY ABSORBING UNIT

527.02 Materials Amend this section by deleting it in its entirety and replacing it with:

“MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:

Portable Crash Cushions will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 3 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.

Work Zone Crash Cushions shall be selected from the Department’s Qualified Products List of Crash Cushions/Impact Attenuators or approved equal.”

SECTION 535 PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

535.24, Installation of Slabs, Beams, and Girders Revise the 5th paragraph by replacing “6.0 and 9.0” to “5.0 and 8.0” so it reads: **“Ready mixed grout shall achieve a design compressive strength of 6,000 psi at 28 days, have an entrained air content of between 5.0 and 8.0 percent, be non-shrink, flowable, and contain a non-shrink additive listed on the Department QPL for expansive cements.”**

535.25, Installation of Precast/Prestressed Deck Panels Revise the 2nd paragraph by replacing “6.0 and 9.0” to “5.0 and 8.0” so it reads: **“Ready mixed grout shall achieve a design compressive strength of 6,000 psi at 28 days, have an entrained air content of between 5.0 and 8.0 percent,**

be non-shrink, flowable, and contain a non-shrink additive listed on the Department QPL for expansive cements.”

SECTION 606 GUARDRAIL

Amend this section by replacing it with the following:

606.01 Description This work shall consist of furnishing and installing guardrail components in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans or as established. Guardrail is designated as:

31” W-Beam Guardrail - Mid-Way Splice

Galvanized steel w-beam, 8” wood or composite offset blocks, galvanized steel posts

Thrie Beam

Galvanized steel thrie beam, 8” wood or composite offset blocks, galvanized steel posts

Median guardrail shall consist of two beams of the above types, mounted on single posts.

Bridge mounted guardrail shall consist of furnishing all labor, materials, and equipment necessary to install guardrail as shown on the plans. This work shall also include drilling for and installation of offset blocks if specified, and incidental hardware necessary for satisfactory completion of the work.

Remove and Reset and Remove, Modify, and Reset guardrail shall consist of removing the existing designated guardrail and resetting in a new location as shown on the plans or directed by the Resident. Remove, Modify, and Reset guardrail and Modify guardrail include the following guardrail modifications: Removing plate washers at all posts, except at anchorage assemblies as noted on the Standard Details, adding offset blocks, and other modifications as listed in the Construction Notes or General Notes. Modifications shall conform to the guardrail Standard Details.

Bridge Connection shall consist of the installation and attachment of beam guardrail to the existing bridge. This work shall consist of constructing a concrete end post or modifying an existing end post as required, furnishing, and installing a terminal connector, necessary hardware, and incidentals required to complete the work as shown on the plans. Bridge Transition shall consist of a bridge connection and furnishing and installing guardrail components as shown in the Standard Details.

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

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

Guardrail components shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report.

Posts for underdrain delineators shall be "U" channel steel, 8 ft long, 2 ½ lb/ft minimum and have 3/8-inch round holes, 1-inch center to center for a minimum distance of 2 ft from the top of the post.

Reflectorized Flexible Guardrail Markers shall be mounted on all guardrails. A marker shall be mounted onto guardrail posts at the flared guardrail terminal end point and tangent point, both at the leading and trailing ends of each run of guardrail. The marker's flexible posts shall be gray with either silver-white or yellow reflectors (to match the edge line striping) at the tangents, red at leading ends, and green at trailing ends. Whenever the guardrail terminal is not flared, markers will only be required at the terminal end point. These shall be red or green as appropriate. Markers shall be installed on the protected side of guardrail posts unless otherwise approved by the Resident. Reflectorized flexible guardrail markers shall be from the Department's Qualified Products List of Delineators. The marker shall be gray, flexible, durable, and of a non-discoloring material to which 3-inch by 9-inch reflectors shall be applied, and capable of recovering from repeated impacts and meeting MASH 16 requirements. Reflective material shall meet the requirements of Section 719.01 for ASTM D 4956 Type III reflective sheeting. The marker shall be secured to the guardrail post with two fasteners, as shown in the Standard Details.

Reflectorized beam guardrail reflectors shall be mounted on all "w" beam guardrail and shall be either the "butterfly" type or linear delineation system panels. "Butterfly" or linear delineation panels shall be installed at approximately 62.5 foot intervals on tangents (after every tenth post) and 31.25 feet on curves (after every fifth post), and shall be centered on the guardrail beam. On Divided highways, the left-hand delineators shall be yellow and the right-hand delineators shall be silver/ white. On two-way directional highways, the right-hand side will have silver / white reflectors and no reflectorized delineator used on the left. Delineators shall have reflective sheeting that meets or exceeds the requirements of Section 719.01.

"Butterfly" reflectors shall be fabricated from high-impact, ultraviolet & weather resistant thermoplastic. Aluminum, galvanized metal or other materials shall not be used. Reflective sheeting will be applied to only one side of the delineator facing the direction of traffic and shall be centered vertically on the guardrail beam as shown in the Standard Detail 606(7).

Linear delineation system panels shall be 1.5 inches wide by approximately 11 inches nominal length, with a minimum of 5 raised lateral ridges spaced at approximately 2.25 inches. The height of each ridge shall be 0.34 inches with a 45 degree profile and a 0.28 inches radius at the top. Sheeting shall be laminated to thin gauge aluminum with a pre-applied adhesive tape on the back. Panels shall not be installed over seams or bolt heads and shall be centered horizontally on the guardrail beam; linear delineation panels shall be attached to only one guardrail beam. The guardrail beam surface shall be cleaned and prepared according to the manufacturer's instructions. Air temperature and guardrail surface temperature must be a minimum of 50 degrees F (10 C) with rising temperature at the time of installation.

Exact locations of the either the “butterfly” type or the linear delineation panels shall be approved by the Resident prior to installation.

Single wood post shall be of cedar, white oak, or tamarack, well-seasoned, straight, and sound and have been cut from live trees. The outer and inner bark shall be removed, and all knots trimmed flush with the surface of the post. Posts shall be uniform taper and free of kinks and bends.

Single steel post shall conform to the requirements of Section 710.07 b.

Single steel pipe post shall be galvanized, seamless steel pipe conforming to the requirements of ASTM A120, Schedule No. 40, Standard Weight.

Acceptable multiple mailbox assemblies shall be listed on the Department’s Qualified Products List and shall be MASH 16 tested and approved.

Flared and Tangent w-beam guardrail terminals and guardrail offset blocks shall be from the Department’s Qualified Products List. Flared terminals shall be installed with a 4 ft offset as shown in the Manufacturer’s installation instructions.

Anchorage assemblies used to anchor trailing ends, radius guardrail, or other ends not exposed to traffic shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report, Drawing SEW02a.

Existing materials damaged or lost during adjusting, removing and resetting, or removing, modifying, and resetting, shall be replaced by the Contractor without additional compensation. Existing guardrail posts and guardrail beams found to be unfit for reuse shall be replaced when directed by the Resident.

606.03 Posts Posts for guardrail shall be set plumb in holes or they may be driven if suitable driving equipment is used to prevent battering and distorting the post. When posts are driven through pavement, the damaged area around the post shall be repaired with approved bituminous patching. Damage to lighting and signal conduit and conductors shall be repaired by the Contractor.

When set in holes, posts shall be on a stable foundation and the space around the posts, backfilled in layers with suitable material, thoroughly tamped.

The reflectorized flexible guardrail markers shall be set plumb with the reflective surface facing the oncoming traffic. Markers shall be installed on the protected side of guardrail posts. Markers, which become bent or otherwise damaged, shall be removed and replaced with new markers.

Single wood posts shall be set plumb in holes and backfilled in layers with suitable material, thoroughly tamped. The Resident will designate the elevation and shape of the top. The posts, that are not pressure treated, shall be painted two coats of good quality oil base exterior house paint.

Single steel posts shall be set plumb in holes as specified for single wood posts or they may be driven if suitable driving equipment is used to prevent battering and distorting the post.

Additional bolt holes required in existing posts shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.04 Rails Brackets and fittings shall be placed and fastened as shown on the plans. Rail beams shall be erected and aligned to provide a smooth, continuous barrier. Beams shall be lapped with the exposed end away from approaching traffic.

End assemblies shall be installed as shown on the plans and shall be securely attached to the rail section and end post.

All bolts shall be of sufficient length to extend beyond the nuts but not more than ½ inch. Nuts shall be drawn tight.

Additional bolt holes required in existing beams shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.045 Offset Blocks The same offset block material is to be provided for the entire project unless otherwise specified.

606.05 Shoulder Widening At designated locations the existing shoulder of the roadway shall be widened as shown on the plans. All grading, paving, seeding, and other necessary work shall be in accordance with the Specifications for the type work being done.

606.06 Mail Box Post Single wood post shall be installed at the designated location for the support of the mailbox. The multiple mailbox assemblies shall be installed at the designated location in accordance with the Standard Details and as recommended by the Manufacturer. Attachment of the mailbox to the post will be the responsibility of the home or business owner.

606.07 Abraded Surfaces All galvanized surfaces of new guardrail and posts, which have been abraded so that the base metal is exposed, and the threaded portions of all fittings and fasteners and cut ends of bolts shall be cleaned and painted with two coats of approved rust resistant paint.

606.08 Method of Measurement Guardrail will be measured by the linear foot from center to center of end posts along the gradient of the rail except where end connections are made to masonry or steel structures, in which case measurement will be as shown on the plans. When connected to radius rail, measurement will be to the end of the last tangent beam.

Guardrail terminal, reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be measured by each unit of the kind specified and installed.

Widened shoulder will be measured as a unit of grading within the limits shown on the plans.

Excavation in solid rock for placement of posts will be paid under force account unless otherwise indicated in the Bid Documents.

Reflectorized beam guardrail reflectors ("butterfly" type or linear delineation system panels) when identified by pay item, will be measured for payment by each.

606.09 Basis of Payment The accepted quantities of guardrail will be paid for at the contract unit price per linear foot for the type specified, complete in place. Reflectorized beam guardrail ("butterfly"-type) delineators will not be paid for directly but will be considered incidental to guardrail items. Reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be paid for at the contract unit price each for the kind specified complete in place.

Guardrail terminals will be paid for at the contract price each, complete in place which price shall be full payment for furnishing and installing all components including the terminal section, posts, offset blocks, "w" beam, cable foundation posts, plates and for all incidentals necessary to complete the installation within the limits as shown on the Standard Details or the Manufacturer's installation instructions. Pay limits for a flared terminal will be 37.5 feet. Pay limits for a tangent terminal will be 50 feet. Each guardrail terminal will be clearly marked with the Manufacturer's name and model number to facilitate any future needed repair. Such payment shall also be full compensation for furnishing all material, excavating, backfilling holes, assembling, and all incidentals necessary to complete the work, except that for excavation for posts or anchorages in solid ledge rock, payment will be made under 109.7.5 – Force Account. Type III Retroreflective Adhesive Sheeting shall be applied to the approach buffer end sections and sized to substantially cover the end section. On all roadways, the ends shall be marked with alternating black and retroreflective yellow stripes. The stripes shall be 3 in wide and sloped down at an angle of 45 degrees toward the side on which traffic is to pass the end section. Guardrail terminals shall also include a set of installation drawings supplied to the Resident.

Anchorage to bridge end posts will be part of the bridge work. Connections thereto will be considered included in the unit bid price for guardrail.

Guardrail to be placed on a radius of curvature of 150 ft or less will be paid for under the designated radius pay item for the type guardrail being placed.

Widened shoulder will be paid for at the contract unit price each complete in place and will be full compensation for furnishing and placing, grading and compaction of aggregate subbase and any required fill material.

Adjust guardrail will be paid for at the contract unit price per linear foot and will be full compensation for adjusting to grade. Payment shall also include adjusting guardrail terminals where required.

Modify guardrail will be paid for at the contract unit price per linear foot and will be full compensation for furnishing and installing offset blocks, additional posts, and other specified modifications; removing, modifying, installing, and adjusting to grade existing posts and beams;

removing plate washers and backup plates, and all incidentals necessary to complete the work. Payment shall also include removing and resetting guardrail terminals where required.

Remove and Reset guardrail will be paid for at the contract unit price per linear foot and will be full compensation for removing, transporting, storing, reassembling all parts, necessary cutting, furnishing new parts when necessary, reinstalling at the new location, and all other incidentals necessary to complete the work. Payment shall also include removing and resetting guardrail terminals when required.

Remove, Modify, and Reset guardrail will be paid for at the contract unit price per foot and will be full compensation for the requirements listed in Modify guardrail and Remove and Reset guardrail.

Bridge Connections will be paid for at the contract unit price each. Payment shall include, attaching the connection to the endpost including furnishing and placing concrete and reinforcing steel necessary to construct new endposts if required, furnishing and installing the terminal connector, and all miscellaneous hardware, labor, equipment, and incidentals necessary to complete the work.

Bridge Transitions will be paid for at the contract unit price each. Payment shall include furnishing and installing the thrie beam or "w"-beam terminal connector, doubled beam section, and transition section, where called for, posts, hardware, precast concrete transition curb, and any other necessary materials and labor, including the bridge connection as stated in the previous paragraph.

No payment will be made for guardrail removed, but not reset and all costs for such removal shall be considered incidental to the various contract pay items.

Reflectorized beam guardrail reflectors ("butterfly" type and the linear delineation panels) will not be paid for directly but will be considered incidental to all new guardrail items. The Contractor shall furnish and install either the "butterfly" type or linear delineation panels, at its discretion, for new guardrail items.

Reflectorized beam guardrail reflectors (either "butterfly" type or linear delineation system panels) will be paid for under the applicable pay items for installation in conjunction with Adjust, Modify, Remove and Reset, Remove Modify and Reset guardrail items. The accepted quantity of "butterfly" type or linear delineation system panels will be paid for at the contract unit price each for all work and materials furnished to install, complete in place, including all incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
606.1301 31" W-Beam Guardrail - Mid-Way Splice – Single Faced	Linear Foot
606.1302 31" W-Beam Guardrail - Mid-Way Splice – Double Faced	Linear Foot
606.1303 31" W-Beam Guardrail - Mid-Way Splice, 15' Radius and Less	Linear Foot
606.1304 31" W-Beam Guardrail - Mid-Way Splice, Over 15' Radius	Linear Foot
606.1305 31" W-Beam Guardrail - Mid-Way Splice Flared Terminal	Each
606.1306 31" W-Beam Guardrail - Mid-Way Splice Tangent Terminal	Each

606.1307	Bridge Transition (Asymmetrical) – Type IA	Each
606.1721	Bridge Transition - Type I	Each
606.1722	Bridge Transition - Type II	Each
606.1731	Bridge Connection - Type I	Each
606.1732	Bridge Connection - Type II	Each
606.178	Guardrail Beam	Linear Foot
606.25	Terminal Connector	Each
606.257	Terminal Connector - Thrie Beam	Each
606.259	Anchorage Assembly	Each
606.265	Terminal End-Single Rail - Galvanized Steel	Each
606.266	Terminal End-Single Rail - Corrosion Resistant Steel	Each
606.275	Terminal End-Double Rail - Galvanized Steel	Each
606.276	Terminal End-Double Rail - Corrosion Resistant Steel	Each
606.352	Reflectorized Beam Guardrail Delineators (“Butterfly” type)	Each
606.3521	Linear Delineation System Panel	Each
606.353	Reflectorized Flexible Guardrail Marker	Each
606.354	Remove and Reset Reflectorized Flexible Guardrail Marker	Each
606.356	Underdrain Delineator Post	Each
606.358	Guardrail, Modify	Linear Foot
606.362	Guardrail, Adjust	Linear Foot
606.365	Guardrail, Remove, Modify, and Reset	Linear Foot
606.366	Guardrail, Remove and Reset	Linear Foot
606.367	Replace Unusable Existing Guardrail Posts	Each
606.3671	Replace Unusable Offset Blocks	Each
606.47	Single Wood Post	Each
606.48	Single Galvanized Steel Post	Each
606.50	Single Steel Pipe Post	Each
606.51	Multiple Mailbox Support	Each
606.568	Guardrail, Modify - Double Rail	Linear Foot
606.63	Thrie Beam Rail Beam	Linear Foot
606.64	Guardrail Thrie Beam - Double Rail	Linear Foot
606.65	Guardrail Thrie Beam - Single Rail	Linear Foot
606.66	Terminal End Thrie Beam	Each
606.70	Transition Section - Thrie Beam	Each
606.71	Guardrail Thrie Beam - 15 ft radius and less	Linear Foot
606.72	Guardrail Thrie Beam - over 15 ft radius	Linear Foot
606.73	Guardrail Thrie Beam - Single Rail Bridge Mounted	Linear Foot
606.74	Guardrail - Single Rail Bridge Mounted	Linear Foot
606.753	Widen Shoulder for Low Volume Guardrail End	Each
606.754	Widen Shoulder for Flared Guardrail Terminal	Each
606.78	Low Volume Guardrail End	Each
606.80	Buried-in-Slope Guardrail End	Each

SECTION 608 SIDEWALKS

Section 608.022 Detectable Warning Materials Standard Revise this section by removing the last sentence of this section beginning with “Concrete...” and replacing it with **“Concrete shall meet the requirements of Section 608.021, Sidewalk Materials, of this specification or may be a prepackaged concrete mix from the Department’s Qualified Products List (QPL).”**

SECTION 609 CURB

609.02 Materials Revise the paragraph beginning “The Contractor shall submit a concrete mix...” so that it reads:

“The Contractor shall submit a concrete mix design for the Portland Cement Concrete to the Resident, with a minimum designed compressive strength of 3000 psi concrete fill.”

609.03 Vertical Stone Curb, Terminal Section and Transition Sections and Portland Cement Concrete Curb, Terminal Sections and Transition Sections Revise this section by underlining the section number and title so that it reads in the spec book as:

“609.03 Vertical Stone Curb, Terminal Section and Transition Sections and Portland Cement Concrete Curb, Terminal Sections and Transition Sections”

Revise the last paragraph beginning with “The Contractor may elect...” so that it reads:

“The Contractor may elect to substitute concrete to backfill Stone Curbing or Stone Edging at their option. If the concrete backfill option is elected, the Concrete Fill shall meet the requirements of 609.02. The Contractor shall submit a concrete design for the Portland Cement Concrete, with a minimum designated compressive strength of 3000 PSI meeting the requirements of Class S or Class Fill Concrete. The Contractor may elect to choose a Prepackaged Concrete Mix from the Department’s Qualified Products list (QPL). Concrete backfill shall be completed in conformance with a Department supplied concrete backfill detail.”

SECTION 610 STONE FILL, RIPRAP, STONE BLANKET, AND STONE DITCH PROTECTION

610.02 Materials Amend this subsection by adding the following to the end of the material list:
“Stone Ditch Protection 703.29”

SECTION 618 SEEDING

618.08 Mulching Revise this Section so that the third sentence reads: “Mulch for Seeding Method Number 1 shall only be cellulous fiber mulch Section 619.04 (b) or straw mulch Section 619.04 (a).”

SECTION 619 MULCH

619.03 General Amend this Section by adding the following sentence to the end: “**Straw mulch shall be used in all wetland areas.**”

SECTION 626 FOUNDATIONS, CONDUIT, AND JUNCTION BOXES FOR HIGHWAY SIGNING, LIGHTING, AND SIGNALS

Section 626.021 Miscellaneous Materials Revise this section by removing the fourth paragraph beginning with “ All Concrete for concrete encasement...” and replace it with “**All concrete for concrete encasement of conduit shall be Class S or Class Fill concrete in accordance with the applicable requirements of Section 502 – Structural Concrete, or a Prepackaged Concrete Mix from the Department’s Qualified Products List (QPL).**”

Section 626.031 Conduit Revise the fifth paragraph beginning with “After the trench has been...” by removing the last sentence beginning with “Where concrete encasement...” and replacing it with “**Where concrete encasement is required around the conduit, the concrete shall meet Class S, Class Fill in accordance with the applicable requirements of Section 502 – Structural Concrete, or a Prepackaged Concrete Mix from the Department’s Qualified Products List (QPL).**”

626.034 Concrete Foundations Revise this Section by changing ‘626.037’ to ‘**626.036**’ in the Second Paragraph which begins with “Foundations shall consist of cast-in-place...”.

Revise the 10th paragraph beginning with “Before placing concrete, the required elbows...” by removing “...**in accordance with Standard Specification 633.**”

626.036 Precast Foundations Revise the last sentence of paragraph one so that it reads: “**Construction of precast foundations shall conform to the Standard Details and all requirements of 712.061.**”

SECTION 627 PAVEMENT MARKINGS

627.06 Application Revise this subsection by replacing the paragraph beginning with “ On other final pavement markings...” with the following:

“On other final pavement markings and on curb, where the paint is applied by hand painting or spraying, application shall be one uniform covering coat at least 16 mils thick. Before the paint has dried, the glass beads shall be applied by a pressure system that will force the glass beads onto the undried paint as uniformly as possible.

Painted lines and markings shall be applied in accordance with the manufacturer’s published recommendations. These recommendations will be supplied to the Resident prior to installation.”

Revise this subsection by replacing the paragraph beginning with “ If the final reflectivity values are less...” with the following:

The final reflectivity will be acceptable if 90 percent or more of the painted pavement lines and markings meet the specified minimum value. If less than 90 percent of the painted pavement lines and markings meet the specified minimum final reflectivity values, the Contractor shall repaint those areas not meeting required reflectivity at no cost to the Department.

If, after repainting, analysis of the final reflectivity values results in the need for a second repainting, the Contractor will submit in writing a plan of action to meet the reflectivity minimums prior to continuing any work. Once the plan has been reviewed and approved by the Department, the Contractor shall reapply at no cost to the Department.

SECTION 637 DUST CONTROL

Revise this section by removing it in its entirety.

SECTION 643 TRAFFIC SIGNALS

643.021 Materials Amend this subsection by adding the following at the end:

“MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:

Temporary Traffic Control Signals will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 4 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.”

643.023 Traffic Signal Structures Remove the third paragraph and replace it with the following:

“Traffic signal support structures shall be classified as Fatigue Category III if they are located on roads with a speed limit of 35 mph or less, Fatigue Category II if they are located on roads with a speed limit of greater than 35 mph, and Fatigue Category I if noted on the Contract Plans. Fatigue Importance Factors shall be as specified in Table 11.6-1 (Fatigue Importance Factors). Fatigue analyses are not required for span-wire (strain) pole traffic signal support structures with heights of 55 feet or less unless required by the current edition of AASHTO “LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals”.

643.09 Service Connection Revise this subsection by removing the paragraph that begins with “Traffic signal services shall have...”.

And by removing the paragraphs beginning with “ A service ground rod shall be installed...” and “A total of 4, 10’ service...” and replace them with **“A total of 4, 10’ service ground rods shall be installed and properly connected together on the outside of the cabinet foundation. One ground rod shall be located at each corner and shall be either flush or slightly below finished grade. The connection between the ground rod and the ground wire shall be an exothermic connection such as a Cadweld. The ground wire from the interconnected ground rods shall be routed through a conduit in the foundation and into the base of the cabinet”.**

SECTION 645 HIGHWAY SIGNING

Section 645.023 Sign Support Structures. Under letter “c.”, revise the fifth paragraph beginning with “In addition to the required details...” by removing the words **”and foundation”** from the 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 652 MAINTENANCE OF TRAFFIC

Amend this Section by adding the following new subsection:

“652.2.6 Device Crashworthiness MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:

Category 1 (Cones, Drums, Tubular Markers, Flexible Delineators, and similar devices that have little chance of causing windshield penetration, tire damage, or other significant effect on the control or trajectory of a vehicle) – All Category 1 devices will be manufacturer self-certified as MASH2016 by January 1, 2025. Current Category 1 devices in useful serviceable condition that are not self-certified as MASH2016 compliant may be utilized through December 31, 2024.

Category 2 (Barricades, Portable Sign Supports, Category 1 devices with attachments, and similar devices that are not expected to produce significant vehicular velocity change but may be otherwise hazardous) – All Category 2 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2025. Current Category 2 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2024.

Category 3 (Portable Concrete Barrier, Portable Crash Cushions, Truck Mounted Attenuators, Category 2 devices weighing more than 100 pounds, and similar devices that are expected to produce significant vehicular velocity change or other harmful reactions) – All Category 3 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 3 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029. (See Standard Specification 526 for additional Portable Concrete Barrier information).

Category 4 (Trailer Mounted Devices: Arrow Boards, Temporary Traffic Control Signals, Area Lighting, Portable Changeable Message Sign, and other similar devices.) – All Category 4 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 4 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.”

652.4 Flaggers Revise the first paragraph of this section so that it reads:

“The Contractor shall furnish flaggers as required by the TCP or as otherwise specified by the Resident. All flaggers must have successfully completed a flagger test approved by the Department and administered by a Department-approved Flagger-Certifier who is employing that flagger. All flaggers must carry an official certification card with them while flagging that has been issued by their employer.”

SECTION 681 PRECAST AGGREGATE-FILLED, CONCRETE BLOCK GRAVITY WALL

681.08 Basis of Payment Amend this section by adding the Item Number “**681.10**” in front of the item “Precast Aggregate-Filled Concrete Block Gravity Wall” at the end of the section.

SECTION 701
STRUCTURAL CONCRETE RELATED MATERIAL

701.01 Portland Cement and Portland Pozzolan Cement Amend the first sentence of Paragraph 3 by adding “**or Type 1L Portland Limestone cement**” so that it reads:
“**A Type IP (MS) Portland-pozzolan cement (blended hydraulic cement with moderate sulfate resistance) or Type 1L Portland Limestone cement meeting the requirements of AASHTO M 240, may be used instead of Type II or where Type I Portland cement, meeting the requirements of AASHTO M 85, is allowed.**”

SECTION 703
AGGREGATES

Add the following to Section 703 - Aggregates

703.01 Fine Aggregate for Concrete Fine aggregate for concrete shall consist of natural sand or, when approved by the Resident, other inert materials with similar characteristics or combinations thereof, having strong, durable particles. Fine aggregate from different sources of supply shall not be mixed or stored in the same pile nor used alternately in the same class of construction or mix without permission of the Resident.

All fine aggregate shall be free from injurious amounts of organic impurities. Should the fine aggregate, when subjected to the colorimetric test for organic impurities, AASHTO T 21, produce a color darker than the reference standard color solution (laboratory designation Plate III), the fine aggregate shall be rejected.

Fine aggregate shall have a sand equivalent value of not less than 75 when tested in accordance with AASHTO T 176.

Fine aggregate sources shall meet the Alkali Silica Reactivity (ASR) requirements of Section 703.0201.

The fineness modulus shall not be less than 2.26 or more than 3.14. If this value is exceeded, the fine aggregate will be rejected unless suitable adjustments are made in proportions of coarse and fine aggregate. The fineness modulus of fine aggregate shall be determined by adding the cumulative percentages of material by weight retained on the following sieves: Nos. 4, 8, 16, 30, 50, 100 and dividing by 100.

Fine aggregate, from an individual source when tested for absorption as specified in AASHTO T 84, shall show an absorption of not more than 2.3 percent.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
$\frac{3}{8}$ inch	100
No. 4	95-100
No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	10-30
No. 100	2-10
No. 200	0-5.0

703.02 Coarse Aggregate for Concrete Coarse aggregate for concrete shall consist of crushed stone or gravel having hard, strong, durable pieces, free from adherent coatings and of which the composite blend retained on the $\frac{3}{8}$ inch sieve shall contain no more than 15 percent, by weight of flat and elongated particles when performed in accordance with test method ASTM D 4791, Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate, using a dimensional ratio of 1:5.

The coarse aggregate from an individual source shall have an absorption no greater than 2.0 percent by weight determined in accordance with AASHTO T 85 modified for weight of sample.

The composite blend shall have a Micro-Deval value of 18.0 percent or less as determined by AASHTO T 327 or not exceed 40 percent loss as determined by AASHTO T 96.

Coarse aggregate sources shall meet the Alkali Silica Reactivity (ASR) requirements of Section 703.0201.

Coarse aggregate shall conform to the requirements of the following table for the size or sizes designated and shall be well graded between the limits specified.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves			
Grading	A	AA	S	LATEX
Aggregate Size	1 inch	$\frac{3}{4}$ inch	$1\frac{1}{2}$ inch	$\frac{1}{2}$ inch
2 inch			100	
$1\frac{1}{2}$ inch	100		95-100	
1 inch	95-100	100	-	
$\frac{3}{4}$ inch	-	90-100	35-70	100
$\frac{1}{2}$ inch	25-60	-	-	90-100
$\frac{3}{8}$ inch	-	20-55	10-30	40-70
No. 4	0-10	0-10	0-5	0-15
No. 8	0-5	0-5	-	0-5
No. 16	-	-	-	-
No. 50	-	-	-	-
No. 200	0 - 1.5	0 - 1.5	0 - 1.5	0 - 1.5

703.0201 Alkali Silica Reactive Aggregates All coarse and fine aggregates proposed for use in concrete shall be tested for Alkali Silica Reactivity (ASR) potential under AASHTO T 303 (ASTM C 1260), Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction, prior to being accepted for use. Acceptance will be based on testing performed by an accredited independent lab submitted to the Department. Aggregate submittals will be required on a 5-year cycle, unless the source or character of the aggregate in question has changed within 5 years from the last test date.

As per AASHTO T 303 (ASTM C 1260): Use of a particular coarse or fine aggregate will be allowed with no restrictions when the mortar bars made with this aggregate expand less than or equal to 0.10 percent at 30 days from casting. Use of a particular coarse or fine aggregate will be classified as potentially reactive when the mortar bars made with this aggregate expand greater than 0.10 percent at 30 days from casting. Use of this aggregate will only be allowed with the use of cement-pozzolan blends and/or chemical admixtures that result in mortar bar expansion of less than 0.10 percent at 30 days from casting as tested under ASTM C 1567.

Acceptable pozzolans and chemical admixtures that may be used when an aggregate is classified as potentially reactive include, but are not limited to the following:

- 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-based admixtures
- e. Metakaolin

Pozzolans or chemical admixtures required to offset the effects of potentially reactive aggregates will be incorporated into the concrete at no additional cost to the Department.

703.05 Aggregate for Sand Leveling Aggregate for sand leveling shall be sand of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The aggregate shall meet the grading requirements of the following table.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
$\frac{3}{8}$ inch	85-100
No. 200	0-5.0

703.06 Aggregate for Base and Subbase The following shall apply to Sections (a.) and (c.) below. The material shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0, the Washington State Degradation DOT Test Method T113, Method of Test for Determination of Degradation Value (January 2009 version) shall be performed, except that the test shall be performed on the portion of the sample that passes the $\frac{1}{2}$ in sieve and is retained on the No. 10 sieve. If the material has a Washington Degradation value of less than 15, the material shall be rejected.

The material used in Section (b.) below shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0 the material may be used if it does not exceed 25 percent loss on AASHTO T 96, Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

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.

703.08 Recycled Asphalt Pavement Recycled asphalt pavement shall consist of salvaged asphalt materials from milled pavements or production waste that has been processed before use to meet the requirements of the job mix formula. It shall be free of winter sand, granular fill, construction debris, or other materials not generally considered asphalt pavement.

703.081 RAP for Asphalt Pavement Recycled Asphalt Pavement (RAP) may be introduced into hot-mix asphalt pavement at percentages approved by the Department according to the MaineDOT Policies and Procedures for HMA Sampling and Testing.

If approved by the Department, the Contractor shall provide documentation stating the source, test results for average residual asphalt content, and stockpile gradations showing RAP materials have been sized to meet the maximum aggregate size requirements of each mix designation. The Department will obtain samples for verification and approval prior to its use.

The maximum allowable percent of RAP shall be determined by the asphalt content, the percent passing the 0.075 mm sieve, the ratio between the percent passing the 0.075 mm sieve and the asphalt content, and Coarse Micro-Deval loss values as tested by the Department.

The maximum percentage of RAP allowable shall be the lowest percentage as determined according to Table 4 below:

Classification	Maximum RAP Percentage Allowed	Asphalt content standard deviation	Percent passing 0.075 mm sieve standard deviation	Percent passing 0.075 mm sieve / asphalt content ratio	Residual aggregate M-D loss value
Class III	10%	≤ 1.0	N/A	≤ 4.0	≤ 18
Class II	20%	≤ 0.5	≤ 1.0	≤ 2.8	
Class I	30%	≤ 0.3	≤ 0.5	≤ 1.8	

Table 4: Maximum Percent RAP According to Test Results

The Department will monitor RAP asphalt content and gradation during production by testing samples from the stockpile at approximately 15,000 T intervals (in terms of mix production). The allowable variance limits (from the numerical average values used for mix designs) for this testing are determined based upon the maximum allowable RAP percentage and are shown below in Table 5.

Table 5: RAP Verification Limits

Classification	Asphalt content (compared to aim)	Percent passing 0.075 mm sieve (compared to aim)
Class III	± 1.5	± 2.0
Class II	± 1.0	± 1.5
Class I	± 0.5	± 0.7

For specification purposes, RAP will be categorized as follows:

Class III – A maximum of 10.0 percent of Class III RAP may be used in any base, intermediate base, surface, or shim mixture. A maximum of 20.0 percent of Class III RAP may be used in hand-placed mixes for item 403.209.

Class II – A maximum of 20.0 percent Class II RAP in any base, binder, surface, or shim course.

Class I – A maximum of 20.0 percent Class I RAP may be used in any base, intermediate base, surface, or shim mixture without requiring a change to the specified asphalt binder. A maximum of 30.0 percent Class I RAP may be used in any base or intermediate base mixture provided that a PG 58-28 or PG 58-34 asphalt binder is used. A maximum of 30.0 percent Class I RAP may be used in any surface or shim mixture provided that PG 58-34 asphalt binder is used. Mixtures exceeding 20.0 percent Class I RAP must be evaluated and approved by the Department.

The Contractor may use up to two different RAP sources in any one mix design. The total RAP percentage of the mix shall not exceed the maximum allowed for the highest classification RAP source used (i.e. if a Class I & Class III used, total RAP must not exceed 30.0%). The blended RAP material must meet all the requirements of the classification for which the RAP is entered (i.e. 10% Class III with 20% Class I, blend must meet Class I criteria). The Department may take belt cuts of the blended RAP to verify the material meets these requirements. If the Contractor elects to use more than one RAP source in a design, the Contractor shall provide an acceptable point of sampling blended RAP material from the feed belt.

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

SECTION 709 REINFORCING STEEL AND WELDED STEEL WIRE FABRIC

709.01 Reinforcing Steel Remove the second paragraph of Section 709.01 of the standard specification beginning with “Low-Carbon, Chromium,...” and replace with the following:

“ Low-carbon, chromium, reinforcing steel shall be deformed bars conforming to the requirements of ASTM A1035. Bars shall be Grade 100 and alloy Type CS unless otherwise specified on the Plans. “

SECTION 710 FENCE AND GUARDRAIL

710.06 Fence Posts and Braces Revise the first Paragraph so that it reads:

“Wood posts shall be of cedar, white oak, or tamarack or other AWPAs approved species, of the diameter or section and length shown on the plans.”

Remove the fourth paragraph which starts “ That portion of wood posts...”.

Revise the paragraph beginning with “Braces shall be of spruce, eastern hemlock ... so that it now reads:

“Braces shall be of spruce, eastern hemlock, Norway pine, pitch pine, or tamarack timbers or other AWP approved species, or spruce, cedar, tamarack or other AWP approved species round posts of sufficient length to make a diagonal brace between adjacent posts. All wood posts and braces shall be pressure-treated in accordance with AASHTO M 133 and AWP U1, UC4A Commodity Specification B: Posts. “

710.07 Guardrail Posts Revise this section so that the first sentence of section a. reads:

“a. Wood posts shall be of Norway pine, southern yellow pine, pitch pine, Douglas fir, red pine, white pine, or eastern hemlock or other AWP approved species.”

Revise the next paragraph so that it reads:

Wood posts and offset brackets shall be preservative treated in accordance with the requirements of AASHTO M 133 and AWP U1, UC4A Commodity Specification B: Posts.

710.08 Guardrail Hardware Revise this subsection by replacing “AASHTO M 298” with “ASTM B695”

SECTION 712 MISCELLANEOUS HIGHWAY MATERIAL

712.061 Structural Precast Units Amend this section by adding the following sentence to the end of the first paragraph of the Construction subsection:

“Facilities certified by NPCA or PCI shall provide to the Fabrication Engineer a copy of their annual audit to include deficiency reports and corrective actions.”

Revise this section by changing the letter “b” of ASTM C1611 of the Concrete Testing subsection so that it reads:

“b. Air content shall be 5.0% to 8.0%.”

SECTION 713 STRUCTURAL STEEL AND RELATED MATERIAL

Section 713.02 High Strength Bolts

Revise the second sentence of this subsection so that it reads “**Nuts shall meet the requirement of ASTM A563**”. Revise the third sentence of this subsection so that it reads “**Circular and beveled washers shall conform to the requirement of ASTM F436**”.

SECTION 718 TRAFFIC SIGNALS MATERIAL

718.03 Signal Mounting Amend the paragraph beginning with “All trunions, brackets and...” by adding **“For polycarbonate signal heads with more than 3 sections or requiring mounting extensions greater than 12 inches in length, reinforcing plates shall be used to reinforce the housings at the point of attachment.”** to the end of the paragraph.

718.08 Controller Cabinet Revise this subsection by replacing the paragraph beginning with “The cabinet shall be supplied with LED light panels...” on or about page 7-66 with **“The cabinet shall be supplied with white LED light panels which shall automatically illuminate via a door open switch whenever one of the four main cabinet doors are opened for the ground mount cabinet or two main doors for the side of pole cabinet. The ground mounted cabinet shall contain four LED light panels per side totaling eight panels for the cabinet; one panel each at the top and bottom portion of the front side and back side on the Control side and Power/Auxiliary side of the cabinet. Each light panel shall produce a minimum of 250 lumens for a total minimum lumen output of 2000 lumens with all eight panels illuminated. The minimum output per side would be 1000 lumens. The LED panels shall be protected by a clear shatterproof shield. The side of pole mounted cabinet shall contain four light panels; one at the top of the rack assembly and one at the bottom rack assembly on each side of the cabinet. A second door open status switch per door shall activate a controller input to log a report event that one of the doors was opened. All door open status switches shall be connected to the same controller input. For the ground mount cabinet, there shall be two switches on each of the four main doors. For the side-of-pole mount cabinet, there shall be two switches on each of the two main doors.”**

Revise this subsection by replacing the paragraph beginning with “The cabinet shall be supplied with a generator panel ...” on or about page 7-68 with:

“The cabinet shall be supplied with a generator panel. The generator panel shall consist of a manual transfer switch and a twist-lock connector for generator hookup. The transfer switch knob and twist-lock connector shall be located inside a stainless steel enclosure with a separate lockable door accessed with a Corbin #2 key. The unit shall be mounted on the left, exterior of the control side wall of the ground mount cabinet a minimum of 36” above the surrounding grade and on the lower left side of the pole mounted cabinet. The generator transfer switch shall be a Reliance C30A1N Signa Series or approved equal. “

Revise this subsection by removing the following from the paragraph beginning with “The ground mounted cabinet shall be supplied and installed with an electric service meter socket trim and electrical service disconnect switch ...” on or about page 7-69: **“(removed: thus preventing that space from being used either by equipment supplied as part of the project, or future equipment that would be installed in the rack system. Joe indicated that he would add this language to the detail so it is covered.)”**.

Revise this subsection by replacing the following in the paragraph beginning with “The Contractor shall reconfigure the default user name...” on or around page 7-70; “MaineDOT IT” with **“MaineDOT Traffic Division”**.

In the paragraph beginning with “Tests shall be conducted by the contractor...” on or around page 7-73, amend this subsection by removing **“in the state of Maine and”** after “The facility shall be”.

Amend this Section by adding the following subsection:

718.13 Field Monitoring Unit (FMU) This item of work shall conform to this specification. This item shall consist of furnishing and installing a Field Monitoring Unit (FMU) and software, as well as all needed accessories required for a full and complete installation, including but not limited to power adapters, Ethernet cables, and interface cables, as described herein.

Where applicable, communications from MaineDOT’s cloud-based Central Management System (CMS) to the on-street traffic signal controllers shall be made through fiber optic interconnect cable connected back to existing internet connections and/or the Field Monitoring Unit (FMU). The Contractor shall furnish and install all materials necessary for a complete and operational fiber optic interconnection to all project intersections as shown on the plans. All connections to the CMS cloud-based system shall be via a secure VPN network.

The FMU shall be the only remote connection device used by isolated intersections to connect to the cloud-based system. All connections shall be encrypted VPN tunnels. The Contractor shall coordinate all configuration settings with MaineDOT IT and the Engineer.

The FMU central web based interface shall be a separate element from the CMS.

MATERIALS: The materials for this work shall conform to the following requirements:

1. The work under this item specifies the requirements for the FMU. The FMU shall operate independent of the brand/type of intersection controller deployed in the ATC traffic cabinet.
2. The FMU shall conform to the following requirements:
 - 2.1 The FMU shall function correctly between -34 degrees C and +74 degrees C.
 - 2.2 The FMU shall be provided with appropriately rated connectors that allows the FMU to be exchanged by unplugging connectors, without tools.
 - 2.3 The FMU shall monitor and log all ATC Controller and ATC cabinet faults and or alarms.
 - 2.4 The FMU shall be wired directly to the ATC cabinet.
 - 2.5 The FMU shall have an internal cellular modem running at 4G LTE.
 - 2.5.1 The Cellular modem shall be designed to be replaced / upgraded to 5G service when available.

- 2.6 The FMU shall incorporate an integrated GPS and cell modem.
- 2.7 The configuration of the FMU shall be accomplished by accessing the internal web server with a browser. It shall be possible to configure the FMU without any special software.
- 2.8 The FMU shall be powered via a standard 120V input power.
- 2.9 The FMU shall allow for the routing of the controller configuration packets to and from the controller (either by Ethernet or serial communications) for any type of controller utilized by the MaineDOT. In this way it shall be possible to configure the controller and utilize the controller specific software to interrogate the controller, and the FMU shall provide the communications pipe which allows this to be accomplished.
- 2.10 The FMU shall, within the size limitations above, include a battery and battery charging/monitoring circuit, to allow the FMU to function correctly even when all power to the intersection has failed. The battery shall continue to power the FMU for a minimum of 5 hours after all power has failed to the intersection.
- 2.11 The FMU shall incorporate an integrated GPS which will allow the FMU to geo-locate itself on the FMU management software map, without configuration.
- 2.12 The FMU shall operate without requiring a static IP address. The only configuration required at the FMU is to enter the URL of where the FMU management software is hosted.
- 2.13 In the event that the cell service is interrupted or is not available, the FMU shall store any events that occur in internal memory and forward these events automatically to the FMU management software when the cell service is restored. In this way, a complete record of events at the device can be maintained even if cell service is interrupted for a period. The system will store 5000 events.
- 2.14 The FMU shall utilize HTTP and HTTPS protocols, and XML data structures, for communication with the FMU management software. In this way the data will be open for future expansion and competition. The use of secret proprietary protocols is not permitted.
- 2.15 The FMU shall include Ethernet communications via an Ethernet Port with RJ45 connector.
- 2.16 The FMU shall include weather proof antennas.

3. Map Display FMU Management Software

- 3.1 The FMU shall include a scrollable, zoomable map display, with the intersections and other monitored devices shown as representative icons on the map. The map shall include the ability to see the intersections using Google Streetview.

- 3.2 The alarm status of the intersection shall be clearly indicated on the icon on the map, so that the user can see at a glance which intersections are in alarm.
- 3.3 The map display shall also include a list of intersections, with the number and priority of alarms indicated on the list. Intersections in high priority alarm shall be moved to the top of the list, followed by medium priority, low priority and then finally by intersections not in alarm.
- 3.4 The icons shall change to be able to clearly indicate if an intersection is offline.
- 3.5 Clicking on the icon on the map shall expose a box with the current parameters of the intersection shown.
- 3.6 The default map display position and zoom shall be configurable by user, so that the user's view will default to show the intersections that the user is responsible for managing.
- 3.7 The map view shall have the ability to show Google traffic overlays on the map.

4. Intersection Detail Display FMU Management Software

- 4.1 It shall be possible to drill down, either from the map icon or from the list, to a device level detail for the intersection, which as a minimum shall display the following parameters:
 - 4.1.1 The alarm status, with priority indicated, and a text description of the alarm (if an alarm is present for this device).
 - 4.1.2 The time since the last communication with the device
 - 4.1.3 The following parameters (real time now values, minimum for the day values, maximum for the day values, and average for the day values)
 - 4.1.3.1 The AC mains voltage (value)
 - 4.1.3.2 The battery back-up voltage (value)
 - 4.1.3.3 The cabinet temperature (value)
 - 4.1.3.4 The cabinet humidity (value)
 - 4.1.3.5 The presence of AC power (OK or Fail)
 - 4.1.3.6 The flashing status of the intersection (OK or Flashing)
 - 4.1.3.7 Stop Time status (OK or Stop Time Active)
 - 4.1.3.8 The cabinet door status (Open or Closed)
 - 4.1.3.9 The intersection fan status (Fan On or Fan off)

4.1.4 It shall be possible to view graphs of each of the value parameters in graphical form, over the recent two-week period. This includes real time graphs of:

4.1.4.1 The AC mains voltage

4.1.4.2 The battery back-up voltage

4.1.4.3 The cabinet temperature

4.1.4.4 The cabinet humidity

5. Diagnostics and Log Display FMU Management Software

5.1 From the device level detail within the FMU management software, it shall be possible to drill down to get the raw data; the error logs; and the communications logs to allow a technician to fault-find problems.

5.2 It shall be possible to filter the logs by Device; by Device Type and/or by Group as well as between dates.

5.3 It shall be possible to print these selected logs to a local printer or a PDF file.

5.4 It shall be possible to export these logs to Excel on the local computer for further analysis.

6. Alarms FMU Management Software

6.1 The FMU management software shall have a comprehensive alarm generation capability

6.2 It shall be possible to configure alarms to be generated on any parameter becoming out of tolerance, including analog values, digital values and enumerated values.

6.3 Alarms shall be configurable to be of Low, High or Critical Priority.

6.4 The alarm priority shall be displayed throughout the FMU management software, on all displays, using color codes such as red-critical; yellow – high; and amber-low to indicate the priority of the alarm.

6.5 The current active alarms shall be accessible for view via an expandable window, to see which alarms are active and when the alarm occurred. The highest priority alarms shall rise to the top of the list.

7. Alerts FMU Management Software

7.1 The FMU management software shall have comprehensive alerting capability, to enable the response personnel to be notified when an abnormal situation has occurred.

7.2 It shall be possible to configure alerts to one or more personnel for each alarm. This will cause, as selected, an SMS and/or an email to be sent to the person when an alarm occurs.

7.3 The alert shall be configurable to optionally send via email and/or via SMS a message when an alarm clears.

7.4 The intention is that the FMU management software provides the alerts to the user in near real time. The SMS and email shall be issued within 30 seconds of the occurrence of event which results in an alert being issued.

8. Hosting and Connectivity and Service FMU / FMU Management Software

8.1 The contractor shall supply the FMU with the FMU manufacturers 10 year options for Connectivity and Service, as part of the purchase price. The Connectivity and Service agreement shall include at a minimum:

8.1.1 Cellular Connectivity

8.1.2 No cellular overage charges

8.1.3 Extended warranty on the hardware for the period of the Connectivity and Service Agreement

8.1.4 Over-the-air software updates

8.1.5 Over-the-air security updates

8.1.6 Future Connected Vehicles Service

SECTION 720 **STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS**

720.12 Wood Sign Posts Revise the first sentence so that it reads:

Wood sign posts shall be rectangular, straight and sound timber, cut from live growing native spruce, red pine, hemlock, cedar trees or other AWPAs approved species, free from loose knots or other structurally weakening defects of importance, such as shake or holes or heart rot.

Revise the third paragraph that starts with “When pressure treated...” so that it reads:

All sign posts shall be pressure-treated in accordance with AASHTO M 133 and AWPAs Standard U1, UC4A, Commodity Specification A: Sawn Products.

APPENDIX A TO DIVISION 100

SECTION 1 - BIDDING PROVISIONS

A. Federally Required Certifications By signing and delivering a Bid, the Bidder certifies as provided in all certifications set forth in this Appendix A - Federal Contract Provisions Supplement including:

- Certification Regarding No Kickbacks to Procure Contract as provided on this page 1 below.
- Certification Regarding Non-collusion as provided on page 1 below.
- Certification Regarding Non-segregated Facilities as provided by FHWA Form 1273, section III set forth on page 21 below.
- "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion" as provided by FHWA Form 1273, section XI set forth on page 32 below.
- "Certification Regarding Use of Contract Funds for Lobbying" as provided by FHWA Form 1273, section XII set forth on page 35 below.

Unless otherwise provided below, the term "Bidder", for the purposes of these certifications, includes the Bidder, its principals, and the person(s) signing the Bid. Upon execution of the Contract, the Bidder (then called the Contractor) will again make all the certifications indicated in this paragraph above.

CERTIFICATION REGARDING NO KICKBACKS TO PROCURE CONTRACT Except expressly stated by the Bidder on sheets submitted with the Bid (if any), the Bidder hereby certifies, to the best of its knowledge and belief, that it has not:

(A) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me) to solicit or secure this contract;

(B) agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out the contract, or;

(C) paid, or agreed to pay, to any firm, organization, or person (other than a bona fide employee working solely for me) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the contract;

By signing and submitting a Bid, the Bidder acknowledges that this certification is to be furnished to the Maine Department of Transportation and the Federal Highway Administration, U.S. Department of Transportation in connection with this contract in anticipation of federal aid highway funds and is subject to applicable state and federal laws, both criminal and civil.

CERTIFICATION REGARDING NONCOLLUSION Under penalty of perjury as provided by federal law (28 U.S.C. §1746), the Bidder hereby certifies, to the best of its knowledge and belief, that:

the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with the Contract.

For a related provisions, see Section 102.7.2 (C) of the Standard Specifications - "Effects of Signing and Delivery of Bids" - "Certifications", Section 3 of this Appendix A entitled "Other Federal Requirements" including section XI - "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion" and section XII. - "Certification Regarding Use of Contract Funds for Lobbying."

B. Bid Rigging Hotline To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

SECTION 2 - FEDERAL EEO AND CIVIL RIGHTS REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 2 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Nondiscrimination & Civil Rights - Title VI The Contractor and its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Department deems appropriate. The Contractor and subcontractors shall comply with Title VI of the Civil Rights Act of 1964, as amended, and with all State of Maine and other Federal Civil Rights laws.

For related provisions, see Subsection B - "Nondiscrimination and Affirmative Action - Executive Order 11246" of this Section 2 and Section 3 - Other Federal Requirements of this "Federal Contract Provisions Supplement" including section II - "Nondiscrimination" of the "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273.

B. Nondiscrimination and Affirmative Action - Executive Order 11246 Pursuant to Executive Order 11246, which was issued by President Johnson in 1965 and amended in 1967 and 1978, this Contract provides as follows.

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its efforts to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

Ensure and maintain a working environment free of harassment, intimidations, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all forepersons, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and to maintain a record of the organization's responses.

Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

Provide immediate written notification to the Department's Civil Rights Office when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Design-Builder's efforts to meet its obligations.

Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under B above.

Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligation; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Forepersons, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractor's and Subcontractors with whom the Contractor does or anticipates doing business.

Direct its recruitment efforts, both orally and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above describing the openings, screenings, procedures, and test to be used in the selection process.

Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth, both on the site and in other areas of a Contractor's workforce.

Validate all tests and other selection requirements.

Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractor's and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.

Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

C. Goals for Employment of Women and Minorities Per Executive Order 11246, craft tradesperson goals are 6.9% women and .5% minorities employed. However, goals may be adjusted upward at the mutual agreement of the Contractor and the Department. Calculation of these percentages shall not include On-the-Job Training Program trainees, and shall not include clerical or field clerk position employees.

For a more complete presentation of requirements for such Goals, see the federally required document "Goals for Employment of Females and Minorities" set forth in the next 6 pages below.

Start of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

§60-4.2 Solicitations

(d) The following notice shall be included in, and shall be part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to §60-4.6 of this part (see 41 CFR 60-4.2(a)):

Notice of Requirement for Affirmative Action to Ensure Equal Opportunity (Executive Order 11246)

1. The Offeror's or bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

<u>Goals for female participation in each trade</u>	6.9%
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Goals for minority participation for each trade

Maine

001 Bangor, ME	0.8%
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Non-SMSA Counties (Aroostook, Hancock, Penobscot, Piscataquis, Waldo, Washington)

002 Portland-Lewiston, ME

SMSA Counties: 4243 Lewiston-Auburn, ME (Androscoggin)	0.5%
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6403 Portland, ME (Cumberland, Sagadahoc)	0.6%
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Non-SMSA Counties:
(Franklin, Kennebec, Knox, Lincoln, Oxford, Somerset, York)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be in violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor, estimated dollar amount of the subcontract; estimated started and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the Contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department form 941;
 - d. "Minority" includes:

- (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of the North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the contractor, is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors for Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a. through p. of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical areas where the work is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specific.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant, thereto.

6. In order for the non working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as expensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, when possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment sources or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.

- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment, efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing prior to the date for the acceptance of applications for apprenticeship or the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on site and in other areas of a Contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

- n. Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitation to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7 a through p.). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7 a through p. of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program and reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions take on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, specific minority group of women is underutilized.)
10. The Contractor shall not use the goals and timetables or affirmative action even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementation regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.6.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work was performed. Records be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

End of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

D. Section '**D Disadvantaged Business Enterprise (DBE) Requirements**' is removed in its entirety. The DBE material is in:

Section 105.10 EQUAL OPPORTUNITY AND CIVIL RIGHTS.

SECTION 3 - OTHER FEDERAL REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 3 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Buy America

If the cost of products purchased for permanent use in this project which are manufactured of steel, iron or the application of any coating to products of these materials exceeds 0.1 percent of the contract amount, or \$2,500.00, whichever is greater, the products shall have been manufactured and the coating applied in the United States. The coating materials are not subject to this clause, only the application of the coating. In computing that amount, only the cost of the product and coating application cost will be included.

Ore, for the manufacture of steel or iron, may be from outside the United States; however, all other manufacturing processes of steel or iron must be in the United States to qualify as having been manufactured in the United States.

United States includes the 50 United States and any place subject to the jurisdiction thereof.

Products of steel include, but are not limited to, such products as structural steel, piles, guardrail, steel culverts, reinforcing steel, structural plate and steel supports for signs, luminaries and signals.

Products of iron include, but are not limited to, such products as cast iron grates.

Application of coatings include, but are not limited to, such applications as epoxy, galvanized and paint.

To assure compliance with this section, the Contractor shall submit a certification letter on its letterhead to the Department stating the following:

“This is to certify that products made of steel, iron or the application of any coating to products of these materials whose costs are in excess of \$2,500.00 or 0.1 percent of the original contract amount, whichever is greater, were manufactured and the coating, if one was required, was applied in the United States.”

B. Materials

a. Convict Produced Materials References: 23 U.S.C. 114(b)(2), 23 CFR 635.417

Applicability: FHWA's prohibition against the use of convict material only applies to Federal-aid highways. Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if: 1) such materials have been produced by convicts who are on parole, supervised release, or probation from a prison; or 2) such material has been produced in a qualified prison facility, e.g., prison industry, with the amount produced during any 12-month period, for use in Federal-aid projects, not exceeding the amount produced, for such use, during the 12-month period ending July 1, 1987.

Materials obtained from prison facilities (e.g., prison industries) are subject to the same requirements for Federal-aid participation that are imposed upon materials acquired from other sources. Materials manufactured or produced by convict labor will be given no preferential treatment.

The preferred method of obtaining materials for a project is through normal contracting procedures which require the contractor to furnish all materials to be incorporated in the work. The contractor selects the source, public or private, from which the materials are to be obtained (23 CFR 635.407). Prison industries are prohibited from bidding on projects directly (23 CFR 635.112e), but may act as material supplier to construction contractors.

Prison materials may also be approved as State-furnished material. However, since public agencies may not bid in competition with private firms, direct acquisition of materials from a

prison industry for use as State-furnished material is subject to a public interest finding with the Division Administrator's concurrence (23 CFR 635.407d). Selection of materials produced by convict labor as State-furnished materials for mandatory use should be cleared prior to the submittal of the Plans Specifications & Estimates (PS&E).

b. Patented/Proprietary Products References: 23 U.S.C. 112, 23 CFR 635.411

FHWA will not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

- the item is purchased or obtained through competitive bidding with equally suitable unpatented items,
- the STA certifies either that the proprietary or patented item is essential for synchronization with the existing highway facilities or that no equally suitable alternative exists, or
- the item is used for research or for a special type of construction on relatively short sections of road for experimental purposes. States should follow FHWA's procedures for "Construction Projects Incorporating Experimental Features" (expmmt.htm) for the submittal of work plans and evaluations.

The primary purpose of the policy is to have competition in selection of materials and allow for development of new materials and products. The policy further permits materials and products that are judged equal may be bid under generic specifications. If only patented or proprietary products are acceptable, they shall be bid as alternatives with all, or at least a reasonable number of, acceptable materials or products listed; and the Division Administrator may approve a single source if it can be found that its utilization is in the public interest.

Trade names are generally the key to identifying patented or proprietary materials. Trade name examples include 3M, Corten, etc. Generally, products identified by their brand or trade name are not to be specified without an "or equal" phrase, and, if trade names are used, all, or at least a reasonable number of acceptable "equal" materials or products should be listed. The licensing of several suppliers to produce a product does not change the fact that it is a single product and should not be specified to the exclusion of other equally suitable products.

c. State Preference References: 23 U.S.C. 112, 23 CFR 635.409

Materials produced within Maine shall not be favored to the exclusion of comparable materials produced outside of Maine. State preference clauses give particular advantage to the designated source and thus restrict competition. Therefore, State preference provisions shall not be used on any Federal-aid construction projects.

This policy also applies to State preference actions against materials of foreign origin, except as otherwise permitted by Federal law. Thus, States cannot give preference to in-State material sources over foreign material sources. Under the Buy America provisions, the States are

permitted to expand the Buy America restrictions provided that the STA is legally authorized under State law to impose more stringent requirements.

d. State Owned/Furnished/Designated Materials References: 23 U.S.C. 112, 23 CFR 635.407

Current FHWA policy requires that the contractor must furnish all materials to be incorporated in the work, and the contractor shall be permitted to select the sources from which the materials are to be obtained. Exceptions to this requirement may be made when there is a definite finding, by MaineDOT and concurred in by Federal Highway Administration's (FHWA) Division Administrator, that it is in the public interest to require the contractor to use materials furnished by the MaineDOT or from sources designated by MaineDOT. The exception policy can best be understood by separating State-furnished materials into the categories of manufactured materials and local natural materials.

Manufactured Materials When the use of State-furnished manufactured materials is approved based on a public interest finding, such use must be made mandatory. The optional use of State-furnished manufactured materials is in violation of our policy prohibiting public agencies from competing with private firms. Manufactured materials to be furnished by MaineDOT must be acquired through competitive bidding, unless there is a public interest finding for another method, and concurred in by FHWA's Division Administrator.

Local Natural Materials When MaineDOT owns or controls a local natural materials source such as a borrow pit or a stockpile of salvaged pavement material, etc., the materials may be designated for either optional or mandatory use; however, mandatory use will require a public interest finding (PIF) and FHWA's Division Administrator's concurrence.

In order to permit prospective bidders to properly prepare their bids, the location, cost, and any conditions to be met for obtaining materials that are made available to the contractor shall be stated in the bidding documents.

Mandatory Disposal Sites Normally, the disposal site for surplus excavated materials is to be of the contractor's choosing; although, an optional site(s) may be shown in the contract provisions. A mandatory site shall be specified when there is a finding by MaineDOT, with the concurrence of the Division Administrator, that such placement is the most economical or that the environment would be substantially enhanced without excessive cost. Discussion of the mandatory use of a disposal site in the environmental document may serve as the basis for the public interest finding.

Summarizing FHWA policy for the mandatory use of borrow or disposal sites:

- mandatory use of either requires a public interest finding and FHWA's Division Administrator's concurrence,
- mandatory use of either may be based on environmental consideration where the environment will be substantially enhanced without excessive additional cost, and
- where the use is based on environmental considerations, the discussion in the environmental document may be used as the basis for the public interest finding.

Factors to justify a public interest finding should include such items as cost effectiveness, system integrity, and local shortages of material.

C. Standard FHWA Contract Provisions - FHWA 1273

Unless expressly otherwise provided in the Bid Documents, the following “Required Contract Provisions, Federal Aid Construction Contracts”, FHWA-1273, are hereby incorporated into the Bid Documents and Contract.

Cargo Preference Act : Contractor and Subcontractor Clauses. “Use of United States-flag vessels: The contractor agrees—“(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.”(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.”(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.”(Reorganization Plans No. 21 of 1950 (64 Stat. 1273) and No. 7 of 1961 (75 Stat. 840) as amended by Pub. L. 91-469 (84 Stat. 1036) and Department of Commerce Organization Order 10-8 (38 FR 19707, July 23, 1973)) [42 FR 57126, Nov. 1, 1977]

The Cargo Preference Act requirements apply to materials or equipment that are acquired for a specific Federal-aid highway project. In general, the requirements are not applicable to goods or materials that come into inventories independent of an FHWA funded-contract. For example, the requirements would not apply to shipments of Portland cement, asphalt cement, or aggregates, as industry suppliers and contractors use these materials to replenish existing inventories. In general, most of the materials used for highway construction originate from existing inventories and are not acquired solely for a specific Federal-aid project. However, if materials or equipment are acquired solely for a Federal-aid project, then the Cargo Preference Act requirements apply.”

Start of FHWA 1273 REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS (As revised through May 1, 2012)

FHWA-1273 -- Revised May 1, 2012

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment,

termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability.

The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women.

Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even

though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (ii) The classification is utilized in the area by the construction industry; and
- (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act),

daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the “Statement of Compliance” required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a

different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

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

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--
Lower Tier Participants:**

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

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

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR
APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL
ACCESS ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

End of FHWA 1273

APPENDIX A

To

2022 Title VI Implementation Plan

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

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 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award."

3. The Recipient will insert the clauses of Appendix C and G of this Assurance in every contract or agreement subject to the Acts and the Regulations.
 4. The Recipient will insert the clauses of Appendix E 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 D and Appendix F 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:
-

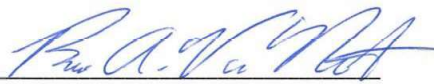
- a. the period during which the property is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or
 - b. the period during which the Recipient retains ownership or possession of the property.
9. The 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 **Maine**, 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

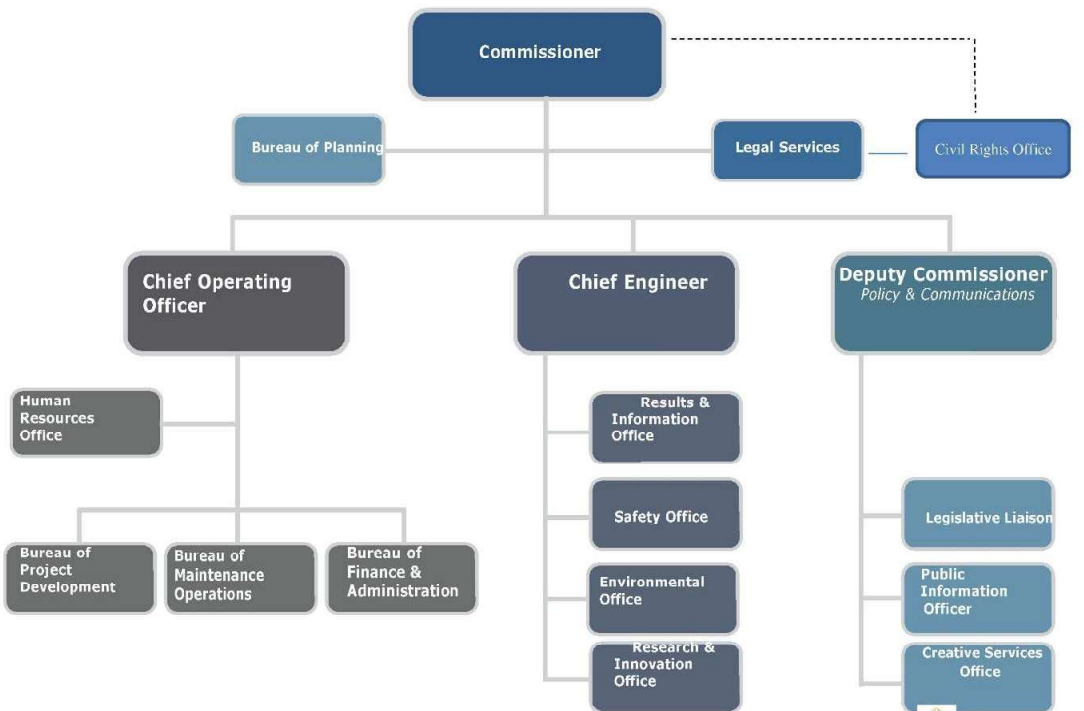
(Name of Recipient)

by 
Bruce A. Van Note, Commissioner

DATED Sept. 13, 2021

APPENDIX B

MaineDOT Organizational Structure



October 2021



APPENDIX C

Performance Requirements

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
 2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
 3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Nondiscrimination 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 D

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 5 107, 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. S 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 I,] [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 [i 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 E

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 Nondiscrimination 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 F

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 Nondiscrimination 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 Nondiscrimination 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 G

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 nondiscrimination 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. 5 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. 5 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. 5 324 et seq.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. 5 794 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. 5 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC 5 471, 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. 55 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. 5 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.).

APPENDIX H

FEDERAL HIGHWAY ADMINISTRATION CIVIL RIGHTS ASSURANCE

The Maine Department of Transportation HEREBY CERTIFIES THAT, as a condition of receiving Federal financial assistance under the Federal Transit Act of 1964, as amended, it will ensure that:

1. No person on the basis of race, color or national origin will be subjected to discrimination in the level and quality of transportation services and transportation-related benefits.
2. The Maine Department of Transportation will compile, maintain, and submit in a timely manner Title VI information required in compliance with the Department of Transportation's Title VI regulation, 49 CFR Part 21.9.
3. The Maine Department of Transportation will make it known to the public that those person or persons alleging discrimination on the basis of race, color or national origin as it relates to the provision of transportation services and transportation-related benefits may file a complaint with the Federal Highway Administration and/or the U.S. Department of Transportation.

The person or persons whose signature appears below is authorized to sign this assurance on behalf of the grant applicant or recipient.



Bruce A. Van Note, Commissioner
Maine Department of Transportation

DATE:

7/23/21

APPENDIX I

TITLE VI/NONDISCRIMINATION POLICY STATEMENT

The Commissioner of the Maine Department of Transportation (MaineDOT) is ultimately responsible for and committed to the effective implementation of the Title VI Program to achieve compliance with Title VI of the Civil Rights Act of 1964, as amended, the Civil Rights Restoration Act of 1987, and related statutes and regulations in all Federal programs and activities. Understanding that the Commissioner will not be performing any day-to-day implementation duties, the MaineDOT conducts its Title VI/Environmental Justice Program in a team approach by involving personnel from all program areas, with guidance from the Title VI Coordinator. Responsibility for the day to day administration of the Program will be delegated to the Title VI Program Coordinator who is currently the Director of the Civil Rights Office. The Title VI Program Coordinator has been delegated sufficient authority and responsibility to effectively carry out her duties.

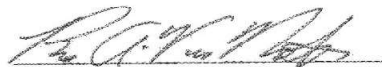
The Title VI Program Coordinator ensures MaineDOT's compliance with Title VI/Environmental Justice implementing regulations. Bureau Directors are responsible for Program implementation in their Bureaus and shall identify and delegate Title VI/Nondiscrimination Federal Program Area Liaisons to perform the routine data collection/data analysis and process reviews.

Inquiries concerning the MaineDOT's policies, investigations, complaints, compliance with applicable laws, regulations, and concerns regarding compliance with Title VI/Environmental Justice may be directed to:

Maine Department of Transportation
16 State House Station
Augusta, Maine 04333-1116
Telephone (207) 624-3066 | TTY users Dial Relay: 711
sherry.tompkins@maine.gov

MaineDOT is committed to ensuring that the fundamental principles of equal opportunity are upheld in all decisions involving our employees and contractors/consultants, and to ensuring that the public-at-large is afforded access to all of our programs and services whether those programs and activities are federally funded or not.

This Policy Statement will be circulated throughout the MaineDOT, made available to the public, and be included by reference in all contracts, agreements, programs and services administered by the Department of Transportation.



Bruce A. Van Note, Commissioner

Date: 7/23/21

APPENDIX J

SAMPLE QUESTIONS FOR PROGRAM AREA REVIEWS

Bureau of Planning

- What measures do you take to ensure that a cross-section of people representative of the populations affected by the Department's projects, including identifying and proactively reaching out to various and diverse social, economic and ethnic groups, participate in the Department's Public Involvement Process?
- How do you ensure that appropriate accommodations are made for persons with Limited English Proficiency (LEP) (persons who have difficulty speaking, reading, writing and/or understanding English)? Were interpreters available when needed to assist with LEP needs?
- How do you collect and analyze statistical data on race, color and national origin of populations in all areas impacted by the Department's programs or services?

Bureau of Project Development

Property Office

- What mechanisms are used to identify what communities (minority, LEP) are represented in the negotiation phase of property acquisition?
- How do you ensure that Property Office staff who have direct contact with persons affected by the Department's acquisition of property needed for projects, including compliance with the Uniform Relocation Act of 1970?
- Have you received any complaints related to discrimination on the basis of race, color or national origin? How many and how did you process them?

Multimodal Program

- How do you ensure that Local Public Agencies (LPA) provide the Department with signed Title VI assurances (Form 1050.2A), including Appendices A and K, annually?
- How do you ensure that LPAs include in their subcontracts FHWA Form 1273 and Title VI Assurances, including Appendices A and K?
- Have you received any complaints related to discrimination on the basis of race, color or national origin? How many and how did you process them?
- How do ensure that public meetings and notices related to LPA projects comply with Title VI?

Bureau of Maintenance and Operations

- How do you ensure that the Bureau's activities comply with Title VI requirements of nondiscrimination on the basis of race, color or national origin?
- Have you received any complaints related to discrimination on the basis of race, color or national origin? How many and how did you handle them?

APPENDIX K

Subrecipient Reviewed: _____ Date(s) of Desk Audit _____

Reviewer(s) _____

- ☐ Title VI/Nondiscrimination Policy Statement
- ☐ Title VI/Nondiscrimination Assurances
- ☐ Name and position of Title VI/Nondiscrimination Coordinator
- ☐ Title VI/Nondiscrimination Plan
- ☐ Procedures for processing external discrimination complaints
- ☐ A list of external discrimination complaints and lawsuits
- ☐ Any Accommodations for Limited English Proficient Persons
- ☐ Addressing Environmental Justice in minority populations and low-income populations
- ☐ Ensuring nondiscrimination in the public participation process
- ☐ Collecting and analyzing data to ensure nondiscrimination in programs and activities
- ☐ Process for ensuring that solicitations for bid/requests for proposals contain the Title VI/Nondiscrimination Assurance paragraph
- ☐ Process for ensuring subcontracts contain the appropriate contract provisions and language from the Title VI Assurances
- ☐ Process for Ensuring nondiscrimination in the award of contracts
- ☐ Developing a Title VI/Nondiscrimination Annual Work Plan & Accomplishment Report

APPENDIX L

SUB-RECIPIENT TITLE VI COMPLIANCE ASSESSMENT TOOL

23 Code of Federal Regulations (CFR) Part 200.9 (b)(7) requires that the Maine Department of Transportation (MaineDOT) conduct periodic reviews of cities, planning agencies and other recipients of federal-aid highway funds, including locally public agencies, to ensure that they are complying with Title VI of the Civil Rights Act of 1964. Title VI states that “no person in the United States shall be excluded from participation, denied the benefits of, or be subjected to discrimination in any Federally-funded program, policy or activity on the basis of race, color or national origin.”

MaineDOT has developed this assessment as a means of determining sub-recipient compliance; helping sub-recipients understand their Title VI responsibilities; and assisting MaineDOT in planning future training and technical assistance.

This assessment is part of MaineDOT’s Title VI review process and has been designed to take only a few minutes of your time. Please fax (207-624-3021) or mail (16 State House Station, Augusta, ME 04333-0016) the completed questionnaire with attachments to: Sherry Tompkins, Director of Civil Rights, no later than August 30, 2021

Questions or concerns may be emailed to: sherry.tompkins@maine.gov or you may reach Sherry by phone at (207) 624-3066.

Baseline Questionnaire

1. Name of your Agency: _____
2. Number of full-time and part-time employees: F/T _____ P/T _____
3. Has your agency provided written Title VI Assurances to MaineDOT? If not, please attach a copy. _____
4. Does your agency physically include the Civil Right Special Provisions (FHWA-Form 1273) in all contracts and ensure that they are included in all sub-contracts, including third-tier contracts? _____

5. Who is the Title VI contract person for your agency? _____.
Does this person accept complaints from the public? _____ If not, who does? _____
Please include title, email and telephone number for each person listed. _____

6. In the past three years, has your agency been named in a discrimination complaint or lawsuit? _____. If so, when and what was the nature of the complaint or lawsuit and the outcome. _____
- _____
- _____
7. Does your agency have a written discrimination complaint process? If so, please attach a copy. _____
8. Has your agency made the public aware of the right to file a complaint? _____
If so, by what mechanism _____
- _____. Please attach a copy.
9. Does your agency provide free translation services for persons with Limited English Proficiency (LEP)? _____. Please explain _____
- _____
- _____
10. In the past twelve (12) months, what has your agency done to receive and consider input from all citizen groups, especially minority, low income, disabled and transit-dependent? Please describe, if applicable. _____
- _____
- _____
11. Does your agency have a method to collect racial and ethnic data on citizens impacted by your projects? _____. If so, please describe. _____
- _____
- _____

12. Does your agency include the required Disadvantaged Business Enterprise (DBE) assurance language at 49 CFR 26.13(a) and (b) verbatim in all financial agreements, contracts and sub-contracts? (Please see DBE Assurance language below.) _____

§26.13 What assurances must recipients and contractors make?

- (a) Each financial assistance agreement you sign with DOT operating administration (or a primary recipient) must include the following assurance:

The recipient shall not discriminate on the basis of race, color, national origin or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of DOT assisted contracts. The recipient's DBE program, as required, by 49 CFR Part 26 and as approved by DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S. C. 3801 et seq.).

- (b) Each contract you sign with a contractor (and each sub-contract the prime contractor signs with a sub-contractor) must include the following assurance:

The contractor, sub recipient or sub-contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

13. Does your agency monitor DBEs on construction projects to ensure they are performing a commercially useful function (CUF)? _____. If so, where is this documented? _____.

If a DBE is not performing a CUF, what actions for steps have you taken? _____

Who do you notify? _____

14. Do you have any questions regarding this assessment or Title VI? _____
Please include them here along with your email address and/or phone number and
a MaineDOT representative will respond. _____

15. Would your agency like Title VI training or other Civil Rights technical assistance
from MaineDOT? _____. If yes, please explain. _____

Does your agency have teleconferencing ability? _____

16. Please provide the name, title and contact information of the person who
completed this baseline assessment. _____

17. Provide an annual report on Title VI accomplishments for the previous year and
goals for the next year. _____

APPENDIX M

Maine Department of Transportation
External Discrimination Complaint Form

(Title VI/Nondiscrimination and ADA/Section 504 Complaints)

Name	Phone	Name of Person(s) That Discriminated Against You
Address		Location and Position of Person (If Known)
City, State, Zip		City, State, Zip
Agency involved		Date of Alleged Incident
Discrimination Because of: ☐ Race ☐ Color ☐ National Origin ☐ Sex ☐ Age ☐ Disability		What Remedy are you requesting?
Explain As Briefly And Clearly As Possible What Happened And How You Were Discriminated Against. Indicate Who Was Involved. Be Sure To Include How Other Persons Were Treated Differently Than You. Also Attach Any Written Material Pertaining To Your Case.		
Signature		Date

Please Mail Complaint to:

Maine Department of Transportation
Civil Rights Office
16 State House Station
Augusta, Maine 04333-0016
Or Call (207) 624- 3066 or TYY Relay 711

APPENDIX N



NON-DISCRIMINATION/TITLE VI POSTER

Title VI and Nondiscrimination Commitment to all USDOT funded programs:

Pursuant to Title VI of the Civil Rights Act of 1964 and related laws and regulations, MaineDOT will not exclude from participation in, deny the benefits of, or subject to discrimination anyone on the grounds of race, color, national origin, sex, age or disability.

Complaint Procedures:

MaineDOT has established a discrimination complaint procedure and will take prompt and reasonable action to investigate and eliminate discrimination when found. Any person who believes that he or she has been aggrieved by an unlawful discriminatory practice under Title VI has a right to file a formal complaint with MaineDOT. Any such complaint must be in writing and filed with the MaineDOT Title VI Coordinator within one hundred eighty (180) calendar days following the date of the alleged discriminatory occurrence. For more information, please contact the MaineDOT's Title VI Coordinator.

ADA/504 Statement:

Pursuant to Section 504 of the Rehabilitation Act of 1973 (Section 504), the Americans with Disabilities Act of 1990 (ADA) and related federal and state laws and regulations, MaineDOT will make every effort to ensure that its facilities, programs, services, and activities are accessible to those with disabilities. MaineDOT will provide reasonable accommodation to disabled individuals who wish to participate in public involvement events or who require special assistance to access MaineDOT facilities, programs, services or activities. Because providing reasonable accommodation may require outside assistance, organization or resources, MaineDOT asks that requests be made at least five (5) calendar days prior to the need for accommodation. Questions, concerns, comments or requests for accommodation should be made to MaineDOT's ADA Coordinator.

Services are provided free without charge for individuals with special needs with disabilities. Any fees will be paid by the recipient or subrecipient. The public will have access to translators, "I Speak Cards", TTY/TDD services and vital documents translated when requested.

MaineDOT Title VI

Sherry Y. Tompkins, Director
Civil Rights Office
Maine Department of Transportation
16 State House Station
Augusta, Maine 04333
Office Phone: (207) 624-3066
Cell Phone: (207) 592-0686
TTY: Users Dial MAINE RELAY 711



Call Us with Questions

If you believe that you have been discriminated against because of your race, color, national origin, sex, age, disability or income level, or because you have difficulty with the English language, call us at 207-624-3056. MaineDOT's Civil Rights Office will explain the process for filing a complaint. Complaint forms are on our website.

mainedot.gov/civilrights/title-vi

Language translation services available upon request.

Services de traduction de langue disponibles sur demande.

Servicios de traducción disponibles bajo petición.

要求提供的 语言翻译服务。

Lugha ya tafsiri huduma inapatikana juu ya ombi.
Ladenani panarjamahan Basa aya kana paménta.

بیلظنا دینع قحاتم غزلنا قمرج تنلی تاددخ

Có các dịch vụ phiên dịch khi quý vị yêu cầu.



MaineDOT

Maine Department of Transportation
Civil Rights Office

16 State House Station
Augusta, Maine 04333-0016

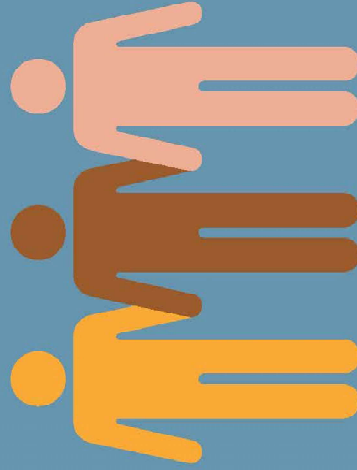
Phone: 207-624-3056

TTY Users Dial Maine Relay 711



mainedot.gov

Know YOUR Rights

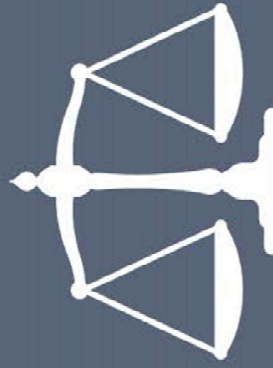


MaineDOT
Civil Rights Office

TITLE VI PROGRAM of the Civil Rights Act

MaineDOT's mission is to provide the people of Maine with a safe, efficient and effective transportation system. Our work is intended to serve the transportation needs of all people in Maine, regardless of race, color, national origin, sex, age, disability, income level or limited English proficiency.

MaineDOT is committed to assuring that none of its activities or programs encourage discrimination. We manage our programs without regard to race, color, national origin, sex, age, disability, income level, or the ability to speak or understand English.



MaineDOT will not allow discrimination by a MaineDOT employee or by recipients of federal-aid funds such as cities, counties, contractors, or planning agencies. MaineDOT prohibits all discriminatory practices which may result in:

- Unfair denial of any service, financial aid or benefit provided by the federally funded program;
- Different standards or requirements for participation in programs;
- Segregation or separate treatment within our programs;
- Differences in the quality, quantity or way in which a benefit is provided;
- Discrimination in any activities in a facility built with federal funds.

To ensure compliance with Title VI, and other related laws, MaineDOT:

- Avoids or reduces harmful health and environmental impacts which programs or activities might have on minority and low-income populations;
- Ensures the full and fair participation by all communities in its decision-making process;
- Prevents the denial, reduction or delay of benefits for minority and low-income populations;
- Provides language interpreters to people who have difficulty understanding English.

How to File a Complaint

If you believe you have been discriminated against, you will need to file a written complaint. The complaint must be submitted within 180 days of the alleged discrimination. The complaint form is on our website for you to download.

Be prepared to fill in:

- Your name, address and phone number;
- The name and address of the organization you believe discriminated against you;
- Details of the alleged discrimination and any other relevant information; and
- The names of anyone we could contact regarding the alleged discrimination.

Once you have filled in the form, mail it to us:

MaineDOT Civil Rights Office

16 State House Station
Augusta, Maine 04333-0016

207-624-3056





Environmental Summary Sheet

WIN: 22511.01/22512.01

Date Submitted: May 11, 2023

Town: Old Town

CPD Team Leader: Andrea Brady

ENV Field Contact: Ryan Annis

NEPA Complete: 3/8/21 – Individual Categorical Exclusion: 771.117.d.13

☐ **Section 106**

SHPO Concurrence – No effect

Section 106 Resources: None

☐ **Section 4(f) and 6(f)**

Section 4(f)

No 4f properties.

Section 6(f)

No Takes

☒ **Maine Department of Inland Fisheries and Wildlife Essential Habitat**

Threatened yellow lampmussel and tidewater mucket were observed in July 2019. Mussel survey and relocation completed in July 2021. No followup monitoring required.

☒ **Section 7**

Species of Concern: Atlantic Salmon – Located within DPS and Critical Habitat

Comments/References: Formal Consultation with USFWS - Biological Opinion (BO) from USFWS was issued on March 3, 2021. **Special Conditions apply; see Special Provision 105**

Species of Concern: Northern Long-Eared Bat – Project is Located in a Buffered Area with Positive Acoustic Survey Results. May Affect

Comments/References: Formal Consultation with USFWS – Biological Opinion (BO) from USFWS was issued on May 3, 2023. Valid from March 31, 2023 through April 1, 2024; re-initiation required on or before April 1, 2024 if any continuing action is expected to affect the NLEB. **Special Conditions apply; see Special Provision 105**

☒ **Essential Fish Habitat**

EFH consultation for Atlantic Salmon was completed on March 5, 2021

☐ **Maine Department of Conservation/Public Lands, Submerged Land Lease**

Not Applicable

☐ **Maine Land Use Regulation Commission**

Not Applicable

☒ **Maine Department of Environmental Protection**

Permit by Rule (PBR) signed 8/27/2021

**Applicable Standards and Permit are included with the contract*

☒ **Army Corps of Engineers, Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Individual Permit**

- Work Start Notification Form and Compliance Certification Form to be completed by ENV Field Contact and submitted to ACOE with copy to Andrea Brady

- **Special Conditions apply; see Special Provision 105**

**Applicable Standards and Permit are included with the contract*

☐ **Stormwater Review**

N/A – Within regulated MS4 area but will not disturb more than one acre.

☒ **Special Provisions Required**

Special Provision 105-Environmental Requirements

N/A ☐

Applicable ☒

Special Provision 656-Minor Soil Disturbance

N/A ☒

Applicable ☐

Standard Specification 656-Erosion Control Plan

N/A ☐

Applicable ☒

Special Provision 203-Dredge Material

N/A ☐

Applicable ☒

Special Provision 203-Special Fill-Streambed Materials

N/A ☒

Applicable ☐

Special Provision 610-Stream Channel Rock

N/A ☒

Applicable ☐

General Note for Hazardous Waste

N/A ☒

Applicable ☐

Special Provision 203-Hazardous Waste

N/A ☒

Applicable ☐

**All permits and approvals based on plans/scope as of: 8/27/21*

DEPARTMENT OF THE ARMY PERMIT

Permittee Maine Department of Transportation, 16 State House Station, Augusta, Maine 04333-0016

Permit No. NAE-2021-2324

Issuing Office New England District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Place temporary and permanent fill in order to replace two existing deteriorated Stillwater Avenue bridges. The project will result in approximately 14,015SF of permanent and 15,905SF of temporary stream bed impact.

The work is shown on the enclosed plans titled, "OLD TOWN – STILLWATER BRIDGES in one sheet dated "4/21/2021", STILLWATER AVENUE, OLD TOWN, PENOBSCOT COUNTY in one sheet undated; "OLD TOWN PENOBSCOT COUNTY STILLWATER BRIDGES OVER STILLWATER RIVER, STILLWATER AVENUE" in one sheet dated "5/12/2021"; and "STILLWATER BRIDGES OVER STILLWATER RIVER, OLD TOWN, PENOBSCOT COUNTY" in five sheets dated "5/12/2021".

Project Location:

In the Stillwater River at Old Town, Maine

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2027. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee shall ensure that a copy of this permit is at the work site (and the project office) authorized by this permit whenever work is being performed, and that all personnel with operational control of the site ensure that all appropriate personnel performing work are fully aware of its terms and conditions. The entire permit shall be made a part of any and all contracts and sub-contracts for work that affects areas of Corps jurisdiction at the site of the work authorized by this permit. This shall be achieved by including the entire permit in the specifications for work. The term "entire permit" means this permit (including its drawings, plans, appendices and other attachments) and also includes permit modifications.

If the permit is issued after the construction specifications, but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. If the permit is issued after receipt of bids or quotes, the entire permit shall be included in the contract or sub-contract. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

2. The permittee shall complete and return the enclosed [Work Start Notification Form] and [Mitigation Work Start Notification Form] to this office at least two weeks before the anticipated starting date.

3. The permittee shall complete and return the enclosed Compliance Certification Form to this office at least within one month following the completion of the authorized work.

4. Adequate sedimentation and erosion control devices, such as geo-textile silt fences or other devices capable of filtering the fines involved, shall be installed and properly maintained to minimize impacts during construction. These devices must be removed upon completion of work and stabilization of disturbed areas. The sediment collected by these devices must also be removed and placed upland, in a manner that will prevent its later erosion and transport to a waterway or wetland.

5. No additional fill (e.g., access roads, cofferdams) may be placed in waters or wetlands unless specifically authorized by this permit. If temporary fill is used, it shall be disposed of at an upland site and suitably contained to prevent its subsequent erosion into a water of the U.S., and the area shall be restored to its original contours (but not higher) and character upon completion of the project. During use, such temporary fill must be stabilized to prevent erosion or, in the case fill placed in flowing water (rivers or streams), clean washed stone should be used.

6. Except where stated otherwise, reports, drawings, correspondence and any other submittals required by this permit shall be sent to the U.S. Army Corps of Engineers at cenae-r-me@usace.army.mil with the subject line "Permit No. NAE-2021-2324" Documents which are not marked and addressed in this manner may not reach their intended destination and do not comply with the requirements of this permit.

7. All in-water work (e.g., the installation and removal of temporary bridge and cofferdam construction) will be conducted during the work windows outlined in the Formal Endangered Species Act Consultation between the Federal Highway Administration and the U.S. Fish & Wildlife Service dated March 3, 2021. The work windows are designed to minimize effects on the most sensitive life stages of Atlantic salmon.

Permit Special Conditions Resulting From Formal Endangered Species Act Consultation Between the Federal Highway Administration (FHWA) and the U.S. Fish & Wildlife Service (USFWS) (Reference USFWS Biological Opinion (BO) dated "March 3, 2021")

1. The Maine DOT will hold a pre-construction meeting for appropriate Environmental Office staff from the Maine DOT, other Maine DOT staff, and the Maine DOT construction crew or contractor(s) to review all procedures and requirements for avoiding and lessening effects to Atlantic salmon and to ensure the protection of Atlantic salmon and its critical habitat. The Corps, the FHWA, and the Service will be provided an invitation to attend this meeting as well.

2. The Contractor will be required to submit a Soil Erosion and Water Pollution Control Plan (SEWPCP) for review and approval by the Maine DOT staff prior to the start of work. The plan includes the review of the implementation of any AMMs proposed.

3. As a component of the Soil Erosion and Water Pollution Control Plan (SEWPCP) for each project, the Maine DOT or their contractor will develop and implement a Spill Prevention Control and Countermeasure Plan (SPCCP) designed to avoid any stream impacts from hazardous chemicals associated with construction activities, such as diesel fuel, oil, lubricants, and other hazardous materials. All refueling or other construction equipment maintenance will be done at a location consistent with SPCCP and in a manner that avoids chemical or other hazardous materials getting into the stream. These measures include the following:

- a. All vehicle and equipment refueling activities shall occur more than 100 feet (30.5 meters) from any water source.
- b. All vehicles carrying fuel shall have specific equipment and materials needed to contain or clean up any incidental spills at the project site. Equipment and materials would include spill kits appropriately sized for specific quantities of fuel, shovels, absorbent pads, straw bales, containment structures and liners, and/or booms.

- c. During use, all pumps and generators shall have appropriate spill containment structures and/or absorbent pads in place.
 - d. All equipment used for in-stream work shall be cleaned of external oil, grease, dirt, and mud. Any leaks or accumulations of these materials would be corrected before entering streams or areas that drain directly to streams or wetlands.
4. The Maine DOT will implement their BMPs in accordance with the Maine DOT: Best Management Practices for Erosion and Sedimentation Control (Maine DOT 2008). This BMP manual outlines means and methods to prevent sedimentation into streams from construction activities or storm events. This document is included by reference. These BMP measures include many filtering and sedimentation control techniques designed to dissipate water discharge energy (flow), filtering out sediments, and allowing particulate matter to settle out from suspension to the greatest extent practicable.
5. Vegetation clearing adjacent to the stream will be minimized to the maximum extent practicable. All areas of disturbed soil will be mulched and seeded with an approved native or noninvasive herbaceous seed mix following construction and/or planted with native woody vegetation and trees appropriate during the first available planting season, except where riprap has been placed.
6. To minimize the spread of noxious weeds into the riparian zone, all off-road equipment and vehicles (operating off of existing open and maintained roads) must be cleaned prior to entering the construction site to remove all soil, seeds, vegetation, or other debris that could contain seeds or reproductive portions of plants. All equipment will be inspected prior to off-loading to ensure that they are clean.
7. All in-water work (e.g., the installation and removal of temporary bridge and cofferdam construction) will be conducted during the work windows outlined in Table 1 of the BO. The work windows are designed to minimize effects on the most sensitive life stages of Atlantic salmon:

Table 1. In-water work windows and associated activities.

Activity	Window
Fill placement for temporary bridge	July 1 to March 30
Installation of work trestle	July 1 to March 30
Pier demolition	July 1 to March 30
Pile driving	July 1 to March 30
Cofferdam construction	July 1 to March 30
Work within cofferdam	Any time
Cofferdam removal	Any time
Placement of riprap	Any time
Temporary fill removal	Any time
Temporary structure removal	Any time

- 8. Construction of temporary approaches and abutments will be contained within turbidity curtains.
- 9. Fill for temporary approaches will be limited to no more than 25 percent of the width of the river.
- 10. Temporary fill will consist of non-erodible material on top of a geotextile fabric filter layer.
- 11. All areas of temporary waterway or wetland fill will be restored to their original contour and character upon the completion of the project.
- 12. Demolition and debris removal and disposal will comply with Section 202.03 of the Maine Dot's Standard Specifications. The Contractor will contain all demolition debris, including debris from wearing surface removal, saw cut slurry, dust, etc., and will not allow it to discharge to any resource. The Contractor will dispose of debris in accordance with the Maine Solid Waste Law (Title 38 M.R.S.A., Section 1301 et. seq.). The demolition plan, containment, and disposal of demolition debris will be addressed in the Contractor's SEWPCP.
- 13. Temporary bridge piles will be removed with a vibratory hammer.
- 14. Demolition of concrete piers of existing bridge will occur within containment such as turbidity curtains.
- 15. If piles are removed by cutting, they must be cut to one foot below the substrate level. If piles are removed by pulling, the work will be completed using a BMP to minimize turbidity.
- 16. Sheet pile installation and removal will be completed using a vibratory hammer.
- 17. To minimize fish stranding inside the cofferdam when dewatering, the Maine DOT environmental staff or similarly qualified consultants will adhere to the Maine DOT's Fish Check Protocol. Closure of the cofferdam will be delayed if any fish are observed inside. The Maine DOT will contact the Service's Maine Fish and Wildlife Complex at 207/902- 1586 (Patrick Dockens) any time an Atlantic salmon is observed.

18. Any concrete in contact with water must have a pH between 6.0 and 8.5, must be within one pH unit of the background pH level of the stream, and must have a turbidity level no greater than the receiving resource. Disposal or treatment of water not meeting release criteria will be addressed in the SEWPSP. Discharging impounded water to the stream must take place in a manner that does not disturb the stream bottom or cause erosion. The Contractor shall be responsible for monitoring pH with a calibrated meter accurate to 0.1 units. A record of pH measurements shall be kept in the Environmental Field Representative's log. This requirement is applicable to concrete that is placed or spilled (including leakage from forms) as well as indirect contact via tools or equipment.

19. If adult Atlantic salmon are observed within the action area during pile driving, cofferdam construction, or fill or riprap placement in the water; the Maine DOT will follow procedures described in the Maine DOT's Fish Check Protocol to encourage the adult Atlantic salmon to leave the action area.

20. Steel H-pile size is limited to less than 14 inches and steel pipe pile size is limited to less than 30 inches.

21. A vibratory hammer will be used as much as possible for all pile driving activities.

22. Pile driving will occur during the day when fish are less active and Atlantic salmon migrations are minimized.

23. Any use of an impact hammer during pile driving will require the use of passive attenuation measures (changing hammer type, reducing driving duration, reducing force settings) and active measures (cushions and bubble curtains).

24. Hydroacoustic monitoring will be completed for all in-water pile driving with an impact hammer. Preliminary results of monitoring event(s) will be reported to the Service within five business days. Submittal of final data/report will occur within two months.

25. Minimize the adverse effects to and incidental take of Atlantic salmon by employing construction techniques and Atlantic salmon handling methods that avoid or minimize adverse effects to water quality, aquatic and riparian habitats, and all aquatic organisms.

26. Minimize the adverse effects to, and incidental take of Atlantic salmon related to aquatic habitat connectivity and fish passage by ensuring that the project is built as proposed.

27. Ensure the completion of a monitoring, evaluation, and reporting program to monitor project implementation and compliance with conservation and best management practices measures and to confirm that this project has been effective in minimizing incidental take from the FHWA funded and the Corps authorized activity. Efforts to minimize incidental take shall be conducted in accordance with BMPs, conservation measures, and as the action is further described in Section 2 of the BO, and such that the amount of allowable incidental take is not exceeded.

28. Construction impacts shall be confined to the minimum area necessary to complete the project.

29. Fish passage through the project area will be available at all times. The cofferdams or netting will never close off the stream, and flow will continue between the devices on either side of the stream.

30. Movement effects and other effects created from cofferdam use will be minimized by limiting cofferdam placement to the time necessary to complete instream activities, assuring that the cofferdam will be placed in the stream as shown in submitted drawings, and by maintaining a flow channel throughout the instream construction period. The cofferdams will be removed as soon as practicable after the completion of instream construction.

31. All Atlantic salmon mortalities from electrofishing or any other project related activities shall be reported to the Service's Maine Field Office at 207-902-1586 (Patrick Dockens) within 48 hours of occurrence. Any Atlantic salmon death(s) shall be immediately preserved (refrigerate or freeze) for delivery to the Service's office in East Orland, Maine. If the Service is not available, contact the National Marine Fisheries Service in Orono, Maine at 207-866-3755 (Dan Tierney) to arrange for delivery.

32. The Maine DOT Fish Check Protocol will be extended to any actions that lead to fill or riprap placed in the water to review the work area for adult Atlantic salmon before fill or riprap placement activities begin.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- () Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- () Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. 408).
- (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
- () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

- a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from Natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

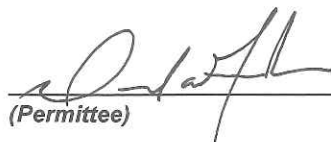
5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interested decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.


(Permittee)

2/14/2022
(Date)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Frank J Del
Giudice

Digitally signed by Frank J Del
Giudice
Date: 2022.02.14 11:10:29
-05'00'

14 FEB 2022

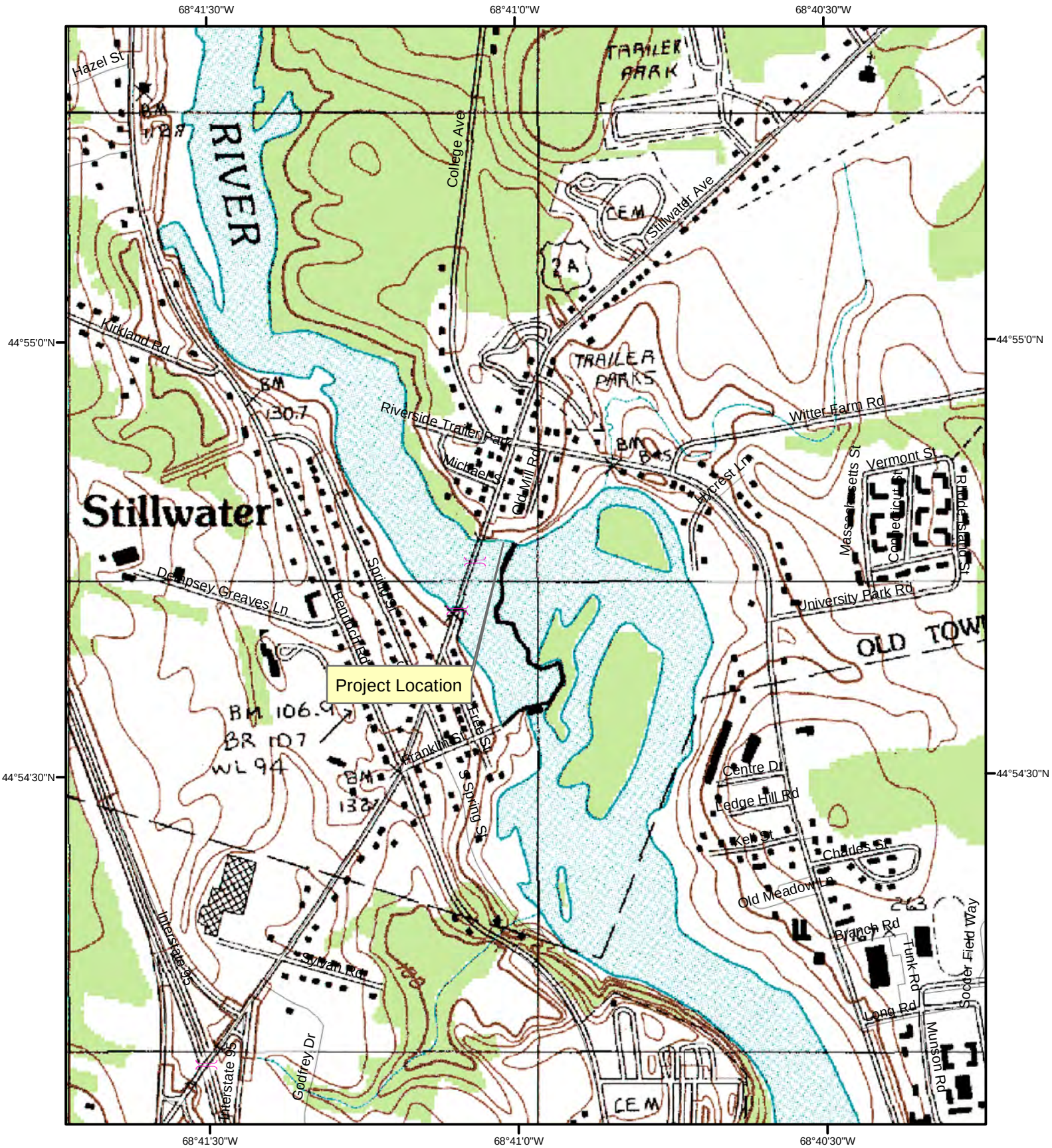
(District Engineer) Frank J. Del Giudice
Chief, Permits & Enforcement Branch
Regulatory Division
For: District Engineer

(Date)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(Transferee)

(Date)



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44.91206

0 145 290 580 870 1,160
Feet

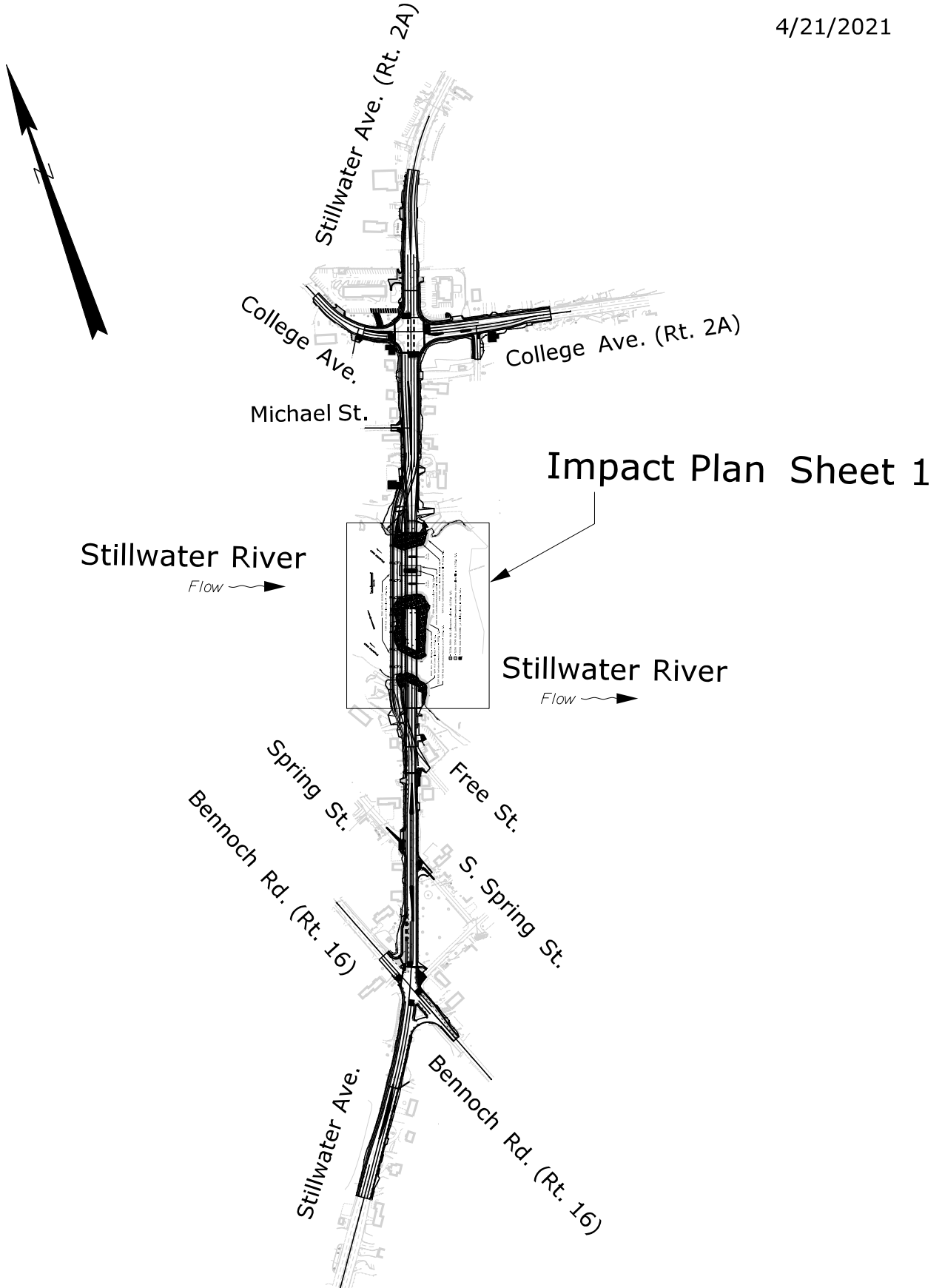
MDOT WIN 202511.00 & 22512.00
Old Town- Stillwater Bridges
bridge improvements

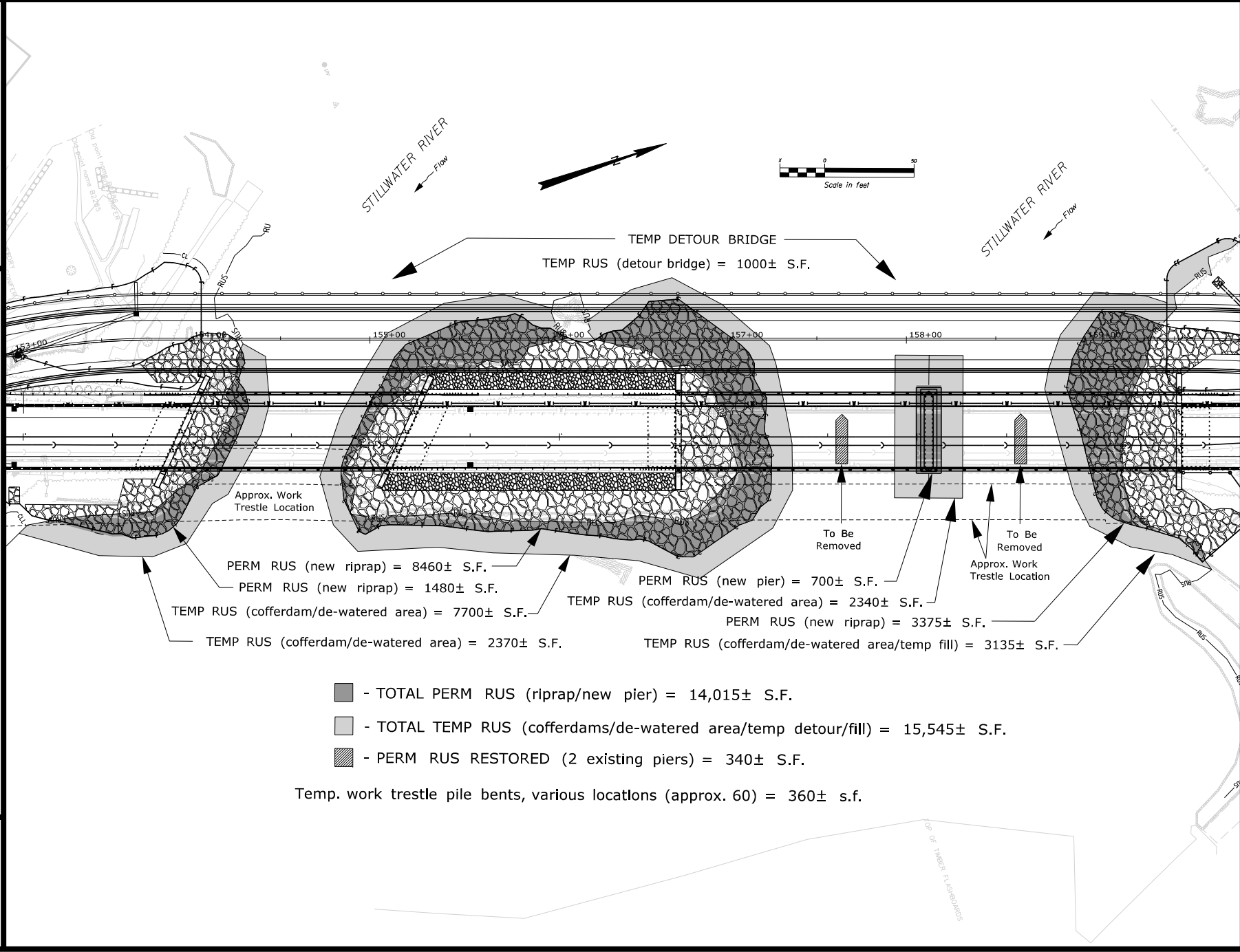


Old Town - Stillwater Bridges

WIN 22511.00 / 22512.00

4/21/2021





Date:5/12/2021

Username: kwentworth

Division: HIGHWAY

Filename: ... \00\BRIDGE\MSTA\001_ Title.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



PLANS PREPARED BY:



500 Southborough Drive, Suite 105B
South Portland, Maine 04106

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Ninth Edition 2020.

DESIGN LOADING

Live Load HL - 93 Maine Modified for Strength I

TRAFFIC DATA

Current (2023) AADT 16360
Future (2043) AADT 18000
DHV - % of AADT 11%
Design Hour Volume 1907
% Heavy Trucks (AADT) 5%
% Heavy Trucks (DHV) 3%
Directional Distribution (DHV) 51%
18 kip Equivalent P 2.0 339
18 kip Equivalent P 2.5 323
Design Speed (mph) 25
Functional Class Minor Arterial
Highway Corridor Priority 2

HYDROLOGIC DATA

Drainage Area 326 sq mi
Design Discharge (Q50) 43,050 cfs
Check Discharge (Q100) 52,540 cfs
Headwater Elevation (Q1.1) 93.7 ft
Headwater Elevation (Q25) 98.4 ft
Headwater Elevation (Q50) 98.6-98.7 ft
Headwater Elevation (Q100) 100.2-100.3 ft
Discharge Velocity (Q1.1) 5.6-5.9 fps
Discharge Velocity (Q50) 14.3-16.0 fps
Discharge Velocity (Q100) 16.2-17.7 fps

MATERIALS

Concrete:
Curbs, Sidewalks, and Pier Subfooting Class "S"
All Other Class "A"
Reinforcing Steel:
Mild Stainless ASTM A615/A615M, Grade 60
Stainless ASTM A955/A995M, Grade 75
Structural Steel:
All Material (except as noted) ASTM A709, Grade 50 (Metallized)
High Strength Bolts ASTM F3125, Grade A325, Type 3

BASIC DESIGN STRESSES

Class "S" Concrete f 'c = 3000 psi
Class "A" Concrete f 'c = 4000 psi
Mild Reinforcing Steel f y = 60,000 psi
Stainless Reinforcing Steel f y = 75,000 psi

Structural Steel:
ASTM A 709, Grade 50 F y = 50,000 psi
ASTM F 3125, Grade A 325 F u = 120,000 psi

85% SUBMISSION
NOT FOR
CONSTRUCTION
5/12/2021

OLD TOWN
PENOBSCOT COUNTY
STILLWATER BRIDGES
OVER
STILLWATER RIVER
STILLWATER AVENUE

FEDERAL AID PROJECT NO.
STP-02251(100) & STP-02251(200)

PROJECT LENGTH 0.106 mi.
BRIDGE REPLACEMENTS
BRIDGE NO.1 (1472)
&
BRIDGE NO.2 (2806)

PROJECT LOCATION

Bridges are located 0.69 miles north east of I-95 Exit 193 N and Stillwater Ave.
Bridge No. 1 Coordinates of Latitude 44°54'41.50"N Longitude 68°41'5.70"W
Bridge No. 2 Coordinates of Latitude 44°54'45"N Longitude 68°41'4.0"W

PROGRAM AREA

Bridge Program "Highway Bridges - Traditional"

OUTLINE OF WORK

Bridge Construction: Bridge replacement and related approach work.

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UTILITIES

Emera Maine
Fairpoint Communications
Old Town Water and Sewer District
Spectrum
Maine Fiber

MAINTENANCE OF TRAFFIC

Temporary two-lane bridge with a minimum curb to curb width of 30'-0" on the upstream side of proposed bridges, with temporary 5'-0" sidewalk on west side of temporary bridge.

WIN 022512.00
WIN 022511.00

OLD TOWN
STILLWATER BRIDGES

TITLE SHEET

SHEET NUMBER

1

OF 51

PRELIMINARY
NOT FOR
CONSTRUCTION
5/12/2021

PROJECT INFORMATION	
PROGRAM	BRIDGE
PROJECT MANAGER	MICHAEL WIGHT
DESIGNER	ROBERT BLUNT
CONSULTANT	VHB
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED

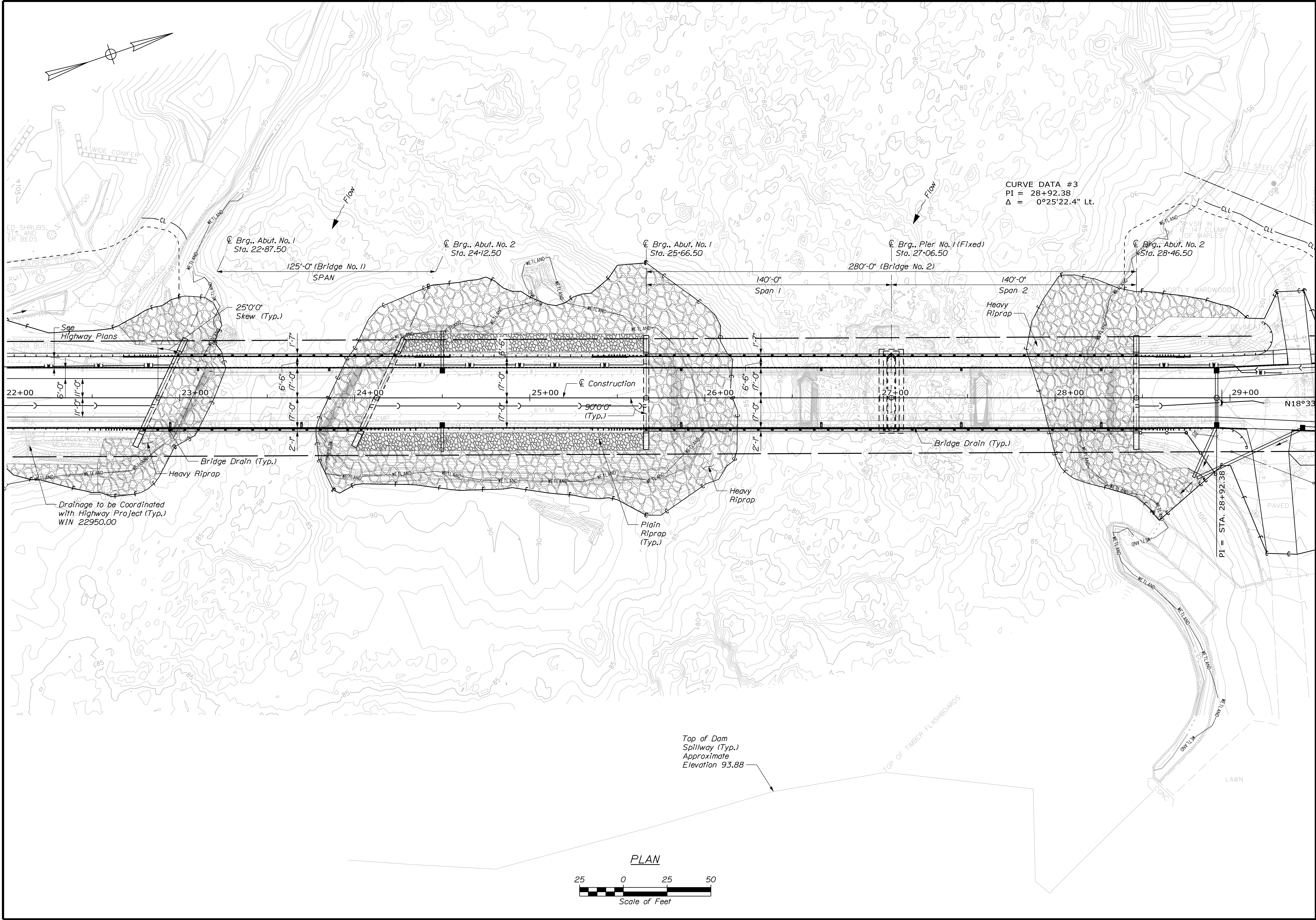
COMMISSIONER:

CHIEF ENGINEER:

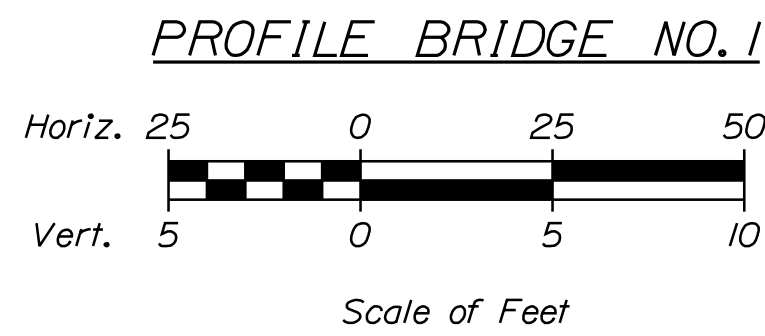
DATE

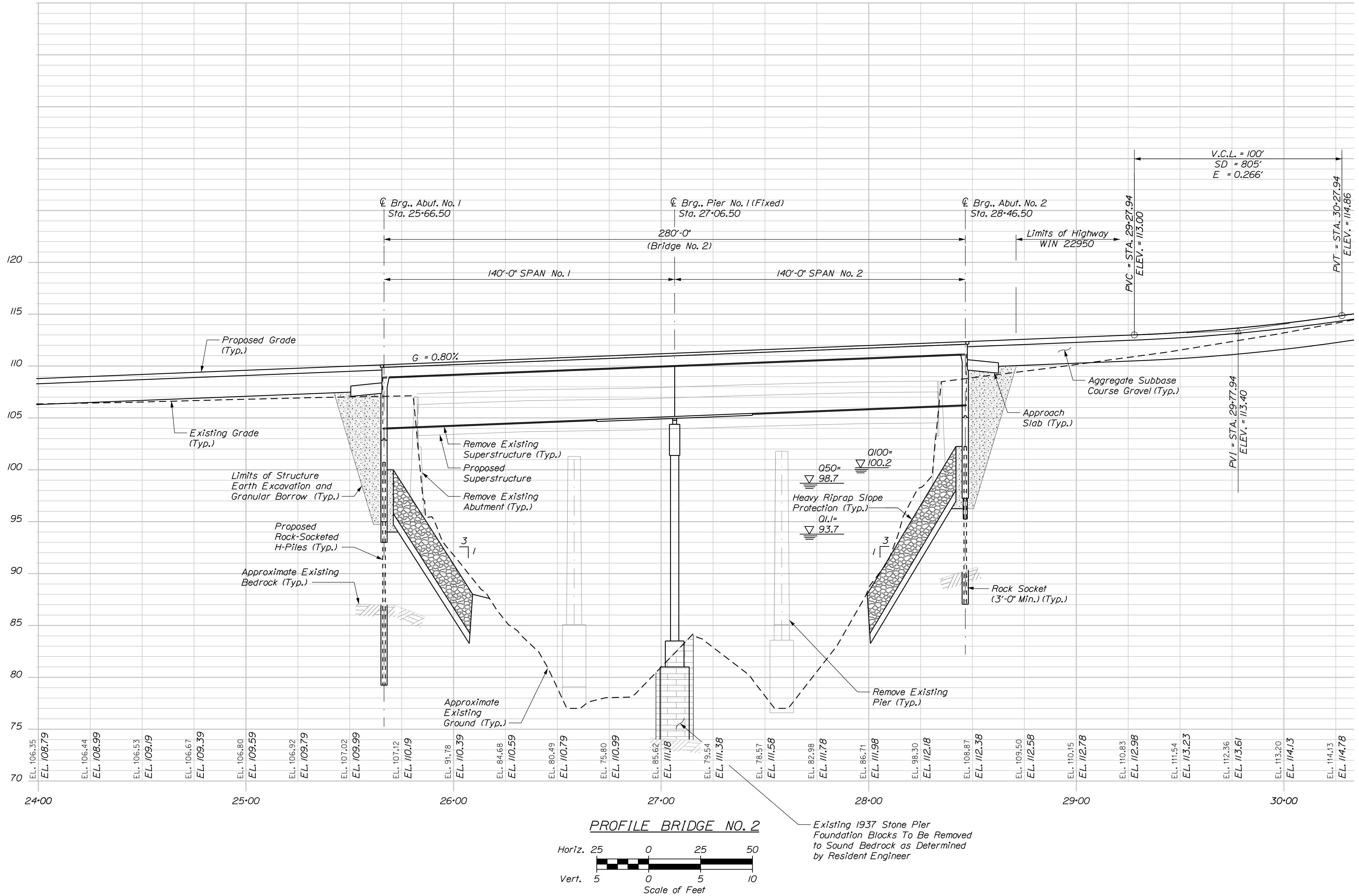
Date: 5/12/2021

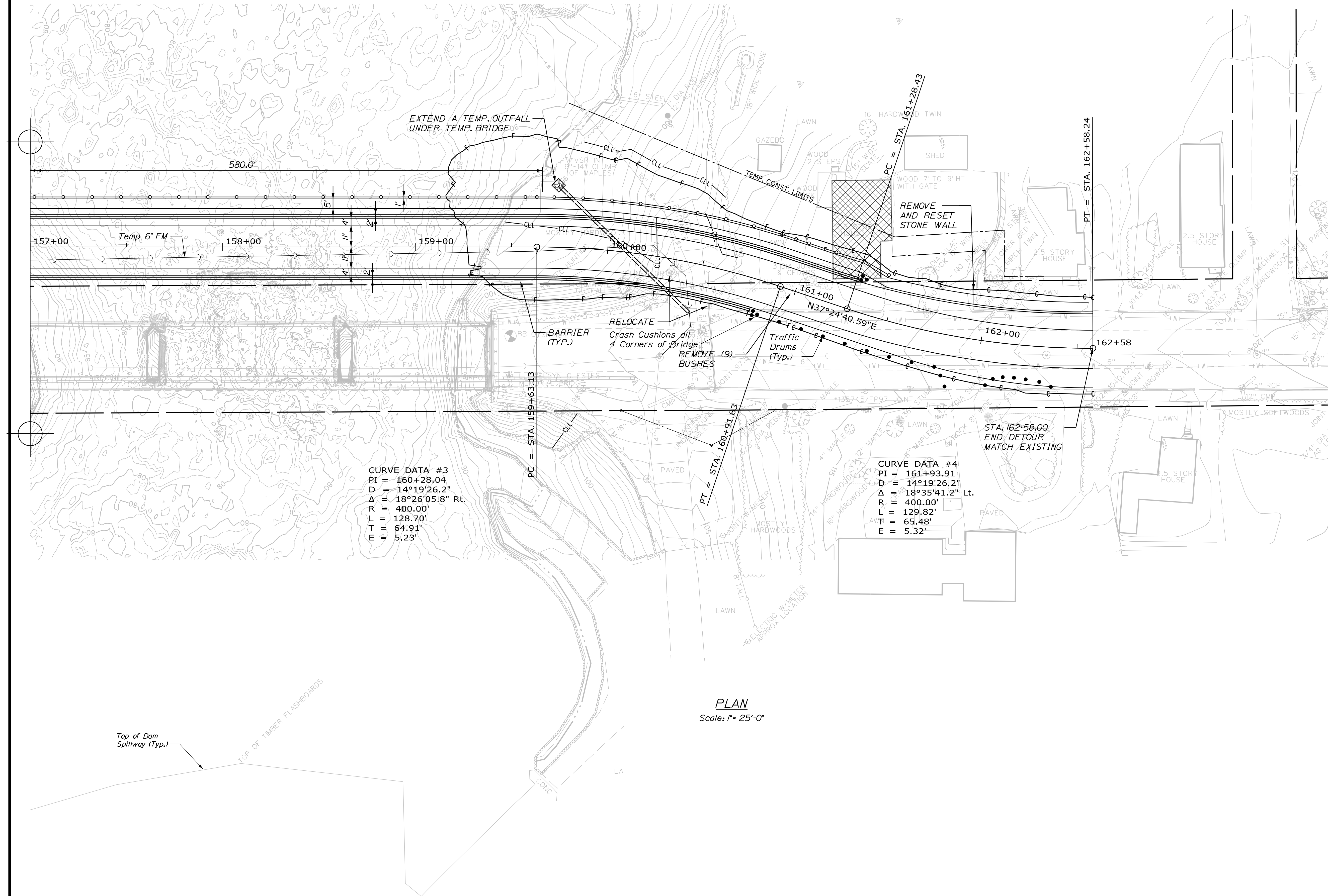
Filename: ... \BRIDGE\MSTA\004_BDPlan_1.dgn Division: HIGHWAY



STATE OF MAINE DEPARTMENT OF TRANSPORTATION		PRELIMINARY NOT FOR CONSTRUCTION 5/12/2021		BRIDGE NO. 1472 BRIDGE NO. 2806		WIN 022512.00 WIN 022511.00		BRIDGE PLANS	
STILLWATER BRIDGES OVER STILLWATER RIVER OLD TOWN PENOBSCOT COUNTY		DATE BY DESIGN-DETAILED CHECKED-REVIEWED DESIGN-DETAILED REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES		DATE BY DESIGN-DETAILED CHECKED-REVIEWED DESIGN-DETAILED REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES		DATE BY DESIGN-DETAILED CHECKED-REVIEWED DESIGN-DETAILED REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES		DATE BY DESIGN-DETAILED CHECKED-REVIEWED DESIGN-DETAILED REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES	
SHEET NUMBER 4		SHEET NUMBER 4		SHEET NUMBER 4		SHEET NUMBER 4		SHEET NUMBER 4	
OF 51		OF 51		OF 51		OF 51		OF 51	







DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMIT BY RULE NOTIFICATION FORM

(For use with DEP Regulation, Natural Resources Protection Act - Permit by Rule Standards, Chapter 305)

APPLICANT INFORMATION (Owner)				AGENT INFORMATION (If Applying on Behalf of Owner)			
Name:	MaineDOT			Name:	Andrea Brady, MaineDOT ENV		
Mailing Address:	15 Station House Station			Mailing Address:			
Mailing Address:				Mailing Address:			
Town/State/Zip:	Augusta, ME 04344			Town/State/Zip:			
Daytime Phone #:	(207) 624-3000	Ext:		Daytime Phone #:	(207) 592-0523	Ext:	
Email Address:	Andrea.F.Brady@maine.gov			Email Address:	andrea.f.brady@maine.gov		
PROJECT INFORMATION							
Part of a larger project? (check 1):	☐ Yes ☒ No	After the Fact? (check 1):	☐ Yes ☒ No	Project involves work below mean low water? (check 1):	☐ Yes ☐ No	Name of waterbody:	Stillwater River
Project Town:	Oldtown, ME	Town Email Address:				Map and Lot Number:	
Brief Project Description:	Replacement of 2 structurally deficient bridges with a 125 ft span on Bridge 1 and 2 140-ft spans on Bridge 2. Traffic will be maintained via a 2-lane temp bridge on the upstream side. Temporary work trestle supported by temp pile bents on downstream side						
Project Location & Brief Directions to Site:	Stillwater Bridges #1472 & 2806, carrying Stillwater Avenue over the Stillwater River, located 0.69 miles north east of I-95 Exit 193 N and Stillwater Ave.						

PERMIT BY RULE (PBR) SECTIONS (Check at least one): I am filing notice of my intent to carry out work that meets the requirements for Permit-by-Rule (PBR) under DEP Rules, [Chapter 305](#). I and my agent(s), if any, have read and will comply with all of the standards in the Sections checked below.

- | | | |
|---|---|---|
| ☐ Sec. (2) Act. Adj. to Prot. Natural Res. | ☐ Sec. (9) Utility Crossing | ☐ Sec. (16) Coastal Sand Dune Projects |
| ☐ Sec. (3) Intake Pipes | ☐ Sec. (10) Stream Crossing | ☐ Sec. (17) Transfer/Permit Extension |
| ☐ Sec. (4) Replacement of Structures | ☒ Sec. (11) State Transportation Facilities | ☐ Sec. (18) Maintenance Dredging |
| ☐ Sec. (6) Movement of Rocks or Veg. | ☐ Sec. (12) Restoration of Natural Areas | ☐ Sec. (19) Act. Near SVP Habitat |
| ☐ Sec. (7) Outfall Pipes | ☐ Sec. (13) F&W Creat./Water Qual. Improv. | ☐ Sec. (20) Act. Near Waterfowl/Bird Habitat |
| ☐ Sec. (8) Shoreline Stabilization | ☐ Sec. (15) Public Boat Ramps | |

NOTE: Municipal permits also may be required. Contact your local code enforcement office for information. Federal permits may be required for stream crossings and for projects involving wetland fill. Contact the Army Corps of Engineers at the Maine Project Office for information.

NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS AND FEE

- ☒ **Attach** all required submissions for the PBR Section(s) checked above. The required submissions for each PBR Section are outlined in Chapter 305 and may differ depending on the Section you are submitting under.
- ☒ **Attach** a location map that clearly identifies the site (U.S.G.S. topo map, Maine Atlas & Gazetteer, or similar).
- ☐ **Attach** Proof of Legal Name if applicant is a corporation, LLC, or other legal entity. Provide a copy of Secretary of State's registration information (available at <http://icrs.informe.org/nei-sos-icrs/ICRS?MainPage=x>). Individuals and municipalities are not required to provide any proof of identity.

FEE: Pay by credit card at the [Payment Portal](#). The Permit-by-Rule fee may be found here <https://www.maine.gov/dep/feeschedule.pdf> and is currently \$256.

- ☐ **Attach** payment confirmation from the Payment Portal when filing this notification form.

Internal Billing-State Agency :
WIN 22511_22512

Signature & Certification:	
- I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules. - I understand that this PBR becomes effective 14 calendar days after receipt by the Department of this completed form, the required submissions, and fee, <i>unless the Department approves or denies the PBR prior to that date.</i>	
By signing this Notification Form, I represent that the project meets all applicability requirements and standards in Chapter 305 rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.	
Signature of Agent or Applicant (may be typed):	<i>Andrea F. Brady</i> Date: 8/27/2021

Keep a copy as a record of permit. Email this completed form with attachments to DEP at: DEP.PBRNotification@maine.gov. DEP will send a copy to the Town Office as evidence of DEP's receipt of notification. No further authorization will be issued by DEP after receipt of notice. A PBR is valid for two years, except Section 4, "Replacement of Structures," are valid for three years. **Work carried out in violation of the Natural Resources Protection Act or any provision in Chapter 305 is subject to enforcement.**

Just A. Cull

Accepted 9/12/2021

11. State transportation facilities

A. Applicability

- (1) This section applies to the maintenance, repair, reconstruction, rehabilitation, replacement or minor construction of a State Transportation Facility carried out by, or under the authority of, the Maine Department of Transportation (MaineDOT) or the Maine Turnpike Authority, including any testing or preconstruction engineering, and associated technical support services.
- (2) This section does not apply to an activity within a coastal sand dune system.

NOTE: The construction of a transportation facility other than roads and associated facilities may be subject to the Storm Water Management Law, 38 M.R.S.A. Section 420-D.

B. Standards

- (1) Photographs of the area to be altered by the activity must be taken before work on the site begins. The photographs must be kept on file and be made available at the request of the DEP.
- (2) The activity must be reviewed by the Department of Inland Fisheries and Wildlife and the Department of Marine Resources, as applicable. The applicant must coordinate with the reviewing agencies and incorporate any recommendations from those agencies into the performance of the activity.
- (3) All construction activities undertaken must be detailed in a site-specific Soil Erosion and Water Pollution Control Plan and conducted in accordance with MaineDOT's Best Management Practices for Erosion and Sediment Control, dated January 2000, and Standard Specifications, dated December 2002.
- (4) Alignment changes may not exceed a distance of 200 feet between the old and new center lines in any natural resource.
- (5) The activity may not alter more than 300 feet of shoreline (both shores added together) within a mile stretch of any river, stream or brook, including any bridge width or length of culvert.
- (6) The activity may not alter more than 150 feet of shoreline (both shores added together) within a mile stretch of any outstanding river segment identified in 38 M.R.S.A. 480-P, including any bridge width or length of culvert.
- (7) The activity must minimize wetland intrusion. The activity is exempt from the provisions of Chapter 310, the Wetland and Waterbodies Protection Rules, if the activity alters less than 15,000 square feet of natural resources per mile of roadway (centerline measurement) provided that the following impacts are not exceeded within the 15,000 square foot area:
 - (a) 1,000 square feet of coastal wetland consisting of salt tolerant vegetation or shellfish habitat; or

(b) 5,000 square feet of coastal wetland not containing salt tolerant vegetation or shellfish habitat; or

(c) 1,000 square feet of a great pond.

All other activities must be performed in compliance with all sections of Chapter 310, the Wetland Protection Rules, except 310.2(C), 5(A), 9(A), 9(B) and 9(C).

- (8) The activity may not permanently block any fish passage in any watercourse containing fish. The applicant must coordinate with the reviewing agencies listed in paragraph 2 above to improve fish passage and incorporate any recommendations from those agencies into the performance of the activity.

NOTE: For guidance on meeting the design objectives for fish passage, including peak flow, maximum velocity, mining depth and gradient, see the MaineDOT Waterbody and Wildlife Crossing Policy and Design Guide (July 2008), developed in conjunction with state and federal resource and regulatory agencies.

- (9) Rocks may not be removed from below the normal high water line of any coastal wetland, freshwater wetland, great pond, river, stream or brook except to the minimum extent necessary for completion of work within the limits of construction.
- (10) If work is performed in a river, stream or brook that is less than three feet deep at the time and location of the activity, the applicant must isolate the work area from the resource and divert stream flows around the work area, maintaining downstream flows while work is in progress.
- (11) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom. If avoiding the operation of wheeled or tracked equipment in the water is not possible, the applicant must explain the need to operate in the water. Approval from the DEP to operate in the water must be in writing, and any recommendations from the DEP must be incorporated into the performance of the activity.
- (12) All wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms.
- (13) Any debris or excavated material must be stockpiled either outside the wetland or on mats or platforms. Erosion and sediment control best management practices must be used, where necessary, to prevent sedimentation. Any debris generated during the activity must be prevented from washing downstream and must be removed from the wetland or water body. Disposal of debris must be in conformance with the Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Section 1301 *et seq.*
- (14) Work below the normal high water line of a great pond, river, stream or brook must be done at low water except for emergency work or work agreed to by the resource agencies listed in paragraph 2 above.
- (15) Perimeter controls must be installed before the work starts. Disturbance of natural resources beyond the construction limits shown on the plans is not allowed under this rule.

NOTE: Guidance on the location of construction limits can be obtained from the on site Construction Manager.

- (16) The use of untreated lumber is preferred. Lumber pressure treated with chromated copper arsenate (CCA) may be used only if necessary and only if use is allowed under federal law and not prohibited from sale under 38 M.R.S.A. 1682, and provided it is cured on dry land in a manner that exposes all surfaces to the air for a period of at least 21 days prior to construction. Wood treated with creosote or pentachlorophenol may not be used where it will contact water.
- (17) A temporary road for equipment access must be constructed of crushed stone, blasted ledge, or similar materials that will not cause sedimentation or restrict fish passage. Such roads must be completely removed at the completion of the activity. In addition, any such temporary roads which are in rivers, streams or brooks, must allow for a passage of stormwater flows associated with a 10-year storm.
- (18) Non-native species may not be planted in restored areas.
- (19) Disposal of debris must be in conformance with Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Sections 1301 *et seq.*
- (20) Disturbance of vegetation must be avoided, if possible. Where vegetation is disturbed outside of the area covered by any road or structure construction, it must be reestablished immediately upon completion of the activity and must be maintained.
- (21) A vegetated area at least 25 feet wide must be established and maintained between any new stormwater outfall structure and the high water line of any open water body. A velocity reducing structure must be constructed at the outlet of the stormwater outfall that will create sheet flow of stormwater, and prevent erosion of soil within the vegetated buffer. If the 25 foot vegetated buffer is not practicable, the applicant must explain the reason for a lesser setback in writing. Approval from the DEP must be in writing and any recommendations must be incorporated into the activity.

C. Definitions. The following terms, as used in this chapter, have the following meanings, unless the context indicates otherwise:

- (1) Diversion. The rerouting of a river, stream or brook around a construction site and then back to the downstream channel.
- (2) Fill. a. (verb) To put into or upon, supply to, or allow to enter a water body or wetland any earth, rock, gravel, sand, silt, clay, peat, or debris; b. (noun) Material, other than structures, placed in or immediately adjacent to a wetland or water body.
- (3) Floodplain wetlands. Freshwater wetlands that are inundated with flood water during a 100-year flood event based on flood insurance maps produced by the Federal Emergency Agency or other site specific information.
- (4) Riprap. Heavy, irregularly shaped rocks that are fit into place, without mortar, on a slope as defined in the MaineDOT Standard Specifications, dated **November 2014**.

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Date: 5/11/2023

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

Work within stream (“In Stream Work,” see MaineDOT Standard Specifications 101.2 Definitions) requires special conditions to minimize impacts. The following special conditions shall apply to this project:

I. In-Water Work is allowed for specific activities as follows:

Activity	In-Water Work Window
Temporary fill placement for temporary bridge	July 1 to March 30
Installation of work trestle	July 1 to March 30
Pier demolition	July 1 to March 30
Pile driving	July 1 to March 30
Cofferdam construction	July 1 to March 30
Work within cofferdam	Any time
Cofferdam removal	Any time
Permanent placement of riprap (no excavation)	Any time
Temporary fill removal	Any time
Temporary structure removal	Any time

II. In-Water work window applies to the following water bodies at the following station #'s:

1. Stillwater River at proposed bridge replacement project

III. Additional Requirements for In-Water Pile Driving

1. Piles driven by impact hammer may not exceed the following pile sizes:
 - i. Pipe pile: 30 inch
 - ii. Steel H-pile: 14-inch
2. The contractor shall contact Eric Ham of MaineDOT Environmental Office (207-215-7356) at least two weeks prior to pile driving with an impact hammer to coordinate monitoring for presence of Atlantic Salmon during pile driving activities.
3. The MaineDOT will implement its **Fish Check Protocol (appended to this Special Provision)** to review the work area for adult Atlantic salmon before pile driving activities begin.
4. The contractor shall use a vibratory hammer for all pile driving activities as much as practicable.
5. Pile driving shall occur during the day
6. Any use of an impact hammer during pile driving shall require the use of passive attenuation measures (changing hammer type, reducing driving duration, reducing force settings) and active measures (cushions and bubble curtains).
7. The contractor shall employ a bubble curtain for all in-water impact pile driving. The bubble curtain shall meet the design specifications and performance requirements in the attached **Bubble Curtain Specification (appended to this Special Provision)**. The contractor shall complete a performance test of the bubble curtain prior to any impact pile driving. The performance test shall confirm the calculated pressures and flow rates at each manifold ring.
8. **Hydroacoustic monitoring for impact pile driving shall be completed as follows for at least two piles:**
 - i. **Largest pile driven in-water (in at least two feet of water)**
 - ii. **A minimum of three hydrophones must be used, located approximately 33, 66, and 100 feet from the in-water sound producing activity.**
9. The Contractor shall retain the services of a qualified person or firm to prepare and implement a hydroacoustic monitoring plan following the attached “**Underwater Noise Monitoring Plan**” template (appended to this Special Provision). The Contractor shall provide MaineDOT a completed draft

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hydroacoustic monitoring plan at least 45 days prior to implementation for review. **No in-stream noise-generating activities may commence until MaineDOT has approved the monitoring protocol.**

10. The Contractor shall provide Hydroacoustic monitoring data to the Department. A preliminary data report shall be submitted within 5 business days of pile driving activity. A final summary report of all of the data must be submitted within 2 months of completion of in-water construction.
11. The contractor shall be responsible for implementing noise monitoring and noise attenuation as described above. Payment shall be made as a lump sum under Pay Item 501.237.

IV. Special Conditions:

1. Special Conditions of Army Corps of Engineers (ACOE) Individual Permit apply (see permit and other conditions in this SP 105).
2. Special Conditions of Formal Endangered Species Act (Section 7) Consultation with U.S. Fish and Wildlife Service for Atlantic Salmon apply (summarized in this Special Provision 105 and ACOE permit).
3. Special Conditions of Formal Endangered Species Act (Section 7) Consultation with U.S. Fish and Wildlife Service for Northern Long-Eared Bat apply (summarized in this Special Provision 105).
4. The Contractor shall hold a pre-construction meeting with appropriate MaineDOT Environmental Office staff, other MaineDOT staff, and the Contractor(s) to review all procedures and requirements for avoiding and minimizing effects to Atlantic salmon (ATS) and Northern Long-Eared Bat. The following individuals/agencies shall be invited: ACOE (Richard Kristoff, Richard.C.Kristoff@usace.army.mil); FHWA (Rachel LeVee, Rachel.leeve@dot.gov; Gary Scholze, gary.scholze@dot.gov) U.S. Fish and Wildlife Service (Patrick Dockens, patrick_dockens@fws.gov; Nicole Pauley, nicole_pauley@fws.gov).
5. Construction of temporary approaches and abutments will be contained within turbidity curtains.
6. The Contractor shall contact Eric Ham of MaineDOT Environmental Office (207-215-7356, eric.ham@maine.gov) at least two weeks prior to installation of cofferdams to coordinate fish evacuation.
 - a. To minimize fish stranding inside the cofferdam when dewatering, the MaineDOT environmental staff or similarly qualified consultants will inspect the cofferdams after completion and before a seal placement for presence of adult Atlantic salmon. If adult Atlantic salmon are observed during active construction, all activities will cease and the MaineDOT environmental staff or similarly qualified consultants will immediately contact the Service's Maine Fish and Wildlife Complex 207/469-7300.
7. Sheet pile installation and removal shall be completed using a vibratory hammer.
8. All in-water excavation shall be completed in a cofferdam.
9. Fill for temporary approaches will be limited to no more than 25 percent of the width of the river.
10. Temporary fill will consist of non-erodible material on top of a geotextile fabric filter layer.
11. All areas of temporary stream or wetland fill must be within the specified limits on the plans and shall be restored to their original contour and character upon completion of the project. Temporary fill includes fill that received authorization and fill that mistakenly enters a resource (i.e., from slope failures, accidental broken sandbag cofferdams, miscellaneous construction materials, etc.)
12. Demolition and debris removal and disposal will comply with Section 202.03 of the MaineDOT's Standard Specifications. The Contractor will contain all demolition debris, including debris from wearing surface removal, saw cut slurry, dust, etc., and will not allow it to discharge to any resource. The Contractor will dispose of debris in accordance with the Maine Solid Waste Law (Title 38 M.R.S.A., Section 1301 et. seq.). The demolition plan, containment, and disposal of demolition debris will be addressed in the Contractor's Soil Erosion and Water Pollution Control Plan (SEWPCP).
13. Demolition of concrete piers of existing bridge will occur within containment such as turbidity curtains.
14. Temporary bridge piles will be removed with a vibratory hammer.
15. If piles are removed by cutting, they must be cut to one foot below the substrate level. If piles are removed by pulling, the work will be completed using a BMP to minimize turbidity.
16. Any concrete that has been in contact with water must have a pH between 6.0 and 8.5, must be within one pH unit of the background pH level of the stream, and must have a turbidity level no greater than the receiving resource. Disposal or treatment of water not meeting release criteria will be addressed in the SEWPCP. Discharging impounded water to the stream must take place in a manner that does not disturb the stream bottom or cause erosion. The Contractor shall be responsible for monitoring pH with a calibrated

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meter accurate to 0.1 units. A record of pH measurements shall be kept in the Environmental Field Representative's log.

17. The Contractor shall conduct all construction activities in accordance with the MEDOT-approved SEWPCP.
18. No equipment, materials, or machinery shall be stored, cleaned, fueled, or repaired within any wetland or stream resource. These activities shall occur more than 100 feet from any wetland or stream resource and shall follow the specifications of the SEWPCP.
19. All pumps and generators required for in-stream work shall be cleaned of external oil, grease, dirt, and mud such that turbid water does not drain to any wetland or stream. Any leaks of this equipment shall be fixed prior to entering streams or areas that drain directly to streams or wetlands. Operation shall follow the specifications of the SEWPCP.
20. The contractor shall minimize vegetation clearing and soil disturbance adjacent to the river to the maximum extent practicable. Areas of disturbed soil adjacent to the waterways will be stabilized and re-vegetated with a seed mix appropriate for riparian areas in Maine.
21. All off-road equipment working within 25-feet of a stream (RUS) shall be cleaned to remove all soil, seeds, vegetation, or other debris that could contain seeds or reproductive portions of plants prior to entering the area to minimize the spread of noxious weeds. All equipment shall be inspected prior to offloading to ensure they are clean.
22. The contractor shall fully remove all cofferdams from the stream immediately following completion of in-stream work using techniques to minimize turbidity releases.
23. To minimize the spread of noxious weeds into the riparian zone, all off-road equipment and vehicles (operating off of existing open and maintained roads) shall be cleaned prior to entering the construction site to remove all soil, seeds, vegetation, or other debris that could contain seeds or reproductive portions of plants. All equipment shall be inspected prior to off-loading to ensure that they are clean.
24. The contractor and MaineDOT must adhere to the following special conditions (Conservation Measures and Terms & Conditions specified in the Northern Long-Eared Bat BO). If any conservation measures cannot be implemented or require modification, MaineDOT will contact the USFWS for further discussion before proceeding.
 - a. During the preconstruction meeting, MaineDOT will notify contractors and construction staff of conservation measures and ensure compliance with these measures.
 - b. The Contractor shall report any sick, injured, and/or dead bats (regardless of species) located in the project action area during construction, operations, maintenance, or monitoring activities immediately to the MaineDOT Resident and/or Environmental Staff, who will report to the USFWS Maine Ecological Services Field Office (Nicole Pauley; nicole_pauley@fws.gov, (207) 272-2883).
 - c. Injured bats must be cared for by a licensed veterinarian or other qualified persons. Dead individuals must be sealed in a resealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen.

V. Approvals:

1. Temporary Soil Erosion and Water Pollution Control Plan
2. Permitted Resource Impacts (square feet), see ACOE permit for locations:

Stream:

Permanent RUS: 14,015

Temporary RUS: 15,905

Wetland: None

VI. All activities are prohibited (including placement and removal of cofferdams unless otherwise permitted by Regulatory Agencies) below the normal high water mark if outside the prescribed in-water work window (see Section I), except for the following:

1. Work within a cofferdam constructed according to MaineDOT's Standard Specifications and in adherence with the contractors approved "Soil Erosion and Water Pollution Control Plan".

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VI. No work is allowed that completely blocks a river, stream, or brook without providing downstream flow.

NOTE: Regulatory Review and Approval is required to modify the existing In-Water work window. Requests for work window extensions must be submitted to the MaineDOT Environmental Office. Approval of requests for work window extensions is not guaranteed and may result in delays in construction schedule that are the sole responsibility of the contractor.

Town: Old Town
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Date: 2/14/2022

SPECIAL PROVISION 105 - ATTACHMENTS:

FISH CHECK PROTOCOL

BUBBLE CURTAIN SPECIFICATION

UNDERWATER NOISE MONITORING PLAN (TEMPLATE)

FISH CHECK PROTOCOL

1. Contractor shall supply MaineDOT with a boat and a driver to survey the bridge area for the presence of Atlantic salmon. The boat should be safe for the driver and two staff members from MaineDOT to be aboard.
2. MaineDOT will provide a sonar device to search for fish with the appropriate power.
3. The team will search 250 feet around the planned activity for 15 minutes prior to being able to begin. The activities that require a search are as follows:
 - a. Pile driving with an impact hammer
 - b. Removal of old pier elements
 - c. Closure of sheetpile cofferdam
4. Searches will take place prior to each of the activities listed above. If there is a 4-hour lapse because any of the noise producing events, the search must be completed again prior to the event.
5. In the event that an Atlantic salmon is found in the work area, MaineDOT staff will immediately contact USFWS. The contractor will then be asked to undertake activities to scare the Atlantic salmon out of the work site by using tactics such as running a vibratory hammer attached to a pile or completing other activities that could startle a fish but not result in injury.

Appendix I—Bubble Curtain Specification

These specifications are verbatim from National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS), Western Washington Fish and Wildlife Office Impact Pile Driving Sound Attenuation Specification

Unconfined Bubble Curtain Specifications:

1. General - An unconfined bubble curtain is composed of an air compressor(s), supply lines to deliver the air, distribution manifolds or headers, perforated aeration pipe, and a frame. The frame facilitates transport and placement of the system, keeps the aeration pipes stable, and provides ballast to counteract the buoyancy of the aeration pipes in operation.
2. The aeration pipe system shall consist of multiple layers of perforated pipe rings, stacked vertically in accordance with the following:

Water Depth (m)	No. of Layers
0 to less than 5	2
5 to less than 10	4
10 to less than 15	7
15 to less than 20	10
20 to less than 25	13

3. The pipes in all layers shall be arranged in a geometric pattern which shall allow for the pile being driven to be completely enclosed by bubbles for the full depth of the water column and with a radial dimension such that the rings are no more than 0.5 meters from the outside surface of the pile.
4. The lowest layer of perforated aeration pipe shall be designed to ensure contact with the substrate without burial and shall accommodate sloped conditions.
5. Air holes shall be 1.6 mm (1/16-inch) in diameter and shall be spaced approximately 20 mm (3/4 inch) apart. Air holes with this size and spacing shall be placed in four adjacent rows along the pipe to provide uniform bubble flux.
6. The system shall provide a bubble flux of 3.0 cubic meters per minute per linear meter of pipe in each layer (32.91 cubic feet per minute per linear foot of pipe in each layer). The total volume of air per layer is the product of the bubble flux and the circumference of the ring:

$$V_t = 3.0 \text{ m}^3/\text{min}/\text{m} * \text{Circum of the aeration ring in m}$$

or

$$V_t = 32.91 \text{ ft}^3/\text{min}/\text{ft} * \text{Circum of the aeration ring in ft}$$

7. Meters shall be provided as follows:

- a. Pressure meters shall be installed at all inlets to aeration pipelines and at points of lowest pressure in each branch of the aeration pipeline.
- b. Flow meters shall be installed in the main line at each compressor and at each branch of the aeration pipelines at each inlet. In applications where the feed line from the compressor is continuous from the compressor to the aeration pipe inlet the flow meter at the compressor can be eliminated.
- c. Flow meters shall be installed according to the manufactures recommendation based on either laminar flow or non-laminar flow.

Confined Bubble Curtain Specifications:

1. General - A confined bubble curtain is composed of an air compressor(s), supply lines to deliver the air, distribution manifolds or headers, perforated aeration pipe(s), and a means of confining the bubbles.
 - a. The confinement (e.g. fabric, plastic or metal sleeve, or equivalent) shall extend from the substrate to a sufficient elevation above the maximum water level expected during pile installation such that when the air delivery system is adjusted properly, the bubble curtain does not act as a water pump (i.e., little or no water should be pumped out of the top of the confinement system).
 - b. The confinement shall contain resilient pile guides that prevent the pile and the confinement from coming into contact with each other and do not transmit vibrations to the confinement sleeve and into the water column (e.g. rubber spacers, air filled cushions).
2. In water less than 15 meters deep, the system shall have a single aeration ring at the substrate level. In waters greater than 15 meters deep, the system shall have at least two rings, one at the substrate level and the other at mid-depth.
3. The lowest layer of perforated aeration pipe shall be designed to ensure contact with the substrate without sinking into the substrate and shall accommodate for sloped conditions.
4. Air holes shall be 1.6 mm (1/16-inch) in diameter and shall be spaced approximately 20 mm (3/4 inch) apart. Air holes with this size and spacing shall be placed in four adjacent rows along the pipe to provide uniform bubble flux.
8. The system shall provide a bubble flux of 3.0 cubic meters per minute per linear meter of pipe in each layer (32.91 cubic feet per minute per linear foot of pipe in each layer). The total volume of air per layer is the product of the bubble flux and the circumference of the ring:

$$V_t = 3.0 \text{ m}^3/\text{min}/\text{m} * \text{Circ of the aeration ring in m}$$

or

$$V_t = 32.91 \text{ ft}^3/\text{min}/\text{ft} * \text{Circ of the aeration ring in ft}$$

5. Meters shall be provided as follows:
 - a. Pressure meters shall be installed at all inlets to aeration pipelines and at points of lowest pressure in each branch of the aeration pipeline.
 - b. Flow meters shall be installed in the main line at each compressor and at each branch of the aeration pipelines at each inlet. In applications where the feed line from the compressor is continuous from the compressor to the aeration pipe inlet the flow meter at the compressor can be eliminated.
 - c. Flow meters shall be installed according to the manufactures recommendation based on either laminar flow or non-laminar flow.

UNDERWATER NOISE MONITORING PLAN

*****TEMPLATE*****

Replace underlined blue italic text with project information.

Blue italic text is guidance.

Plain, black text is template language.

All blue italic text should be replaced or omitted for final production.

Prepared by:

Name and full contact information

Signature Block

Date

INTRODUCTION *(This section will be project specific)*

The full agency name proposes to detailed project description. See vicinity map (Figure 1).

Figure 1. Vicinity map of name project.

PROJECT AREA *(This section will be project specific)*

Describe the location of the project, including all water bodies that are affected. Identify the USGS hydrologic unit, both the name and code, where the project is located. Include detailed maps and figures, when available, relative to environmental features that influence monitoring (e.g., geology, bathymetry, etc.).

PERMIT/ESA CONDITIONS *(This section will be project specific and is applicable only when the ESA consultation is complete or Federal/State/local permits have been issued. Each agency should modify this section to reflect the various types of permit/ESA conditions that they see.)*

Summarize the Federal/State/local permit conditions and the ESA requirements that relate to the underwater noise. Permit conditions include monitoring requirements, timing restrictions, etc. The ESA requirements are found in the Incidental Take Statement and Terms and Conditions sections of the biological opinion. These requirements vary between biological opinions, but can include monitoring requirements, timing restrictions, limits on cumulative sound exposure level (cSEL) at a given distance, description of the area where the thresholds must not be exceeded, the allowable number of piles driven per day, the allowable number of pile strikes per day, or a limit on the single strike SEL.

PILE INSTALLATION LOCATION *(This section will be project specific)*

Figure 2 indicates the location of the provide location of the structure(s) in need of pile driving. There will be a total of XX piles driven as part of the name structure(s).

Figure 2. Location of name structure(s) where pile driving activity will take place. *This information must be in enough detail to allow the reader to assess the monitoring locations.*

PILE INSTALLATION

Impact Pile Driving for Fish Consultations

Provide pile installation information. For example:

Hydroacoustic monitoring will be conducted for X piles struck with an impact hammer. Piles chosen to be monitored are driven in water depths that are representative of mid-channel or typical water depths at the project location where piles will be driven.

The number of piles to be monitored will depend on a variety of factors – some projects may require that all piles be monitored, while others may require a representative sample of piles be monitored. If a sample of piles is to be monitored, provide the considerations taken and the rationale used in choosing a representative number of piles, such as, bathymetry, total number of piles to be driven, substrate type, depth of water, distance from shore, river, or stream bank, and any other considerations, as appropriate. When monitoring a subset, a minimum of 5 piles should be monitored. Additional monitoring to produce a representative sample may be warranted when projects are driving a large number of piles, driving multiple piles of varying diameters in differing substrates, driving different types of piles, or driving piles in widely differing depths.

Hydroacoustic monitoring of type of pile with impact driving will include:

- Monitoring *X piles, out of a total of Y piles driven for the project.*
- Testing sound attenuation system effectiveness.

Figure 3 indicates the location of the piles to be monitored and the approximate hydrophone locations for each pile being monitored. All hydrophones will be placed at least 1 m (3.3 feet) below the surface. *If only one hydrophone at one distance is to be used it is acceptable for the hydrophone to be placed 10 meters from the pile at midwater depth. If hydrophones will be placed at more than one distance from the pile and used to calculate transmission loss over distance, water depth should be at least 4m (13 ft) and it is suggested that the additional hydrophone nearest the pile be placed at least 3H from the pile where H is the water depth at the pile and at 0.7 to 0.85H depth from the surface. In waters less than 4m (13 ft) deep, a single hydrophone at midwater depth is sufficient¹.* Hydrophones will be located *X* meters from each pile with a clear acoustic line-of-sight between the pile and the hydrophone. *Additional distances measured concurrently are desirable, if possible, to estimate the site specific range to the threshold boundary. Include any additional distances or depths where hydrophones will be located. If airborne noise monitoring is required, the primary measurement microphone shall be placed 50 feet (e.g. 15 meters) from the pile at least 6 feet above the ground or water, and shall have an unobstructed view of the length of the pile.*

¹ Some projects may need or require more than one hydrophone to collect real time measurements at multiple locations or multiple distances. In these situations multiple hydrophones can be placed at midwater depths.

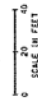


Table 1 lists the [name structure\(s\)](#) to be installed, the water depth, and the number and size of piles that will be installed.

Table 1
Depth, Number Piles to be Monitored

Structure	Water Depth	Structural Components Installed
Name structure	X feet to X feet	X - XX-inch diameter type of pile

CONTRACTOR REQUIREMENTS

The contractor will submit a detailed description of their qualifications, which must include a minimum of a bachelor's degree in a related field² and 3 years' experience in noise monitoring and analysis, and monitoring plan based on this template for approval by [\[INSERT AGENCY NAME\]](#). A list of the contractors' proposed sound level monitoring equipment shall be included along with specifications and a description of the purpose. The measurement range in terms of amplitude (in dB referenced to one micropascal (re: 1 uPa)), sensitivity and frequency shall be stated. A minimum frequency range of 20 Hz to 20 kHz and a minimum sampling rate of 48,000 Hz will be used when monitoring. Sampling rates higher than 48 kHz are preferred. Table 2 describes the minimum requirements of the equipment to be used. In addition to the equipment selection, quality control/quality assurance procedures should be described (e.g., how will system responses be verified and how will data be managed).

Table 2.

Equipment for underwater sound monitoring (hydrophone, signal amplifier, and calibrator). All have current National Institute of Standards and Technology (NIST) traceable calibration. *This table is intended as a guideline and exact specifications can be adjusted to meet the needs of the individual project or contractors' equipment.*

Item	Specifications	Minimum Quantity	Usage
Hydrophone	Receiving Sensitivity- -211dB re 1V/μPa	1	Capture underwater sound pressures near the source and convert to voltages that can be recorded/analyzed by other equipment.
Hydrophone	Receiving Sensitivity – -200dB re 1/μPa	1	Capture underwater sound pressures for background levels and convert to voltages that can be recorded/analyzed by other equipment.

² This can include Institute of Noise Control Engineering of the USA (INCE/USA) certification or related fields such as acoustics, physics, oceanography, geology or other physical sciences that have required coursework in physics.

<u>Signal Conditioning Amplifier</u>	<u>Amplifier Gain-</u> <u>0.1 mV/pC to 10 V/pC</u> <u>Transducer Sensitivity Range-</u> <u>10-12 to 103 C/MU</u>	<u>1</u>	<u>Adjust signals from hydrophone to levels compatible with recording equipment.</u>
<u>Calibrator (pistonphone-type)</u>	<u>Accuracy-</u> <u>IEC 942 (1988) Class 1</u>	<u>1</u>	<u>Calibration check of hydrophone in the field.</u>
<u>Digital Signal Analyzer</u>	<u>Sampling Rate-</u> <u>48kHz or greater</u>	<u>1</u>	<u>Analyzes and transfers digital data to laptop hard drive.</u>
<u>Microphone (free field type)</u>	<u>Range- 30 – 120 dBA</u> <u>Sensitivity-</u> <u>-29 dB ± 3 dB (0 dB = 1 V/Pa)</u> <u>Wind Screen</u>	<u>1</u>	<u>Monitoring airborne sounds from pile driving activities (if not raining).</u>
<u>If water velocity ~> 1m/s, Flow shield</u>	<u>Open cell foam cover or functional equivalent</u>	<u>1/hydrophone</u>	<u>Eliminate flow noise contamination.</u>
<u>Laptop computer</u> <u>or</u> <u>Digital Audio Recorder</u>	<u>Compatible with digital signal analyzer</u>	<u>1</u>	<u>Record digital data on hard drive or digital tape.</u>
<u>Real Time and Post-analysis software</u>	<u>=</u>	<u>1</u>	<u>Monitor real-time signal and post-analysis of sound signals.</u>

To facilitate further analysis of data full bandwidth, time-series underwater signal shall be recorded as a text file (.txt) or wave file (.wav) or similar format. Recorded data shall not use data compression algorithms or technologies (e.g. MP3, compressed .wav, etc.).

METHODOLOGY

Impact Pile Driving for Fish Consultations (and listed US FWS, diving sea bird, if relevant)

Underwater background sound level measurements are optional, however, if desired then the NMFS (2012a) guidance should be followed.

If one hydrophone at one distance is to be used it is acceptable for the hydrophone to be placed 10 meters from the pile and at midwater depth. If hydrophones will be placed at more than one distance from the pile it is suggested that the hydrophone nearest the pile be placed at least 3H from the pile where H is the water depth at the pile and 0.7 to 0.85H depth from the surface. The hydrophone(s) will be placed at X meters depth at a distance of X meters from each pile being monitored, in waters of X meters depth. If water velocity is 1 meter/second or greater, 1-3 meters off the bottom may be recommended for near field hydrophones and greater than 5 meters from the surface may be recommended for any far field hydrophones. A weighted tape measure will be used to determine the depth of the water. The hydrophone(s) will be attached to a nylon cord, a steel chain, or other proven anti-strum features if the current is swift enough to cause strumming of the line. The nylon cord or chain will be attached to an anchor that will keep the line the appropriate distance from each pile. The nylon cord or chain will be attached to a float or tied

to a static line at the surface. The distances will be measured by a tape measure, where possible, or a range-finder. The acoustic path (line of sight) between the pile and the hydrophone(s) should be unobstructed in all cases.

When collecting sound measurements in an area with currents (i.e., in rivers or tidally influenced areas), appropriate measures will be taken, when necessary, to ensure that the flow-induced noise at the hydrophone will not interfere with the recording and analysis of the relevant sounds (NMFS, 2012a). As a general rule, current speeds of 1.5 meters/second or greater are expected to generate significant flow-induced noise, which may interfere with the detection and analysis of low-level sounds such as the sounds from a distant pile driver or background sounds. If such measures are necessary, include a description of those measures. For example:

If it becomes necessary to reduce the flow-induced noise at the hydrophone, a flow shield will be described and installed around the hydrophone to provide a barrier between the irregular, turbulent flow and the hydrophone. If no flow shield is used in these situations, the current velocity will be measured and a correlation between the levels of the relevant sounds (background or pile driving) and current speed will be made to determine whether the data is valid and can be included in the analysis.

The hydrophone calibration(s) will be checked at the beginning of each day of monitoring activity. *The method of calibration and calibration equipment used will be described.* NIST traceable calibration forms shall be provided for all relevant monitoring equipment. Prior to the initiation of pile driving, the hydrophone will be placed at the appropriate distance and depth as described above.

The onsite inspector/contractor will inform the acoustics specialist when pile driving is about to start to ensure that the monitoring equipment is operational. Underwater sound levels will be continuously monitored during the entire duration of each pile being driven with a minimum one-third octave band frequency resolution. The wideband instantaneous absolute peak pressure and Sound Exposure Level (SEL) values of each strike, and daily cumulative SEL should be monitored in real time during construction to ensure that the project does not exceed its authorized take level. Peak and rms pressures will be reported in dB (re:1 μ Pa). SEL will be reported in dB (re: 1 μ Pa²·sec). Wideband time series recording is strongly recommended during all impact pile driving.

Prior to, and during, the pile driving activity, environmental data will be gathered, such as water depth and tidal level, wave height, and other factors that could contribute to influencing the underwater sound levels (e.g. aircraft, boats, etc.). Start and stop time of each pile driving event and the time at which the bubble curtain or functional equivalent³ is turned on and off will be logged.

The contractor or agency will provide the following information, in writing, to the contractor conducting the hydroacoustic monitoring for inclusion in the final monitoring report: a description of the substrate composition, approximate depth of significant substrate layers, hammer model and size, pile cap or cushion type, hammer energy settings and any changes to those settings during the piles being monitored, depth pile driven, blows per foot for the piles monitored, and total number of strikes to drive each pile that is monitored.

Sound Attenuation Monitoring

All monitored piles may be tested with the sound attenuation system on and off (or presence and absence) to test its effectiveness⁴. To account for varying resistance as the pile is driven; the sound attenuation device will be turned off

³ A functional equivalent must function as well as or better than the attenuation device that was proposed during consultation or required by the ESA consultation or applicable permits. It must achieve the same or better sound level reductions that were used in the calculations during ESA consultation or the permitting process.

⁴ Note: There may be circumstances where the U.S. Fish and Wildlife Service determines that unattenuated pile driving (striking the pile with the bubble curtain turned off) would pose a significant risk of injury to species. In those situations, the Service may request that unattenuated pile driving does not occur and that hydroacoustic monitoring be conducted to determine the extent at which certain thresholds are met instead. This will need to be determined on a case by case basis for projects that may affect listed species.

for *(describe schedule for turning on and off)* periods during the beginning, the middle third, and near the end of the drive. After turning off the attenuation system, pile driving should not resume for at least 2 minutes to allow time for air bubbles to completely disperse. *For piles that require less than 5 minutes to drive, pile driving should occur for only two periods with the bubbles off, one near the beginning and once near the end of the drive.*

SIGNAL PROCESSING

Impact Pile Driving for Fish Consultations (and any US FWS listed, diving sea bird)

Post-analysis of the underwater pile driving sounds will include:

- Number of pile strikes per pile and per day.
- For each recorded strike (or each strike from a subset), determine the following:
 - The peak pressure, defined as the maximum absolute value of the instantaneous pressure (overpressure or underpressure).
 - The root mean squared sound pressure across 90% of the strikes energy (RMS_{90%}).
 - Sound exposure level, measured across 90% of the accumulated sound energy (SEL_{90%}). Calculation methodology is provided in Appendix A.
- Maximum, mean, and range of the peak pressure, with, and if applicable, without attenuation.
- Maximum, mean, range, and Cumulative Distribution Function (CDF) of the RMS_{90%}, both with and if applicable, without attenuation where the CDF is used to report the percentage of RMS_{90%} values above the thresholds.
- Maximum, mean, and range of the SEL_{90%}, both with and if applicable, without attenuation.
- Cumulative SEL (cSEL) across all of the pile strikes. If SEL was calculated for all strikes, cSEL is estimated as indicated in Appendix A. If SEL was calculated for a subset of strikes, cSEL is estimated as follows: $cSEL = SEL_{mean} + 10 \cdot \log(\text{total \# strikes})$.
- Where surrogate piles are monitored to represent a larger project, an estimate of the cSEL during a typical day of construction driving must be reported by summing the SEL over the expected number of pile strikes in a typical day for the larger project: $cSEL = SEL_{mean} + 10 \cdot \log(\#strikes)$. The SEL_{mean} used in this calculation must correspond with the actual sound attenuation measures that will be used during construction of the larger project.
- A frequency spectrum both with and, *if applicable*, without attenuation, between a minimum of 20 and 20 kHz for up to eight successive strikes with similar sound levels.

If airborne noise monitoring is required, both A-weighted and unweighted measurements will be acquired. Broadband back-to-back RMS L_{max} (peak) and L_{eq} (average) 5-minute measurements will be made over the duration of pile driving. L_{max} measurements should be taken with a portable analyzer set for “fast” response (125 msec). For at least one full pile sequence of each pile size and substrate type, frequency spectrum measurements (L_{max} and L_{eq}) using a minimum resolution of one-third octave bands shall be taken to show the spectral content of the impact pile. If measuring background sound levels in the absence of construction is not possible, then report the L_{95} statistic.

ANALYSIS

Impact Pile Driving for Fish Consultations

Analysis of the data from the San Francisco-Oakland Bay Bridge Pile Installation Demonstration project (PIDP) indicated that 90 percent of the acoustic energy for most pile driving impulses occurred over a 50 to 100 millisecond period with most of the energy concentrated in the first 30 to 50 milliseconds (Illingworth and Rodkin, 2001). The RMS values computed for this project will be computed over the duration between where 5% and 95% of the energy of the pulse occurs. The SEL energy plot will assist in interpretation of the single strike waveform. The single strike

SEL associated with the highest absolute peak strike along with the total number of strikes per pile and per day will be used to calculate the cumulative SEL for each pile and each 24-hour period.

In addition a waveform analysis of the individual absolute peak pile strikes will be performed to determine any changes to the waveform with the [name type of noise attenuation device](#). A comparison of the frequency content with and without noise attenuation will be conducted. Units of underwater sound pressure levels will be dB (re:1 μPa) and units of SEL will be re:1 $\mu\text{Pa}^2\cdot\text{sec}$.

REPORTING

If sound attenuation devices are used during the monitoring, include the following text and analysis:

An analysis of the change in the waveform and sound levels with and without the [name type of noise attenuation device for impact driving](#) operating will be conducted.

Preliminary results for the daily monitoring activities, if required, will be submitted/reported to the primary point of contact⁵ at each of the Services within [X hours](#) after monitoring concludes for the day. In addition a final draft report including data collected and summarized from all monitoring locations will be submitted to the Services within 90 days of the completion of hydroacoustic monitoring. The results will be summarized in graphical form and include summary statistics and time histories of impact sound values for each pile. A final report will be prepared and submitted to the Services within 30 days following receipt of comments on the draft report from the Services. The report shall include:

1. Size and type of piles.
2. A detailed description of the [name type of noise attenuation device](#), including design specifications (*if applicable*).
3. The impact hammer energy rating used to drive the piles, make and model of the hammer.
4. A description of the sound monitoring equipment.
5. The distance between hydrophone(s) or microphone(s) and pile.
6. The depth of the hydrophone(s) and depth of water at hydrophone locations.
7. The distance from the pile to the water's edge.
8. The depth of water in which the pile was driven.
9. The depth into the substrate that the pile was driven.
10. The physical characteristics of the bottom substrate into which the piles were driven.
11. The total number of strikes to drive each pile and for all piles driven during a 24-hour period.
12. The underwater wideband background sound pressure level reported as the 50% CDF (*if applicable*).
13. The results of the hydroacoustic monitoring, as described under Signal Processing. An example table is provided in Appendix C for reporting the results of the monitoring.
14. The distance at which peak, cSEL, and rms values exceed the respective threshold values.
15. A description of any observable fish, marine mammal, or bird behavior in the immediate area will and, if possible, correlation to underwater sound levels occurring at that time.
16. *If airborne noise monitoring is required, broadband A-weighted and unweighted maximum, minimum, and average L_{max} and L_{eq} levels shall be tabulated for every pile. For each pile size and substrate type*

⁵ The primary point of contact is the biologist that conducted the Section 7 consultation for the Service(s). In the event that the consulting biologist is not available, communication regarding monitoring results and reports should be addressed to the manager of the consultation branch or division with a reference to the consultation title.

frequency spectra (one-third octave minimum frequency resolution) charts will be included to show the frequency content of L_{max} and L_{eq} signatures. The frequency content of airborne noise background levels shall also be shown. Background sound levels or L_{95} surrogate for background sound shall be reported.

REFERENCES

- Illingworth and Rodkin, Inc. 2001. Noise and Vibration Measurements Associated with the Pile Installation Demonstration Project for the San Francisco-Oakland Bay Bridge East Span, Final Data Report, Task Order 2, Contract No. 43A0063.
- NMFS, 2012a. Guidance Document: Data Collection Methods to Characterize Underwater Background Sound Relevant to Marine Mammals in Coastal Nearshore Waters and Rivers of Washington and Oregon. Memorandum: NMFS Northwest Fisheries Science Center – Conservation Biology Division and Northwest Regional Office – Protected Resources Division, January 31, 2012.
- NMFS, 2012b. Guidance Document: Data Collection Methods to Characterize Impact and Vibratory Pile Driving Source Levels Relevant to Marine Mammals. Memorandum: NMFS Northwest Fisheries Science Center – Conservation Biology Division and Northwest Regional Office – Protected Resources Division, January 31, 2012.
- NMFS, 2012c. Guidance Document: Sound Propagation Modeling to Characterize Pile Driving Sounds Relevant to Marine Mammals. Memorandum: NMFS Northwest Fisheries Science Center – Conservation Biology Division and Northwest Regional Office – Protected Resources Division, January 31, 2012.
- Southall, B.L., A.E. Bowles, W.T. Ellison, J.J. Finneran, R.L. Gentry, C.R. Greene, D. Kastak, D.R. Ketten, J.H. Miller, P.E. Nachtigall, W.J. Richardson, J.A. Thomas, and P.L. Tyack. 2007. Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations. *Aquatic Mammals* 33(4): 411-521.

APPENDIX A

Calculation of Cumulative SEL

An estimation of individual SEL values can be calculated for each pile strike by calculating the following integral, where T is T₉₀, the period containing 90% of the cumulative energy of the pulse (eq. 1).

$$SEL = 10 \log \left(\int_0^T \frac{p^2(t)}{p_0^2} dt \right) \quad dB \quad (\text{eq. 1})$$

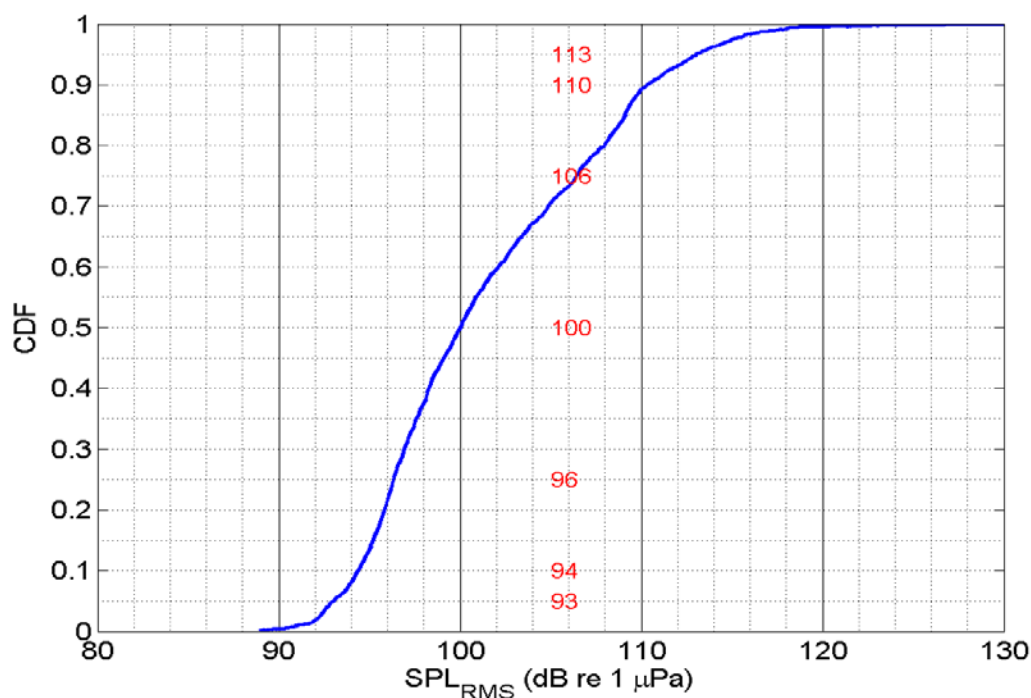
Calculating a cumulative SEL from individual SEL values cannot be accomplished simply by adding each SEL decibel level arithmetically. Because these values are logarithms they must first be converted to antilogs and then accumulated. Note, first, that if the single strike SEL is very close to a constant value (within 1 dB), then cumulative SEL = single strike SEL + 10 times log base 10 of the number of strikes N, i.e, 10Log₁₀(N). However if the single strike SEL varies over the sequence of strikes, then a linear sum of the energies for all the different strikes needs to be computed. This is done as follows: divide each SEL decibel level by 10 and then take the antilog. This will convert the decibels to linear units (or uPa²•s). Next compute the sum of the linear units and convert this sum back into dB by taking 10Log₁₀ of the value. This will be the cumulative SEL for all of the pile strikes.

APPENDIX B

Calculation of a Cumulative Distribution Function and Plot for Background Sound Level Analysis

Data from three full 24-hour underwater measurement cycles (minimum) are used to calculate a 30-second Root Mean Square (RMS) value for each 30-second period for the entire dataset. The RMS should be calculated for both the full frequency range recorded as well as a separate dataset which has been passed through a high pass filter thus eliminating those frequencies below 1000 Hz. These datasets are then grouped into 24-hour periods. To determine if the data is approximately log-normal in distribution, each 24-hour period is plotted as a Probability Density Function (PDF). Each 24-hour period can be plotted on the same PDF plot. The plots should be approximately log normal in distribution and thus can be used in the further analysis. Each day of data should have an approximately Gaussian sigmoid shape, the differences between them and the ideal might be hard to spot, but the sigmoid from day to day will show noticeable variation. Data which does not approximate a log normal distribution should be excluded from further analysis.

The Cumulative Distribution Function (CDF) plot is obtained by plotting the normalized cumulative sum vs. the bin location. You can also get the PDF from plotting the normalized bin count vs. the bin location. The normalized bin count is obtained by dividing the count column by (number of data points multiplied by the space between 2 consecutive bins). This provides the integral of the PDF equal to 1. For instructions on creating a histogram in Microsoft Excel, see: <http://www.vertex42.com/ExcelArticles/mc/Histogram.html>



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WIN #: 22511.01/22512.01
Date: 12/7/2021

APPENDIX C

Table 1. Example table for required information for reporting the results of hydroacoustic monitoring of pile driving.

[illegible]

SPECIAL PROVISION
SECTION 203
EXCAVATION AND EMBANKMENT
(Dredge Materials)

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

In accordance with CMR 418, 500-cubic yards or less of Dredge Material Beneficially Used in the area(s) adjacent to and draining into the dredged water body is exempt from Beneficial Use Permits. Work associated with the Stillwater Bridge (#2806) replacement initiative will require the excavation of select Dredge Material from the Stillwater River. It is anticipated that approximately 16-cubic yards of dredge will be excavated. There may be onsite Beneficial Use for a portion of this Dredge Material, as directed by the Resident; the remaining Dredge Material shall be disposed of at an appropriately licensed facility.

The Contractor shall dispose of project Dredge Material that is not Beneficially Used at the site of generation, at a facility licensed by the Maine Department of Environmental Protection (MDEP) for the management of Special Waste. The Contractor shall be responsible for making all necessary arrangements for dewatering and proper management of the Dredge Material, including any laboratory testing, in accordance with the facility's license. The Contractor shall provide documentation to the Resident demonstrating that Dredge Material was managed as specified. Submitted documentation shall consist of truck manifests, waybills, or related documentation acceptable to the Resident, and shall clearly document the management site location and quantity of Dredge Material.

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

Method of Measurement: Excavation of Dredge material will be measured for payment under related Contract Items.

Basis of Payment: The accepted quantity of Dredge Material properly disposed of, as Special Waste, will be paid for at the contract unit price bid for Disposal of Special Waste.

Payment shall be full compensation for dewatering, testing, stockpiling, loading, managing, transporting, disposal, and all associated fees.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
203.2318	Disposal of Special Waste	Ton