

MONTVILLE

ROUTE 220

**INSTREAM, WETLAND & UPLAND CULVERT
REPLACEMENTS**

WIN 025958.00

2021

Updated 05/15/2020

STATE PROJECT

MAINTENANCE & OPERATIONS

BIDDING INSTRUCTIONS

1. Use pen and ink to complete all paper Bids. Signatures shall be original. Stamped and copied signatures will not be accepted. Bids are not accepted by email or FAX.
2. As a minimum, the following should 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 Agreement form, e) a Bid Guaranty, f) the completed Contractor Information Sheet, and g) 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.
 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. All Bid Packages which are mailed or sent express, shall be provided in double (one envelope inside the other) envelopes, for security and other reasons. The *Inner Envelope* shall have the following information provided on it:

Bid Enclosed - Do Not Open

WIN:

Towns:

Date of Bid Opening:

Name of Contractor with mailing address and telephone number:

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

Double Envelope: Bid Enclosed

WIN:

Towns:

Date of Bid Opening:

Name of Contractor:

If a paper Bid is to be sent express, please take note that overnight services do not always arrive in time and that delivery may be affected by carrier volume, weather and other factors. Packages using express services should be sent directly to the DOT Headquarters Building, Maine Department of Transportation, 24 Child Street, Augusta. "FedEx First Overnight" delivery is suggested as the package is delivered directly to the DOT Headquarters Building, Mailroom, 24 Child Street, Augusta. Allow extra days for U.S. Postal Service Express Mail which has proven not to be reliable and sometimes does not deliver directly to the DOT Headquarters Building but instead delivers to the State of Maine Mail Distribution Center.

If a paper bid is to be mailed, the mailing address is Maine Department of Transportation, 16 State House Station, Augusta, ME 04333-0016. Allow additional working days for this mail to pass through the state mail system in addition to the US Postal Service as this mail is not delivered directly to the Department of Transportation.

If a paper Bid is to be hand carried, deliver directly to the “Public Entrance” which is located on the Capitol Street side of the DOT Headquarters Building in Augusta. <http://www.maine.gov/mdot/contact>. Hand-carried Bids may be in one envelope, and should be marked with the following information:

Bid Enclosed: Do Not Open

WIN:

Towns:

Date of Bid Opening:

Name of Contractor:

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

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

NOTICE

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

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

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

The downloading of bid packages from the MDOT website is not the same as providing an electronic bid to the Department. Electronic bids must be submitted via <http://www.BIDX.com>. For information on electronic bidding contact Rebecca Snowden at rebecca.snowden@maine.gov or Diane Barnes at diane.barnes@maine.gov.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
Bid Guaranty-Bid Bond Form

KNOW ALL MEN BY THESE PRESENTS THAT _____

_____, of the City/Town of _____ and State of _____

as Principal, and _____ as Surety, a

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

Business in _____ and hereby held and firmly bound unto the Treasurer of

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

themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

The condition of this obligation is that the Principal has submitted to the Maine Department of

Transportation, hereafter Department, a certain bid, attached hereto and incorporated as a

part herein, to enter into a written contract for the construction of _____

_____ and if the Department shall accept said bid

and the Principal shall execute and deliver a contract in the form attached hereto (properly

completed in accordance with said bid) and shall furnish bonds for this faithful performance of

said contract, and for the payment of all persons performing labor or furnishing material in

connection therewith, and shall in all other respects perform the agreement created by the

acceptance of said bid, then this obligation shall be null and void; otherwise it shall remain in full

force, and effect.

Signed and sealed this _____ day of _____ 20____

WITNESS:

WITNESS

PRINCIPAL:

By _____

By: _____

By: _____

SURETY:

By _____

By: _____

Name of Local Agency: _____

NOTICE

Bidders:

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

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

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

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>

CONTRACTOR INFORMATION

Contractor Name: _____

Mailing Address: _____

Vendor Customer Number: _____

Contact Information (Primary Contact): _____

Phone: _____ **Cell Phone:** _____

Fax: _____

Email: _____

Mailing Address (if different from above): _____

The company has the following organizational structure:

Sole Proprietorship

Limited Liability Company

Partnership

Joint Venture

Corporation

Other: _____

(Date)

(Signature)

(Name and Title Printed)

**STATE OF MAINE DEPARTMENT OF TRANSPORTATION
NOTICE TO CONTRACTORS**

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper “Bids for **Instream, Wetland and Upland Culvert Replacements** in the Town of **MONTVILLE**” will be received from contractors at the Reception Desk, MaineDOT Building, Capitol Street, Augusta, Maine, until 11:00 o’clock A.M. (prevailing time) on June 23, 2021 and at that time and place, publicly opened and read. Bids will be accepted from all bidders. The lowest responsive bidder must have completed, or successfully complete, a **Highway Construction**, or project specific prequalification to be considered for the award of this contract. **We now accept electronic bids for bid packages posted on the bidx.com website. Electronic bids do not have to be accompanied by paper bids. Please note: The Department will accept a facsimile of the bid bond; however, the original bid bond must then be received at the MDOT Contract Section within 72 hours of the bid opening. Until further notice, dual bids (one paper, one electronic) will be accepted, with the paper copy taking precedence.**

Description: WIN: 025958.00

Location: In Waldo County, project is located on Route 220 in Montville

Outline of Work: Instream, wetland and upland culvert replacements, and other incidental work.

For general information regarding Bidding and Contracting procedures, contact George Macdougall at (207) 624-3410. Our webpage at <http://www.maine.gov/mdot/contractors/> contains a copy of the Schedule of Items, Plan Holders List, written portions of bid amendments, bid results and an electronic form for RFI submittal. For Project-specific information fax all questions to **Gail Iler** at (207) 624-3431, use electronic RFI form or email questions to RFI-Contracts.MDOT@maine.gov, project name and identification number should be in the subject line. Questions received after 12:00 noon of Friday prior to bid date will not be answered. Bidders shall not contact any other Departmental staff for clarification of Contract provisions, and the Department will not be responsible for any interpretations so obtained. TTY users call Maine Relay 711.

Bid Documents, plans, specifications and bid forms can be viewed and obtained digitally at no cost at <http://www.maine.gov/mdot/contractors/>. Plans, specifications and bid forms may be seen at the MaineDOT Building in Augusta, Maine, and at the Department of Transportation’s Regional Office in Augusta. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Bid Book \$10 (\$13 by mail), payment in advance, all non-refundable.

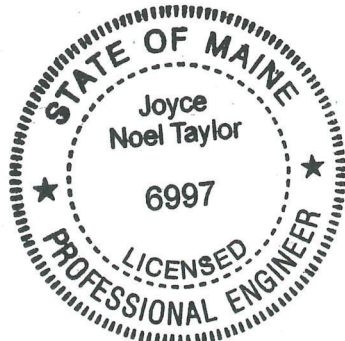
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier’s check, certified check, certificate of deposit, or United States postal money order in the amount of **\$12,000.00** payable to Treasurer, State of Maine as a Bid guarantee. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each in the amount of 100 percent of the Contract price, will be required of the successful Bidder

This Contract is subject to all applicable State Laws

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

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

Augusta, Maine
June 9, 2021



JOYCE NOEL TAYLOR, P. E.
CHIEF ENGINEER

**SPECIAL PROVISION 102.7.3
ACKNOWLEDGMENT OF BID AMENDMENTS**

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

Amendment Number	Date

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

CONTRACTOR

Date

Signature of authorized representative

(Name and Title Printed)

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 025958.00

Project(s): 025958.00

SECTION: 1 PROJECT ITEMS

Alt Set ID: Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0010	603.1690 15 INCH CULVERT PIPE OPTION III PIPE 2	1.000 EA	_____	 _____	_____	 _____
0020	603.1690 15 INCH CULVERT PIPE OPTION III PIPE 9	1.000 EA	_____	 _____	_____	 _____
0030	603.1790 18 INCH CULVERT PIPE OPTION III PIPE 3	1.000 EA	_____	 _____	_____	 _____
0040	603.1990 24 INCH CULVERT PIPE OPTION III PIPE 1	1.000 EA	_____	 _____	_____	 _____
0050	603.1990 24 INCH CULVERT PIPE OPTION III PIPE 6	1.000 EA	_____	 _____	_____	 _____
0060	603.2090 30 INCH CULVERT PIPE OPTION III PIPE 10	1.000 EA	_____	 _____	_____	 _____
0070	603.2190 36 INCH CULVERT PIPE OPTION III PIPE 4	1.000 EA	_____	 _____	_____	 _____
0080	603.2490 54 INCH CULVERT PIPE OPTION III PIPE 8	1.000 EA	_____	 _____	_____	 _____
0090	603.340 42 INCH SPAN 29 INCH RISE PIPE ARCH PIPE 5	1.000 EA	_____	 _____	_____	 _____
0100	603.350 49 INCH SPAN 33 INCH RISE PIPE ARCH OPT III PIPE 7	1.000 EA	_____	 _____	_____	 _____
Section: 1			Total:		_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 025958.00

Project(s): 025958.00

SECTION: 1

PROJECT ITEMS

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Total Bid: _____!

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 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)

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

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

A. **The Work.**

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, **WIN 025958.00 for Instream, Wetland and Upland Culvert Replacements in the Town of Montville, County of Waldo**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

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

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

B. **Time.**

The Contractor agrees to complete all Work, except warranty work, on or before **October 29, 2021**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

C. Price.

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

\$ _____ 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 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 025958.00 for Instream, Wetland and Upland Culvert Replacements in the Town of Montville, County of Waldo,

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

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

As Offeror also agrees:

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

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

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

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

Fifth: 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

(Name and Title Printed)

G. Award.

Your offer is hereby accepted.
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: Bruce A. Van Note, Commissioner

Witness

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

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

A. **The Work.**

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, **WIN 025958.00 for Instream, Wetland and Upland Culvert Replacements in the Town of Montville, County of Waldo**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

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

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

B. **Time.**

The Contractor agrees to complete all Work, except warranty work, on or before **October 29, 2021**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

C. Price.

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

\$ _____ 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 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 025958.00 for Instream, Wetland and Upland Culvert Replacements in the Town of Montville, County of Waldo,

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

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

As Offeror also agrees:

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

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

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

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

Fifth: 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

(Name and Title Printed)

G. Award.

Your offer is hereby accepted.
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: Bruce A. Van Note, Commissioner

Witness

CONTRACT AGREEMENT, OFFER & AWARD

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

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

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, WIN 12345.00, for the Hot Mix Asphalt Overlay in the town/city of South Nowhere, County of Washington, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

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

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

B. Time.

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

C. Price.

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

D. Contract.

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

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the *Standard Specifications March 2020 Edition* (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

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

WIN 012345.00 South Nowhere, Hot Mix Asphalt Overlay

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

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

As Offeror also agrees:

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

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

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

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

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

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

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

CONTRACTOR

(Print Date here)
Date

(Sign Here)
(Signature of Legally Authorized Representative of the Contractor)

(Witness Sign Here)
Witness

(Print Name Here)
(Name and Title Printed)

G. Award.

Your offer is hereby accepted. documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: Bruce A. Van Note, Commissioner

(Witness)

BOND # _____

CONTRACT PERFORMANCE BOND
(Surety Company Form)

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

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

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

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

WITNESSES:

SIGNATURES:

CONTRACTOR:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY:

Signature

.....

Print Name Legibly

Print Name Legibly

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

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

ADDRESS
.....
.....

TELEPHONE.....

.....

BOND # _____

CONTRACT PAYMENT BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____
_____ **in the State of** _____, as principal,
and.....

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

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

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

Signed and sealed this day of, 20

WITNESS:

SIGNATURES:

CONTRACTOR:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

.....

ADDRESS

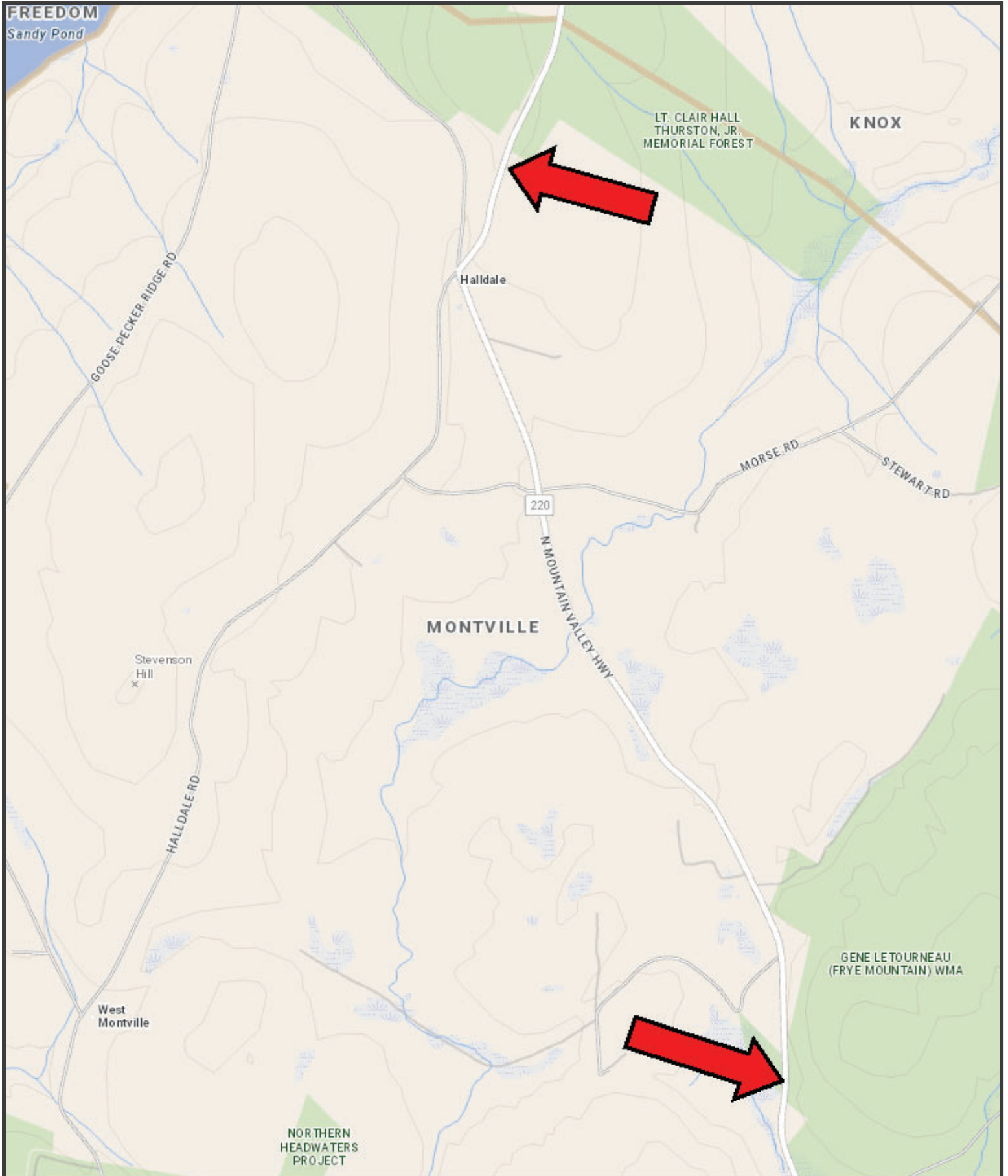
.....

.....

TELEPHONE

.....

ROUTE 220 LOCATION



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

0.4
Miles
1 inch = 0.46 miles

Date: 4/26/2021
Time: 10:38:42 AM

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

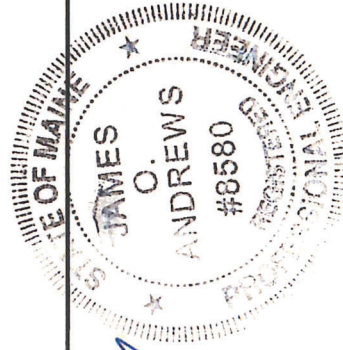


MONTVILLE
WALDO COUNTY
ROUTE 220

SCOPE: INSTREAM, WETLAND, & UPLAND CULVERT
REPLACEMENTS

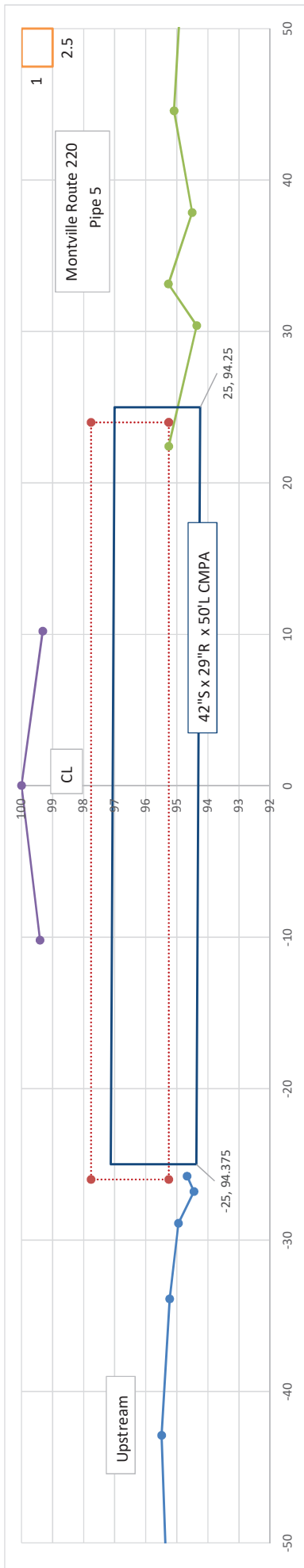
TRAFFIC DATA	
CURRENT (2016) AADT.....	750
FUTURE (2036) AADT.....	890
DHV - % OF AADT.....	13%
% HEAVY TRUCKS (AADT).....	21%
% HEAVY TRUCKS (DHV).....	13%
18-KIP EQUIVALENT P 2.0.....	119
18-KIP EQUIVALENT P 2.5.....	114

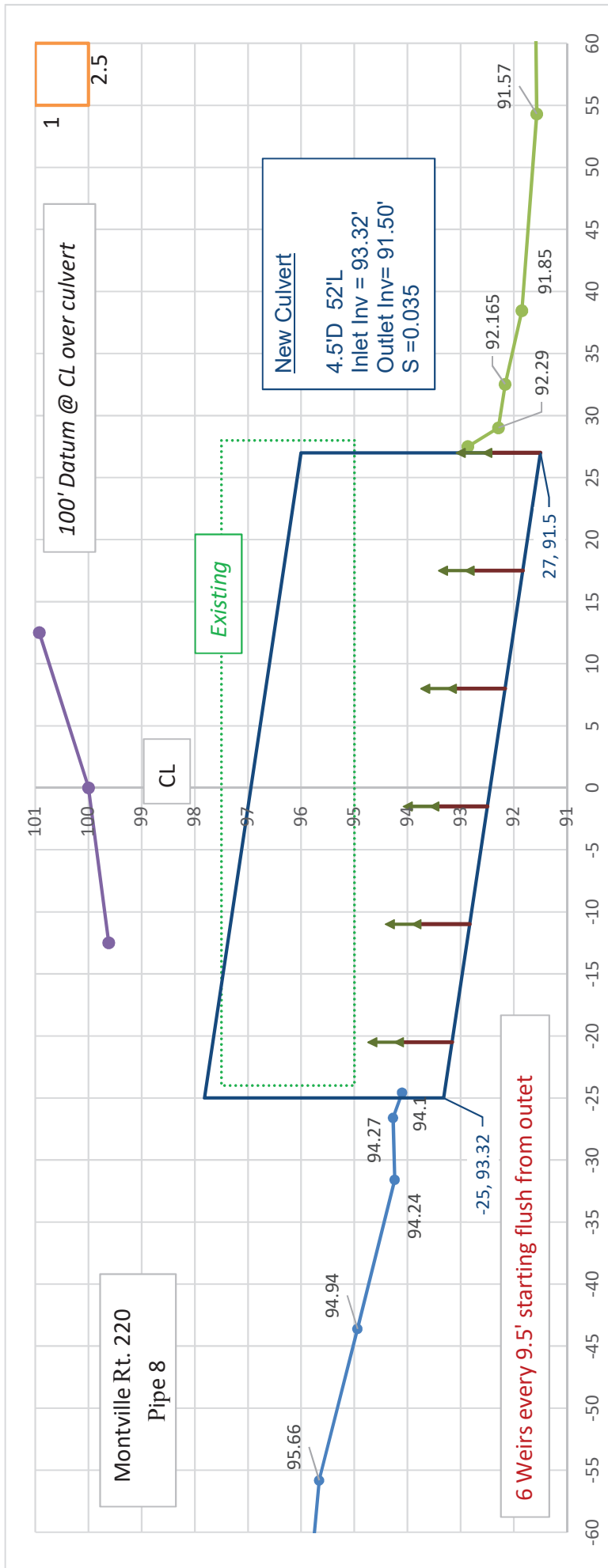
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
APPROVED	DATE
<i>[Signature]</i>	6/4/21
COMMISSIONER	
<i>[Signature]</i>	6-4-2021
CHIEF ENGINEER	

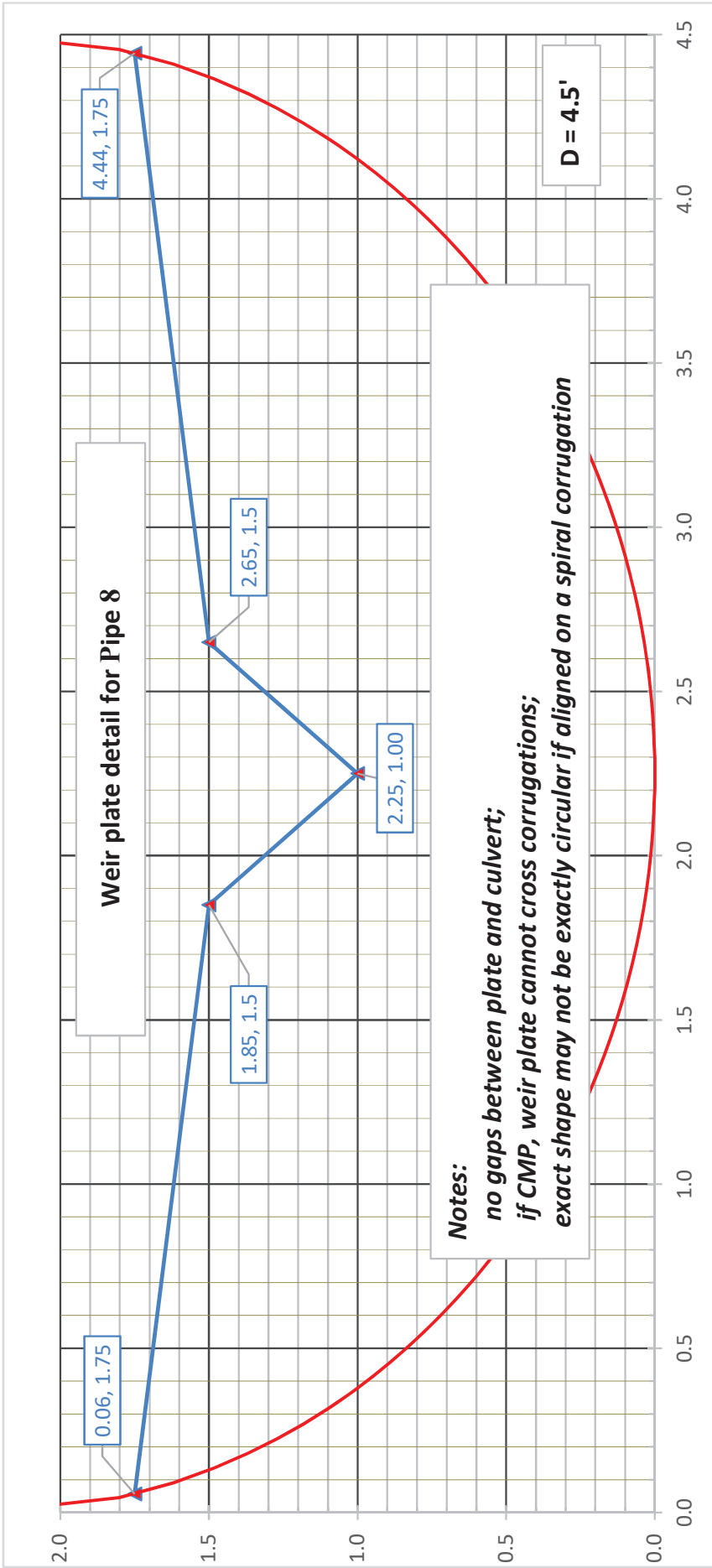


James Andrews
SIGNATURE
8580
P.E. NUMBER
5/25/21
DATE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	MONTVILLE ROUTE 220	SHEET NUMBER 1
WIN 025958.00	TITLE SHEET	1 OF 1







CONSTRUCTION NOTES

ITEM 603.1990 24 INCH CULVERT PIPE OPTION III PIPE 1

Located in Montville GPS coordinates N 44.51688, W -69.27383

Existing: 18" x 58' CMP Centerline Elevation = 100.00

Proposed: 24" x 64' Option III **HDPE WILL NOT BE ALLOWED**

West Side Existing	East Side Existing
Inlet 25.5' West of Centerline at Elev. 95.35	Outlet 32.5' East of Centerline at Elev. 94.03
West Side Proposed	East Side Proposed
Inlet 28' West of Centerline at Elev. 95.00	Outlet 36' East of Centerline at Elev. 93.00

- Clean and realign existing ditch on Inlet and Outlet as directed and no more than 25' in either direction.

ITEM 603.1690 15 INCH CULVERT PIPE OPTION III PIPE 2

Located in Montville GPS coordinates N 44.51220, W -69.27670

Existing: 12" x 31' CMP Centerline Elevation = 100.00

Proposed: 15" x 48' Option III **HDPE WILL NOT BE ALLOWED**

East Side Existing	West Side Existing
Inlet 17' East of Centerline at Elev. 97.74	Outlet 14' West of Centerline at Elev. 95.51
East Side Proposed	West Side Proposed
Inlet 19' East Centerline at Elev. 96.00	Outlet 29' of Centerline at Elev. 95.00

- Clean and realign existing ditch on Inlet and Outlet as directed and no more than 25' in either direction.

ITEM 603.1790 18 INCH CULVERT PIPE OPTION III PIPE 3

Located in Montville at GPS coordinates N 44.50933 W -69.27806

Existing: 18" x 48' CMP, Centerline Elevation = 100.00

Proposed: 18" x 60' Option III **HDPE WILL NOT BE ALLOWED**

East Side Existing	West Side Existing
Inlet 24' East of Centerline at Elev. 96.14	Outlet 24' West of Centerline at Elev. 93.85
East Side Proposed	West Side Proposed
Inlet 26' East of Centerline at Elev. 95.25	Outlet 34' West of Centerline at Elev. 93.25

- Clean and realign existing ditch on Inlet and Outlet as directed and no more than 50' in either direction.

CONSTRUCTION NOTES

ITEM 603.2190 36 INCH CULVERT PIPE OPTION III PIPE 4

Located in Montville at GPS coordinates N 44.50837, W -69.27889

Existing: 24" x 48" CMP Centerline Elevation = 100.00

Proposed: 36" x 48" Option III **HDPE WILL NOT BE ALLOWED**

North Side Existing	South Side Existing
Inlet 26' North of Centerline at Elev. 94.13	Outlet 22' South of Centerline at Elev. 93.56
North Side Proposed	South Side Proposed
Inlet 24' North of Centerline at Elev. 93.50	Outlet 24' South of Centerline at Elev. 93.00

- Wetland

ITEM 603.340 42 INCH SPAN BY 29 INCH RISE PIPE ARCH OPTION III PIPE 5

Located in Montville at GPS coordinates N 44.50826, W -69.27908

Existing: 30" x 58" CMP Centerline Elevation = 100.00

Proposed: 42" S x 29" R x 62' Poly Coated Arch Pipe Option III

West Side Existing	East Side Existing
Inlet 41' West of Centerline at Elev. 97.22	Outlet 17' East of Centerline at Elev. 95.72
West Side Proposed	East Side Proposed
Inlet 42' West of Centerline at Elev. 96.20	Outlet 20' East of Centerline at Elev. 95.10

- Instream

ITEM 603.1990 24 INCH CULVERT PIPE OPTION III PIPE 6

Located in Montville at GPS coordinates N 44.49901, W -69.27470

Existing: 18" x 48" CMP Centerline Elevation = 100.00

Proposed: 24" x 50" Option III **HDPE WILL NOT BE ALLOWED**

West Side Existing	East Side Existing
Inlet 26' West of Centerline at Elev. 95.43	Outlet 22' East of Centerline at Elev. 94.47
West Side Proposed	East Side Proposed
Inlet 26' West of Centerline at Elev. 94.75	Outlet 24' East of Centerline at Elev. 94.00

- Clean and realign existing ditch on Inlet and Outlet as directed and no more than 25' in either direction.

CONSTRUCTION NOTES

ITEM 603.350 49 INCH SPAN BY 33 INCH RISE PIPE ARCH OPTION III PIPE 7

Located in Montville at GPS coordinates N 44.49142, W -69.26955

Existing: 30" x 50' CMP Centerline Elevation = 100.00

Proposed: 49" S x 33" R x 50' Poly Coated Pipe Arch

West Side Existing	East Side Existing
Inlet 26' west of Centerline at Elev. 94.68	Outlet 24' East of Centerline at Elev. 95.21
West Side Proposed	East Side Proposed
Inlet 25' West of Centerline at Elev. 94.37	Outlet 25' East of Centerline at Elev. 94.25

- Instream

ITEM 603.2490 54 INCH CULVERT PIPE OPTION III PIPE 8

Located in Montville at GPS coordinates N 44.48808, W -69.26564

Existing: 24" x 52' CMP Centerline Elevation = 100.00

Proposed: 54" x 52' Poly Coated CMP with **weirs**.

South Side Existing	North Side Existing
Inlet 24' South of Centerline at Elev. 94.06	Outlet 28' North of Centerline at Elev. 92.84
South Side Proposed	North Side Proposed
Inlet 25' South of Centerline at Elev. 93.32	Outlet 27' North of Centerline at Elev. 91.50

- Instream

ITEM 603.1690 15 INCH CULVERT PIPE OPTION III PIPE 9

Located in Montville at GPS coordinates N 44.47874, W -69.26167

Existing: 18" x 51' CMP Centerline Elevation = 100.00

Proposed: 15" x 52' Option III **HDPE WILL NOT BE ALLOWED**

East Side Existing	West Side Existing
Inlet 22' East of Centerline at Elev. 97.57	Outlet 29' West of Centerline at Elev. 94.63
East Side Proposed	West Side Proposed
Inlet 23' East of Centerline at Elev. 96.00	Outlet 29' West of Centerline at Elev. 95.75

- Clean and realign existing ditch on Inlet and Outlet as directed and no more than 75' in either direction

CONSTRUCTION NOTES

ITEM 603.2090 30 INCH CULVERT PIPE OPTION III PIPE 10

Located in Montville at GPS coordinates N 44.47758, W -69.26165

Existing: 24" x 63" CMP Centerline Elevation = 100.00

Proposed: 30" x 70" Option III. **HDPE WILL NOT BE ALLOWED**

East Side Existing	West Side Existing
Inlet 34' East of Centerline at Elev. 95.42	Outlet 29' West of Centerline at Elev. 91.81
East Side Proposed	West Side Proposed
Inlet 33' East of Centerline at Elev. 94.50	Outlet 37' West of Centerline at Elev. 92.00

- Pipe 10: An approximate 6' x 10' x 3' rip rap pad shall be placed on the outlet side. This will be incidental to the pipe.
- Clean and realign existing ditch on Inlet and Outlet as directed and no more than 25' in either direction.

603 ITEMS

- Pipe 4 is a Wetland location and is subject to all of the restrictions of Special Provision 105 Environmental Requirements. The Contractor shall handle and pump water such that no dirty water leaves the site. The Contractor shall use cofferdams. **Sandbags are allowed.**
- Pipes 5, 7, and 8 are In-Stream locations and are subject to all of the restrictions of Special Provision 105 Environmental Requirements. Downstream flow conditions shall be maintained as required by Special Provision 105 Environmental Requirements. The Contractor shall handle and pump water such that the stream is always flowing, and no dirty water leaves the site. The Contractor shall use cofferdams. **Sandbags are allowed.**
- The Contractor shall give the Resident a minimum of one (1) week notice before starting Pipe 7. This pipe location must be electro shocked for fish removal.
- The Contractor shall place rip rap around the culvert ends. The remaining disturbed slopes shall be seeded with the use of erosion control blanket, or 4" of erosion control mix shall be placed by the Contractor.
- The Contractor shall excavate the inlet of the stream to match the new inlet elevation. The extent of the excavation shall be as directed in the field, out to but not exceeding the limits shown in the environmental permit package.
- The Contractor shall place 5" of hot mix asphalt in multiple lifts not to exceed 2.5" in all road culvert trenches.
- No less than 8' of pipe will be allowed to be installed on the ends of the pipe run.
- All RCP pipe joints shall have pipe ties installed.
- All RCP pipe tie holes shall be cored not drilled.

GENERAL NOTES

1. A paper copy of the Maine General Permit must be kept on site. This permit can be found at: <https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit/>
2. The Contractor shall place the new culvert pipes to the elevations and offsets given in the construction notes unless otherwise directed by the Department.
3. Any necessary cleaning of the pavement caused by replacement of the culvert pipe shall be incidental to the contract.
4. Any damaged caused to existing ditches, pavement or any other MaineDOT property shall be fixed to the satisfaction of the Department at the Contractor's expense.
5. All work shall be done in accordance with the current Maine Department of Transportation's Best Management Practices for Erosion Control and Sedimentation Control. **All water shall be handled so no dirty water will be leaving the sight.**
6. The Contractor is responsible for following Dig Safe requirements and for communicating with and coordinating with any applicable utilities. MaineDOT does not anticipate any utility work on this project. This does not relieve the Contractor of their responsibility.
7. If the Contractor works in two locations, they will not be allowed to backfill until the Inspector or Resident is present.
8. When compacting, the entire length of the trench will be compacted including the shoulder and inslope of the road.

NOTICE TO CONTRACTORS - PREFERRED EMPLOYEES

Sec. 1303. Public Works; minimum wage

In the employment of laborers in the construction of public works, including state highways, by the State or by persons contracting for the construction, preference must first be given to citizens of the State who are qualified to perform the work to which the employment relates and, if they can not be obtained in sufficient numbers, then to citizens of the United States. Every contract for public works construction must contain a provision for employing citizens of this State or the United States. The hourly wage and benefit rate paid to laborers employed in the construction of public works, including state highways, may not be less than the fair minimum rate as determined in accordance with section 1308. Any contractor who knowingly and willfully violates this section is subject to a fine of not less than \$250 per employee violation. Each day that any contractor employs a laborer at less than the wage and benefit minimum stipulated in this section constitutes a separate violation of this section. [1997, c. 757, §1 (amd).]

SPECIAL PROVISION
SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES
(Wage Rates)

104.3.8A. Federal Wage Rates and Labor Laws Delete the entire section 104.3.8A.

104.3.8B State Wage Rates and Labor Laws The State Wage Rates enclosed apply to this work. Federal Wage Rates do not apply to this work.

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 Stream Work applied to the following pipe culvert locations:

- 1) XC-124537 (wetland) Lat/Long: 44.50837, -69.27889 (NOT AN IN STREAM LOCATION)
- 2) XC-124538 (instream inlet/wetland outlet) Lat/Long: 44.50826, -69.27908
- 3) XC-124549 (instream) Lat/Long: Correct N 44.49142, W -69.26955
- 4) XC-124553 (instream) Lat/Long: 44.48808, -69.26564

II. In Stream Work time of year restriction are as follows:

- 1) XC-124537- no timing restrictions
- 2) XC-124538 between April 1 and October 1
- 3) XC-124549 and 4) XC-124553 between July 15 and September 30th

III. Special Conditions of Army Corps of Engineers (ACOE) Maine General Permit (GP) 22 permit NAE-2020-02230 apply (see permit and conditions in contract documents).

The Maine General Permits (GPs) can be found at:

<https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit/>

IV. To minimize the effects to Essential Fish Habitat, the following Special Conditions apply to the In-Stream Work locations:

1. All in-water excavation shall be conducted within a cofferdam.
2. All areas of temporary waterway or wetland fill shall be restored to their original contour and character upon completion of the project. Temporary fill includes fill that received authorization and fill that mistakenly enters a resource (i.e., from slope failures, accidental broken sandbag cofferdams)
3. All areas of disturbed soil shall be mulched and seeded with an approved native or non-invasive herbaceous seed mix following construction and/or planted with native woody vegetation and trees appropriate during the first available planting season. In areas where there is little to no slope, and erosion and invasive species establishment is unlikely, the native woody vegetation on the site shall be allowed to regenerate naturally.
4. Grubbing (removal) of roots and stumps shall only occur in those areas subject to permanent impacts.
5. 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.
6. Heavy construction equipment shall travel only over non-erodible stream substrate (e.g., ledge, cobble) and when approved by the MaineDOT Environmental Field Contact.

7. Suspended sediment treatment shall follow the procedures described in Attachment 1 “Dirty Water Treatment System”.
8. The contractor shall fully remove all cofferdams from the stream immediately following completion of in-stream work using techniques to minimize turbidity releases. The contractor shall restore all areas of temporary stream bottom disturbance to their original contour and character upon completion of the project.
9. All cofferdams will be removed using techniques to minimize turbidity releases. This includes allowing for the slow reintroduction of water into the work area and utilizing dirty water treatment systems for turbid water.
10. 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.
11. 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.
12. Stabilization techniques (such as placing sheets of poly at the bypass outlet) will be used to protect the stream from scour caused by the high water velocities associated with bypass pumping activities (if required).
13. Bypass pumping systems will be sized to accommodate the predicted peak flow rate during construction. Predicted peak flows are provided to the contractor in the bid documents.
14. Sheet pile driving (if utilized) shall be completed using a vibratory hammer.
15. When utilizing pumps to dewater cofferdams, the Contractor will use a screen on each pump intake designed such that the approach velocity does not exceed 0.20 feet/second. Square or round screen face openings are not to exceed 3/32 inches (2.38 millimeters) measured on a diagonal. Criteria for slotted face openings shall not exceed 1/16 inches (approximately 1.75 millimeters) in the narrow direction. These screen criteria follow National Marine Fisheries Service (NMFS) guidance (NMFS 2008). Intake hoses shall be regularly monitored while pumping to minimize adverse effects to Atlantic salmon or other species.
16. To minimize fish stranding inside the cofferdam when dewatering, the MaineDOT environmental staff will capture and remove as many Atlantic salmon and other fish species as possible. Cofferdams must be dewatered to less than 2 feet deep to facilitate fish evacuation.

V. Approvals:

1. Soil Erosion and Water Pollution Control Plan (SEWPCP)
2. Permitted Resource Impacts (square feet), see ACOE permit for locations:
 - 1) XC-124537 (wetland) Wetland impacts: Temporary-100 s.f., Permanent- 50 s.f.
 - 2) XC-124538 (instream inlet/wetland outlet)
RUS impacts: Temporary- 100 s.f., Permanent- 50 s.f.
Wetland impacts: Temporary-100 s.f., Permanent- 100 s.f
 - 3) XC-124549 (instream) RUS impacts: Temporary- 100 s.f., Permanent- 50 s.f.
 - 4) XC-124553 (instream) RUS impacts: Temporary- 100 s.f., Permanent- 50 s.f.

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, except for the following:

1. Work in adherence with the contractors approved “Soil Erosion and Water Pollution Control Plan”.

VII. No work is allowed that completely blocks a river, stream, or brook without providing downstream flow.

NOTE: Reauthorization of the ACOE Permit is required for any work in jurisdictional resources that is not completed by October 14, 2025. The Contractor shall allow up to 2 weeks for MaineDOT to reauthorize the permit prior to beginning construction.

Attachment 1 – “Dirty Water” Treatment System

After the cofferdams have been installed, it is necessary to dewater the work area itself. This water is then pumped into a sediment basin for filtration. The contractor will implement the following steps for the dewatering and filtering process.

1. The system will be installed according to MaineDOT’s Best Management Practices (BMP) Manual.
2. The filter basin may be composed of hay bales and filter fabric (Figure 3-14). Filter fabric is placed inside of the hay bale barrier to filter sediment. These sediments will be disposed of away from the stream in a manner that they cannot erode back into the stream.
3. Proprietary products, such as ‘dirt bags,’ can also be used. A ‘dirt bag’ is a large bag built with filter fabric that will filter turbid water similar to the basin technique described above.
4. The sedimentation basin will be located close to the project location with adequate vegetation between it and the stream to act as a filter.
5. Pumping
 - a. Hoses will be setup between the treatment basin and the work area to be dewatered.
 - b. The “dirty water” pump(s) will then be started in the water will be pumped to the treatment area.
6. The work area will then be pumped as dry as possible.
7. If there is leakage around the cofferdam, or upwelling in the work area, pockets will be excavated in the work area to collect the water. This water will be pumped into the “dirty water” system for treatment, prior to its release back into the stream. (See Figure 3-13 for a pump intake used for maintenance pumping.) Clean crushed stone is often placed around this pump intake to minimize further suspended sediments from being pumped in the treatment basin.

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

1. The Contractor's traffic control plan must be operationally effective, complete and in conformity with Federal requirements, Contract provisions, the current edition of the MUTCD and Department policy and procedures as determined by the Department prior to beginning work.
2. A Preconstruction meeting must be held prior to any work being started.
3. A 48-hour notice is required for any change in work schedule.
4. The Contractor shall work in lane closures with two-way traffic when possible and alternating one way traffic when not possible. At least one lane traffic shall be maintained through the project area at all times. The minimum roadway shall be 11'0".
5. All trenches must be paved in prior to Friday night or before shutting down operations for the weekend. The Contractor shall maintain the trenches and provide adequate signage until the trench is paved. Failure to pave the trench shall be considered a failure to follow the Contractor's Traffic Control Plan and be subject to a reduction in payment as specified in the 652 Provision. Each day the trench remains unpaved will be considered an additional violation.
6. Upon award, Matthew Whitcomb is the MaineDOT's contact person. He may be reached at (207) 441-3028. If he is not available, then contact Jamie Andrews at (207) 446-1768.

SPECIAL PROVISION
SECTION 107
TIME
(Contract Time)

1. The Contractor shall be allowed to commence Work on the Contract on or after **August 30, 2021** provided that the Contract has been awarded, all required plans/submittals have been received and determined to be acceptable by the Department and a preconstruction meeting has been held.
2. The specified Contract Completion Date is **October 29, 2021**
3. Once operations commence, the Contractor will continue work on the project until Physical Work is complete. For every weekday not worked the Contractor will be charged Supplemental Liquidated Damages at the rates given for liquidated damages in Section 107.7.2 of the Standard Specifications; excluding days lost to inclement weather, holidays, and approved absences.
4. The Contractor shall be allowed to commence work after sunrise and shall be completely off the road before sunset. Night work will not be allowed without prior approval from the Department. If authorized, the Contractor shall comply with Standard Specification Section 652.6.2 Night Work, the MUTCD, and provide specified lighting. All workers shall wear specified safety apparel. Sunrise and sunset will be determined according to the Sunrise/Sunset Table at <http://www.sunrisesunset.com/usa/Maine.asp>. If the project town is not listed, the closest town on the list will be used as agreed.
5. The Contractor shall give the Resident a minimum of one (1) week notice before starting Pipe 7 in order to allow the Resident to contact IF&W and arrange the stream to be electro shocked. The Contractor shall coordinate their Work with the Resident and IF&W through this process.
6. The Contractor is not allowed to work on September 6, 2021
7. No work will be allowed on Saturdays without consent from the MaineDOT. Requests to work Saturday must be made by **NOON** time on Thursday.

SPECIAL PROVISION
SECTION 603
PIPE CULVERTS
(Lump Sum Culvert Pipes)

Description This Work shall consist of supplying and installing culvert pipes in reasonably close conformity with the lines and grades shown on the plans and notes, or established by the Resident; saw cutting and removing the old roadway and disposing of the material; installing cofferdams (if needed); removing and disposing of the existing culvert pipes; furnishing and installing concrete pipe ties; performing all traffic control (supplying all signs, cones, barrels, flagger, etc.) and maintaining the traffic control devices; providing temporary erosion and water pollution control; placing hot mix asphalt in all trenches; placing rip rap, mulch, seed, erosion control bark mulch, and special backfill (if required); and locating and coordinating with all utilities.

Materials All material shall meet the requirements of the Department of Transportation Standard Specification Section 603 – Pipe Culverts and Storm Drains.

Construction Requirements Work shall meet the requirements of the Department of Transportation Standard Specification Section 360 and Standard Details 603 as updated through advertisement. The Contractor shall place the new culvert pipes to the elevations and offsets given unless otherwise directed by Department.

Any required cofferdams shall meet the requirements of the Department of Transportation Standard Specification Section 511 as updated through advertisement, and any Special Provisions and all permit requirements.

Any required concrete pipe ties shall be furnished and installed in conformance with the Standard Details.

The lower lifts of backfill shall be suitable excavation salvaged from the removal of the existing culvert pipes. The top 18” of backfill shall be excavated roadway material, reserved and replaced to best match the adjacent material. If additional material is required to complete the backfill, the top lift shall be of gravel meeting the gradation of Aggregate for Base, Type D as per section 703.06 of the Department of Transportation Standard Specifications.

Placing of backfill material shall not exceed 8” loose measure as per section 206.03 of the Department of Transportation Standard Specifications. The backfill material shall be thoroughly rammed under the haunches of the pipe with power or pneumatic operated hand tampers.

Any excavated material not suitable for use as backfill shall be used to build slopes or placed in approved waste area as directed by the Department.

All culvert pipe trenches shall be paved with hot mix asphalt as directed placed in multiple lifts as directed. The gradation shall be a 9.5 mm or 12.5 mm mix.

Seeding and Mulching of disturbed soil shall be done daily. The Contractor may seed and mulch by hand.

The Contractor shall submit a traffic control plan that meets the requirement of section 652 of the Department of Transportation Standard Specifications.

The Contractor shall submit a Soil Erosion and Water Pollution Control Plan and a Spill Prevention Control and Countermeasure Plan as per Section 656 of the Department of Transportation Standard Specifications as updated through advertisement, and any Special Provisions and all permit requirements.

Method of Measurement Culvert Pipes of the different types and sizes will be measured by each culvert installed, complete in place, and accepted.

Basis of Payment: The accepted quantity of Culvert Pipe will be paid for at the Contract unit price each.

The following shall be incidental to each culvert:

- a. All culvert pipe excavation, including cutting and removal of the existing pavement and any underlying concrete roadway.
- b. Soil Erosion and Water Pollution Control, including the submittal of a SEWPCP Plan and a SPCCP Plan.
- c. All traffic control and maintenance of the traffic control devices, including the submittal of a Traffic Control Plan.
- d. Design, construction, maintenance, and removal of cofferdams, including dewatering.
- e. Ditching at pipe ends, as designated in the Construction Notes or as directed.
- f. Furnishing, placing, grading, and compacting of any new gravel and/or fill material. This also includes any granular borrow needed for bedding.
- g. Furnishing and installing concrete pipe ties and all other incidentals to satisfactorily conform to the standard details.
- h. Any grout or mortar necessary to repair chipping.
- i. Any clearing of brush and trees less than 12" in diameter.
- j. Paving the trench with HMA.
- k. Removing and resetting existing guardrail.
- l. Riprap, Seed, Mulch and Erosion Control Mix, Erosion Control Blanket, Erosion Control Geotextile.
- m. Special Backfill.

Payment will be made under:

	<u>Pay Item</u>	<u>Pay Unit</u>
603.1690	15" Culvert Pipe Option III	Each
603.1790	18" Culvert Pipe Option III	Each
603.1990	24" Culvert Pipe Option III	Each
603.2090	30" Culvert Pipe Option III	Each
603.2190	36" Culvert Pipe Option III	Each
603.2490	54" Culvert Pipe Option III	Each
603.340	42"S X 29"R Pipe Arch Option III	Each
603.350	49"S X 33"R Pipe Arch Option III	Each

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC

Approaches Approach signing shall include the following signs as a minimum. Field conditions may warrant the use of additional signs as determined by the Resident.

Road work Next x Miles
Road work 500 Feet
End Road Work

Work Area At each work site, signs and channelizing devices shall be used as directed by the Resident. Signs include:

Road Work xxxx ¹
One Lane Road Ahead
Flagger Sign

Other typical signs include:

Be Prepared to Stop
Low Shoulder
Bump
Pavement Ends

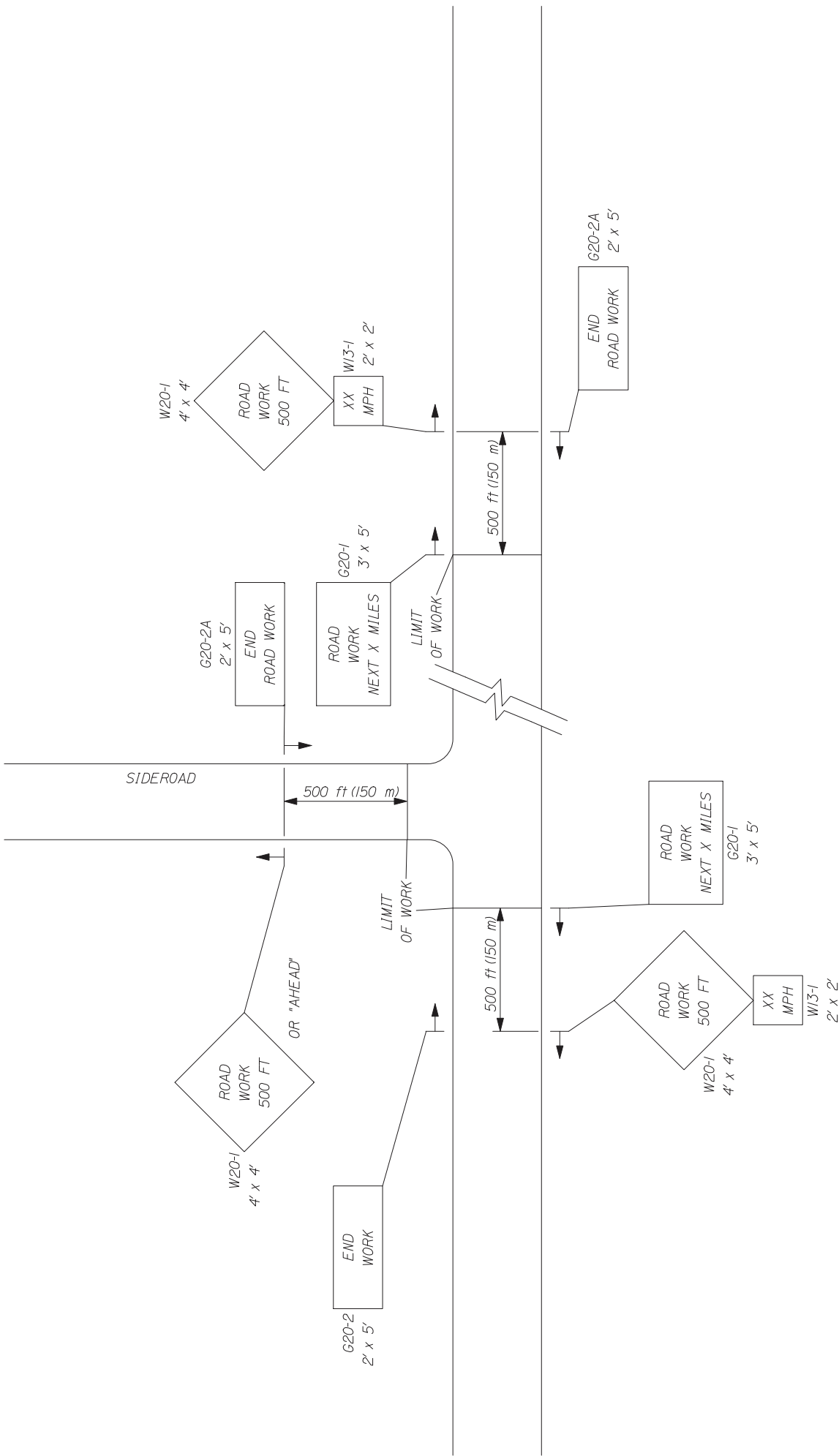
The above lists of Approach signs and Work Area signs are representative of the contract Requirements. Other sign legends may be required.

The Contractor shall conduct their operations in such a manner that the roadway will not be restricted to one lane for more than 800 m [2,500 ft] at each work area. To encourage quality paving in warm-weather conditions, the length can be extended to 4,000 ft depending on the traffic impacts. Where more than one work area restricts traffic to one lane operation, these work areas shall be separated by at least 1.6 km [1 mile] of two way operation.

Temporary Centerline A temporary centerline shall be placed each day on all new pavement to be used by traffic. The temporary centerline, when specified of reflectorized traffic paint, shall conform to the standard marking patterns used for permanent markings.

Failure to apply a temporary centerline daily will result in a Traffic Control Violation and suspension of paving operations until temporary markers are applied to all previously placed pavement.

¹ “Road Work Ahead” to be used in mobile operations and “Road Work xx ft” to be used in stationary operations as directed by the Resident.



-- PROJECT APPROACH SIGNING --
TWO WAY TRAFFIC

* Formulas for L are as follows:

For speed limits of 40 mph (60 km/h) or less:

$$L = \frac{WS^2}{60} \quad (L = \frac{WS^2}{155})$$

For speed limits of 45 mph (70 km/h) or greater:

$$L = WS \quad (L = \frac{WS}{1.6})$$

* Formulas for L are as follows:

A minimum of 5 channelization devices shall be used in the taper.

TYPE OF TAPER	TAPER LENGTH (L)*
Merging Taper	at least L
Shifting Taper	at least 0.5L
Shoulder Taper	at least 0.33L
One-Lane, Two-Way Traffic Taper	100 ft (30 m) maximum
Downstream Taper	100 ft (30 m) per lane

CHANNELIZATION DEVICE SPACING

The spacing of channelization devices shall not exceed a distance equal to 1.0 times the speed limit in mph when used for taper channelization, and a distance in feet of 2.0 times the speed limit in mph when used for tangent channelization.

GENERAL NOTES;

1. Final placement of signs and devices may be changed to fit field conditions as approved by the Resident.

Road Type	SIGN SPACING TABLE		
	Distance Between Signs**		
	A	B	C
Urban 30 mph (50 km/h) or less	100 (30)	100 (30)	100 (30)
Urban 35 mph (55 km/h) and greater	350 (100)	350 (100)	350 (100)
Rural	500 (150)	500 (150)	500 (150)
Expressway / Urban Parkway	2,640 (800)	1,500 (450)	1000 (300)

**Distances are shown in feet (meters).

SUGGESTED BUFFER ZONE LENGTHS

Speed (mph)	Length (feet)	Speed (mph)	Length (feet)
20	115	40	325
25	155	45	360
30	200	50	425
35	250	55	495

SPECIAL PROVISIONS
ADDITIONS AND REVISIONS TO STANDARD SPECIFICATIONS
DIVISION 100

SPECIAL PROVISION SECTION 101
CONTRACT INTERPRETATION

101.2 Definitions Add the following:

“MaineDOT The Department of Transportation of the State of Maine, as established by 23 MRSA §4205 et seq. for the administration of Highway, Bridge, and other public Works; acting through the Commissioner and his/her duly authorized representatives.”

101.2 Definitions Add the following:

“Contract Agreement form The Contract Agreement, Offer and Award, the Maine Department of Transportation Contract Agreement Transportation Related Maintenance Work, the Maine Department of Transportation Contract Agreement to Purchase Supplies, Materials and/or Equipment for a Specific Project, Contract Agreement to Purchase Materials and/or Equipment for a Project and Related Work, the Maine Department of Transportation Private Equipment Rental Agreement – with an Operator, the Maine Department of Transportation Private Equipment Rental Agreement – without an Operator, or other contract agreement contained in the bid documents.”

SPECIAL PROVISION SECTION 102
BIDDING

102.11.1 Non-curable Bid Defects Revise the item on the list of non-curable Bid Defects for which the Department will reject Bids as non-responsive that reads “The Bid is not signed by a duly authorized representative of the Bidder.” by replacing it with the following:

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

- Properly submitted electronic bids meet this requirement.
- Paper bids must include either (1) one or more signed copies of the Contract Agreement form or (2) a signed copy of the Schedule of Items.”

102.11.1 Non-curable Bid Defects Revise this subsection by removing the words “The unit price and bid amount is not provided or a lump sum price is not provided or is illegible as determined by the Department.” and replacing it with the following:

“The unit price and bid amount is not provided if (1) the item quantity is not one or lump sum or, (2) the lump sum contract price is not provided or, (3) the unit price, bid amount or lump sum price is illegible as determined by the Department.”

102.11.2 Curable Bid Defects Revise the section by replacing it with the following:

“Unless the Department waives a curable Bid defect, the Bidder must cure, within the time stated in the written notice by the Department, but not less than 24 hours, all other Bid Defects not listed in Section 102.11.1 - Non-curable Bid Defects that are identified by the Department. Failure to cure such Defects within said time may result in forfeiture of the Bidder’s Bid Guaranty. Upon such failure, the Department may take any action in the best interests of the Department, including those set forth in Section 103.6 - Failure to Fulfill Award Conditions.

Such curable Bid Defects include, but are not limited to, the following.

The Bidder signs only one of the Contract Agreement Offer & Award forms.

Missing total sum of the items provided in the Schedule of Items.

The prices or signatures on the Bid or Bid Guaranty are not in ink or other non-erasable substance.

Failure to acknowledge Receipt and consideration of all Bid Amendments.

The Bid includes only one signed Contract Agreement form.

The Bid does not include a signed Contract Agreement form but does include a signed Schedule of Items.

If a submitted bid contains any additional conditions or alternate bidding language, the Bidder may cure the defect by removing all conditions and alternate language or the Department will reject the bid as non-responsive.

All other Defects that do not create a significant question as to the Bidder’s total Bid amount or the Bidder’s ability to complete the Work within the Contract Time or by the Contract Completion Date as determined by the Department.”

SPECIAL PROVISION SECTION 103
AWARD AND CONTRACTING

103.1.1 Unit Prices Govern Add the following at the end of the paragraph:

“If the item quantity is one and either a unit price or bid amount is not provided, the unit price or bid amount omitted shall be determined mathematically by the Department.”

103.5 Award Conditions Replace the first paragraph with the following:

“The Apparent Successful Bidder must provide and/or perform all of the items listed in this Section 103.5 within 14 Days of Receipt of the Notice of Intent to Award. Unless indicated otherwise, all items must be Delivered to the Department’s Bureau of Maintenance & Operations.”

103.5.4 Execution of Contract By Bidder Delete the entire section and replace with the following:

“The properly completed and signed Contract form provided with the Bid constitutes the Bidder’s offer. Once the Department has received the bonds, insurance, and any other pre-award items required, the Department will sign and execute the Contract. The point of Contract execution is when the Contractor receives written notice that the contract has been signed by the Department and executed.”

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>
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
606(23)	Standard Bridge Transition – Type “1”	2/11/2021
606(24)	Standard Bridge Transition – Type “1A”	2/11/2021
609(09)	Precast Concrete Vertical Curb	2/11/2021
643(11)	ATCC Cabinet	12/14/2020
802(05)	Roadway Culvert End Slope Treatment	1/03/2017

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

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 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 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 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:**
 - o **Below a plane parallel with and 12 inches below the bottom of the drainage or minor structure or**
 - o **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 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: “

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 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

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

SECTION 526
CONCRETE BARRIER

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

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

The types of concrete barrier are designated as follows:

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

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

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

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

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

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

526.02 Materials

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

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

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

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

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

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

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

f. **Anchor Pins for Portable Concrete Barrier** Anchoring to concrete or asphalt will be required when specified on the Plans. When required, portable concrete barriers must be anchored using a 1 ½ - inch diameter anchor pin. The anchor pin must be smooth, not deformed, i.e., reinforcing bar may not be used, and shall meet the strength requirements of ASTM A36 steel. Materials with greater strength may be used with the approval of the Department.

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

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

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

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

526.03 Construction Requirements

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

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

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

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

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

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

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

- a. Cross-sectional dimensions shall not vary from design dimensions by more than $\frac{1}{4}$ inch. The vertical centerline shall not be out of plumb by more than $\frac{1}{4}$ inch.**
- b. Longitudinal dimensions shall not vary from the design dimensions by more than $\frac{1}{4}$ inch per 10 feet of barrier section and shall not exceed $\frac{3}{4}$ inches per section.**
- c. Location of anchoring holes shall not vary by more than $\frac{1}{2}$ inch from the dimensions shown in the concrete barrier details on the Plans.**
- d. Surface straightness shall not vary more than $\frac{1}{4}$ inch under a 10-foot straightedge.**
- e. The barrier shall have no significant cracking. Significant cracking is defined as fractures or cracks passing through the section, or any continuous crack extending for a length of 12 inches or more, regardless of position in the section.**

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

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

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

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

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

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

Portable barrier shall become the property of the Contractor upon completion of the use of the barrier on the project and shall be removed from the project site by the Contractor.

Transition barrier will be paid for at the Contract price each, complete in place.

The accepted quantity of all types of concrete barrier, whether portable or permanent, will be paid for at the lump sum or per each price, as applicable, which payment shall be full compensation for all materials, including reinforcing steel, protective coating, reflective delineators, steel plates and hardware, equipment, labor and incidentals required, as necessary, to complete the work.

Payment will be made under:

	<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 (“butterfly”-type) delineators shall be mounted on all “w”-beam guardrail. The delineators shall be mounted within the guardrail beam at guardrail posts. Delineators shall be fabricated from high-impact, ultraviolet & weather resistant thermoplastic. Reflectorized beam guardrail delineators shall be placed at approximately 62.5 ft intervals or every tenth post on tangents and at approximately 31.25 ft intervals or every fifth post on curves. Exact locations of the delineators shall be as directed by the Resident. On divided highways, the left-hand delineators shall be yellow, and the right-hand delineators shall be silver/white. On two directional highways, the right-hand side shall be silver/white, and no reflectorized delineator used on the left. All reflectors shall have reflective sheeting applied to only one side of the delineator facing the direction of traffic as shown in the Standard Details. Reflectorized sheeting for guardrail delineators shall meet the requirements of Section 719.01.

Single wood post shall be of cedar, white oak, or tamarack, well-seasoned, straight, and sound and have been cut from live trees. The outer and inner bark shall be removed, and all knots trimmed flush with the surface of the post. Posts shall be uniform taper and free of kinks and bends.

Single steel post shall conform to the requirements of Section 710.07 b.

Single steel pipe post shall be galvanized, seamless steel pipe conforming to the requirements of ASTM A120, Schedule No. 40, Standard Weight.

Acceptable multiple mailbox assemblies shall be listed on the Department’s Qualified Products List and shall be MASH 16 tested and approved.

Flared and Tangent w-beam guardrail terminals and guardrail offset blocks shall be from the Department’s Qualified Products List. Flared terminals shall be installed with a 4 ft offset as shown in the Manufacturer’s installation instructions.

Anchorage assemblies used to anchor trailing ends, radius guardrail, or other ends not exposed to traffic shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report, Drawing SEW02a.

Existing materials damaged or lost during adjusting, removing and resetting, or removing, modifying, and resetting, shall be replaced by the Contractor without additional compensation. Existing guardrail posts and guardrail beams found to be unfit for reuse shall be replaced when directed by the Resident.

606.03 Posts Posts for guardrail shall be set plumb in holes or they may be driven if suitable driving equipment is used to prevent battering and distorting the post. When posts are driven through pavement, the damaged area around the post shall be repaired with approved bituminous patching. Damage to lighting and signal conduit and conductors shall be repaired by the Contractor.

When set in holes, posts shall be on a stable foundation and the space around the posts, backfilled in layers with suitable material, thoroughly tamped.

The reflectorized flexible guardrail markers shall be set plumb with the reflective surface facing the oncoming traffic. Markers shall be installed on the protected side of guardrail posts. Markers, which become bent or otherwise damaged, shall be removed and replaced with new markers.

Single wood posts shall be set plumb in holes and backfilled in layers with suitable material, thoroughly tamped. The Resident will designate the elevation and shape of the top. The posts, that are not pressure treated, shall be painted two coats of good quality oil base exterior house paint.

Single steel posts shall be set plumb in holes as specified for single wood posts or they may be driven if suitable driving equipment is used to prevent battering and distorting the post.

Additional bolt holes required in existing posts shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.04 Rails Brackets and fittings shall be placed and fastened as shown on the plans. Rail beams shall be erected and aligned to provide a smooth, continuous barrier. Beams shall be lapped with the exposed end away from approaching traffic.

End assemblies shall be installed as shown on the plans and shall be securely attached to the rail section and end post.

All bolts shall be of sufficient length to extend beyond the nuts but not more than ½ inch. Nuts shall be drawn tight.

Additional bolt holes required in existing beams shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.045 Offset Blocks The same offset block material is to be provided for the entire project unless otherwise specified.

606.05 Shoulder Widening At designated locations the existing shoulder of the roadway shall be widened as shown on the plans. All grading, paving, seeding, and other necessary work shall be in accordance with the Specifications for the type work being done.

606.06 Mail Box Post Single wood post shall be installed at the designated location for the support of the mailbox. The multiple mailbox assemblies shall be installed at the designated location in accordance with the Standard Details and as recommended by the Manufacturer. Attachment of the mailbox to the post will be the responsibility of the home or business owner.

606.07 Abraded Surfaces All galvanized surfaces of new guardrail and posts, which have been abraded so that the base metal is exposed, and the threaded portions of all fittings and fasteners and cut ends of bolts shall be cleaned and painted with two coats of approved rust resistant paint.

606.08 Method of Measurement Guardrail will be measured by the linear foot from center to center of end posts along the gradient of the rail except where end connections are made to masonry or steel structures, in which case measurement will be as shown on the plans. When connected to radius rail, measurement will be to the end of the last tangent beam.

Guardrail terminal, reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be measured by each unit of the kind specified and installed.

Widened shoulder will be measured as a unit of grading within the limits shown on the plans.

Excavation in solid rock for placement of posts will be paid under force account unless otherwise indicated in the Bid Documents.

606.09 Basis of Payment The accepted quantities of guardrail will be paid for at the contract unit price per linear foot for the type specified, complete in place. Reflectorized beam guardrail (“butterfly”-type) delineators will not be paid for directly but will be considered incidental to guardrail items. Reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be paid for at the contract unit price each for the kind specified complete in place.

Guardrail terminals will be paid for at the contract price each, complete in place which price shall be full payment for furnishing and installing all components including the terminal section, posts, offset blocks, "w" beam, cable foundation posts, plates and for all incidentals necessary to complete the installation within the limits as shown on the Standard Details or the Manufacturer’s installation instructions. Pay limits for a flared terminal will be 37.5 feet. Pay limits for a tangent terminal will be 50 feet. Each guardrail terminal will be clearly marked with the Manufacturer’s name and model number to facilitate any future needed repair. Such payment shall also be full compensation for furnishing all material, excavating, backfilling holes, assembling, and all incidentals necessary to complete the work, except that for excavation for posts or anchorages in solid ledge rock, payment will be made under 109.7.5 – Force Account. Type III Retroreflective Adhesive Sheeting shall be applied to the approach buffer end sections and sized to substantially cover the end section. On all roadways, the ends shall be marked with alternating black and retroreflective yellow stripes. The stripes shall be 3 in wide and sloped down at an angle of 45 degrees toward the side on which traffic is to pass the end section. Guardrail terminals shall also include a set of installation drawings supplied to the Resident.

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.

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
606.353	Reflectorized Flexible Guardrail Marker	Each
606.354	Remove and Reset Reflectorized Flexible Guardrail Marker	Each
606.356	Underdrain Delineator Post	Each
606.358	Guardrail, Modify	Linear Foot
606.362	Guardrail, Adjust	Linear Foot
606.365	Guardrail, Remove, Modify, and Reset	Linear Foot
606.366	Guardrail, Remove and Reset	Linear Foot
606.367	Replace Unusable Existing Guardrail Posts	Each
606.47	Single Wood Post	Each
606.48	Single Galvanized Steel Post	Each
606.50	Single Steel Pipe Post	Each
606.51	Multiple Mailbox Support	Each
606.568	Guardrail, Modify - Double Rail	Linear Foot
606.63	Thrie Beam Rail Beam	Linear Foot
606.64	Guardrail Thrie Beam - Double Rail	Linear Foot
606.65	Guardrail Thrie Beam - Single Rail	Linear Foot
606.66	Terminal End Thrie Beam	Each
606.70	Transition Section - Thrie Beam	Each
606.71	Guardrail Thrie Beam - 15 ft radius and less	Linear Foot
606.72	Guardrail Thrie Beam - over 15 ft radius	Linear Foot
606.73	Guardrail Thrie Beam - Single Rail Bridge Mounted	Linear Foot
606.74	Guardrail - Single Rail Bridge Mounted	Linear Foot
606.753	Widen Shoulder for Low Volume Guardrail End	Each
606.754	Widen Shoulder for Flared Guardrail Terminal	Each
606.78	Low Volume Guardrail End	Each
606.80	Buried-in-Slope Guardrail End	Each

SECTION 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.”

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 626

FOUNDATIONS, CONDUIT, AND JUNCTION BOXES FOR HIGHWAY SIGNING, LIGHTING, AND SIGNALS

626.034 Concrete Foundations Revise this Section by changing ‘626.037’ to ‘**626.036**’ in the Second Paragraph which begins with “Foundations shall consist of cast-in-place...”.

Revise the 10th paragraph beginning with “Before placing concrete, the required elbows...” by removing “...in accordance with **Standard Specification 633.**”

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.”

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.”

643.09 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 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
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 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	3/4 inch	1 1/2 inch	1/2 inch

2 inch			100	
1½ inch	100		95-100	
1 inch	95-100	100	-	
¾ inch	-	90-100	35-70	100
½ inch	25-60	-	-	90-100
⅜ inch	-	20-55	10-30	40-70
No. 4	0-10	0-10	0-5	0-15
No. 8	0-5	0-5	-	0-5
No. 16	-	-	-	-
No. 50	-	-	-	-
No. 200	0 - 1.5	0 - 1.5	0 - 1.5	0 - 1.5

703.0201 Alkali Silica Reactive Aggregates All coarse and fine aggregates proposed for use in concrete shall be tested for Alkali Silica Reactivity (ASR) potential under AASHTO T 303 (ASTM C 1260), Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction, prior to being accepted for use. Acceptance will be based on testing performed by 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	Percentage by Weight
-------	----------------------

Designation	Passing Square Mesh Sieves
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 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
1/2 inch	45-70	35-75
1/4 inch	30-55	25-60
No. 40	0-20	0-25
No. 200	0-6.0	0-6.0

At least 50 percent by weight of the material retained on the No. 4 sieve shall have at least one fractured face as tested by AASHTO T 335.

Type A aggregate for base shall only contain particles of rock that will pass the 2 inch square mesh sieve.

Type B aggregate for base shall only contain particles of rock that will pass the 4 inch square mesh sieve.

- b. Aggregate for base, Type C shall be crushed ledge or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The material shall meet the grading requirements of the following table:

Sieve	Percentage by Weight
-------	----------------------

Designation	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 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 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 AWPA 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 AWPA approved species, or spruce, cedar, tamarack or other AWPA 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 AWPA 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 AWPA 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 AWPA U1, UC4A Commodity Specification B: Posts.

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 718

TRAFFIC SIGNALS MATERIAL

718.03 Signal Mounting Amend the paragraph beginning with “All trunions, brackets and...” by adding “**For polycarbonate signal heads with more than 3 sections or requiring mounting extensions greater than 12 inches in length, reinforcing plates shall be used to reinforce the housings at the point of attachment.**” to the end of the paragraph.

718.08 Controller Cabinet Revise this subsection by replacing the paragraph beginning with “The cabinet shall be supplied with LED light panels...” on or about page 7-66 with “**The cabinet shall be supplied with white LED light panels which shall automatically illuminate via a door open switch whenever one of the four main cabinet doors are opened for the ground mount cabinet or two main doors for the side of pole cabinet. The ground mounted cabinet shall contain four LED light panels per side totaling eight panels for the cabinet; one panel each at the top and bottom portion of the front side and back side on the Control side and Power/Auxiliary side of the cabinet. Each light panel shall produce a minimum of 250 lumens for a total minimum lumen output of 2000 lumens with all eight panels illuminated. The minimum output per side would be 1000 lumens. The LED panels shall be protected by a clear shatterproof shield. The side of pole mounted cabinet shall contain four light panels; one at the top of the rack assembly and one at the bottom rack assembly on each side of the cabinet. A second door open status switch per door shall activate a controller input to log a report event that one of the doors was opened. All door open status switches shall be connected to the same controller input. For the ground mount cabinet, there shall be two switches on each of the four main doors. For the side-of-pole mount cabinet, there shall be two switches on each of the two main doors.**”

Revise this subsection by replacing the paragraph beginning with “The cabinet shall be supplied with a generator panel ...” on or about page 7-68 with:

“The cabinet shall be supplied with a generator panel. The generator panel shall consist of a manual transfer switch and a twist-lock connector for generator hookup. The transfer switch knob and twist-lock connector shall be located inside a stainless steel enclosure with a separate lockable door accessed with a Corbin #2 key. The unit shall be mounted on the left, exterior of the control side wall of the ground mount cabinet a minimum of 36” above the surrounding grade and on the lower left side of the pole mounted cabinet. The generator transfer switch shall be a Reliance C30A1N Signa Series or approved equal. “

Revise this subsection by removing the following from the paragraph beginning with “The ground mounted cabinet shall be supplied and installed with an electric service meter socket trim and electrical service disconnect switch ...” on or about page 7-69: “**(removed: thus preventing that space from being used either by equipment supplied as part of the project, or future equipment that would be installed in the rack system. Joe indicated that he would add this language to the detail so it is covered.)**”.

Revise this subsection by replacing the following in the paragraph beginning with “The Contractor shall reconfigure the default user name...” on or around page 7-70; “MaineDOT IT” with “**MaineDOT Traffic Division**”.

In the paragraph beginning with “Tests shall be conducted by the contractor...” on or around page 7-73, amend this subsection by removing “**in the state of Maine and**” after “The facility shall be”.

Amend this Section by adding the following subsection:

718.13 Field Monitoring Unit (FMU) This item of work shall conform to this specification. This item shall consist of furnishing and installing a Field Monitoring Unit (FMU) and software, as well as all needed accessories required for a full and complete installation, including but not limited to power adapters, Ethernet cables, and interface cables, as described herein.

Where applicable, communications from MaineDOT’s cloud-based Central Management System (CMS) to the on-street traffic signal controllers shall be made through fiber optic interconnect cable connected back to existing internet connections and/or the Field Monitoring Unit (FMU). The Contractor shall furnish and install all materials necessary for a complete and operational fiber optic interconnection to all project intersections as shown on the plans. All connections to the CMS cloud-based system shall be via a secure VPN network.

The FMU shall be the only remote connection device used by isolated intersections to connect to the cloud-based system. All connections shall be encrypted VPN tunnels. The Contractor shall coordinate all configuration settings with MaineDOT IT and the Engineer.

The FMU central web based interface shall be a separate element from the CMS.

MATERIALS: The materials for this work shall conform to the following requirements:

1. The work under this item specifies the requirements for the FMU. The FMU shall operate independent of the brand/type of intersection controller deployed in the ATC traffic cabinet.
2. The FMU shall conform to the following requirements:
 - 2.1 The FMU shall function correctly between -34 degrees C and +74 degrees C.
 - 2.2 The FMU shall be provided with appropriately rated connectors that allows the FMU to be exchanged by unplugging connectors, without tools.
 - 2.3 The FMU shall monitor and log all ATC Controller and ATC cabinet faults and or alarms.
 - 2.4 The FMU shall be wired directly to the ATC cabinet.
 - 2.5 The FMU shall have an internal cellular modem running at 4G LTE.
 - 2.5.1 The Cellular modem shall be designed to be replaced / upgraded to 5G service when available.
 - 2.6 The FMU shall incorporate an integrated GPS and cell modem.
 - 2.7 The configuration of the FMU shall be accomplished by accessing the internal web server with a browser. It shall be possible to configure the FMU without any special software.

- 2.8 The FMU shall be powered via a standard 120V input power.
- 2.9 The FMU shall allow for the routing of the controller configuration packets to and from the controller (either by Ethernet or serial communications) for any type of controller utilized by the MaineDOT. In this way it shall be possible to configure the controller and utilize the controller specific software to interrogate the controller, and the FMU shall provide the communications pipe which allows this to be accomplished.
- 2.10 The FMU shall, within the size limitations above, include a battery and battery charging/monitoring circuit, to allow the FMU to function correctly even when all power to the intersection has failed. The battery shall continue to power the FMU for a minimum of 5 hours after all power has failed to the intersection.
- 2.11 The FMU shall incorporate an integrated GPS which will allow the FMU to geo-locate itself on the FMU management software map, without configuration.
- 2.12 The FMU shall operate without requiring a static IP address. The only configuration required at the FMU is to enter the URL of where the FMU management software is hosted.
- 2.13 In the event that the cell service is interrupted or is not available, the FMU shall store any events that occur in internal memory and forward these events automatically to the FMU management software when the cell service is restored. In this way, a complete record of events at the device can be maintained even if cell service is interrupted for a period. The system will store 5000 events.
- 2.14 The FMU shall utilize HTTP and HTTPS protocols, and XML data structures, for communication with the FMU management software. In this way the data will be open for future expansion and competition. The use of secret proprietary protocols is not permitted.
- 2.15 The FMU shall include Ethernet communications via an Ethernet Port with RJ45 connector.
- 2.16 The FMU shall include weather proof antennas.

3. Map Display FMU Management Software

- 3.1 The FMU shall include a scrollable, zoomable map display, with the intersections and other monitored devices shown as representative icons on the map. The map shall include the ability to see the intersections using Google Streetview.
- 3.2 The alarm status of the intersection shall be clearly indicated on the icon on the map, so that the user can see at a glance which intersections are in alarm.
- 3.3 The map display shall also include a list of intersections, with the number and priority of alarms indicated on the list. Intersections in high priority alarm shall be moved to the top

of the list, followed by medium priority, low priority and then finally by intersections not in alarm.

- 3.4 The icons shall change to be able to clearly indicate if an intersection is offline.
- 3.5 Clicking on the icon on the map shall expose a box with the current parameters of the intersection shown.
- 3.6 The default map display position and zoom shall be configurable by user, so that the user's view will default to show the intersections that the user is responsible for managing.
- 3.7 The map view shall have the ability to show Google traffic overlays on the map.

4. **Intersection Detail Display FMU Management Software**

- 4.1 It shall be possible to drill down, either from the map icon or from the list, to a device level detail for the intersection, which as a minimum shall display the following parameters:
 - 4.1.1 The alarm status, with priority indicated, and a text description of the alarm (if an alarm is present for this device).
 - 4.1.2 The time since the last communication with the device
 - 4.1.3 The following parameters (real time now values, minimum for the day values, maximum for the day values, and average for the day values)
 - 4.1.3.1 The AC mains voltage (value)
 - 4.1.3.2 The battery back-up voltage (value)
 - 4.1.3.3 The cabinet temperature (value)
 - 4.1.3.4 The cabinet humidity (value)
 - 4.1.3.5 The presence of AC power (OK or Fail)
 - 4.1.3.6 The flashing status of the intersection (OK or Flashing)
 - 4.1.3.7 Stop Time status (OK or Stop Time Active)
 - 4.1.3.8 The cabinet door status (Open or Closed)
 - 4.1.3.9 The intersection fan status (Fan On or Fan off)
 - 4.1.4 It shall be possible to view graphs of each of the value parameters in graphical form, over the recent two-week period. This includes real time graphs of:
 - 4.1.4.1 The AC mains voltage
 - 4.1.4.2 The battery back-up voltage
 - 4.1.4.3 The cabinet temperature

4.1.4.4 The cabinet humidity

5. **Diagnostics and Log Display FMU Management Software**

- 5.1 From the device level detail within the FMU management software, it shall be possible to drill down to get the raw data; the error logs; and the communications logs to allow a technician to fault-find problems.
- 5.2 It shall be possible to filter the logs by Device; by Device Type and/or by Group as well as between dates.
- 5.3 It shall be possible to print these selected logs to a local printer or a PDF file.
- 5.4 It shall be possible to export these logs to Excel on the local computer for further analysis.

6. **Alarms FMU Management Software**

- 6.1 The FMU management software shall have a comprehensive alarm generation capability
- 6.2 It shall be possible to configure alarms to be generated on any parameter becoming out of tolerance, including analog values, digital values and enumerated values.
- 6.3 Alarms shall be configurable to be of Low, High or Critical Priority.
- 6.4 The alarm priority shall be displayed throughout the FMU management software, on all displays, using color codes such as red-critical; yellow – high; and amber-low to indicate the priority of the alarm.
- 6.5 The current active alarms shall be accessible for view via an expandable window, to see which alarms are active and when the alarm occurred. The highest priority alarms shall rise to the top of the list.

7. **Alerts FMU Management Software**

- 7.1 The FMU management software shall have comprehensive alerting capability, to enable the response personnel to be notified when an abnormal situation has occurred.
- 7.2 It shall be possible to configure alerts to one or more personnel for each alarm. This will cause, as selected, an SMS and/or an email to be sent to the person when an alarm occurs.
- 7.3 The alert shall be configurable to optionally send via email and/or via SMS a message when an alarm clears.
- 7.4 The intention is that the FMU management software provides the alerts to the user in near real time. The SMS and email shall be issued within 30 seconds of the occurrence of event which results in an alert being issued.

8. **Hosting and Connectivity and Service FMU / FMU Management Software**

8.1 The contractor shall supply the FMU with the FMU manufacturers 10 year options for Connectivity and Service, as part of the purchase price. The Connectivity and Service agreement shall include at a minimum:

- 8.1.1 Cellular Connectivity
- 8.1.2 No cellular overage charges
- 8.1.3 Extended warranty on the hardware for the period of the Connectivity and Service Agreement
- 8.1.4 Over-the-air software updates
- 8.1.5 Over-the-air security updates
- 8.1.6 Future Connected Vehicles Service

SECTION 720 STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS

720.12 Wood Sign Posts Revise the first sentence so that it reads:

Wood sign posts shall be rectangular, straight and sound timber, cut from live growing native spruce, red pine, hemlock, cedar trees or other AWWPA approved species, free from loose knots or other structurally weakening defects of importance, such as shake or holes or heart rot.

Revise the third paragraph that starts with “When pressure treated...” so that it reads:

All sign posts shall be pressure-treated in accordance with AASHTO M 133 and AWWPA Standard U1, UC4A, Commodity Specification A: Sawn Products.



REPLY TO ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

MAINE GENERAL PERMITS (GPs)
AUTHORIZATION LETTER AND SCREENING SUMMARY

ENVIRONMENTAL OFFICE
MAINE DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE 04333

CORPS PERMIT # NAE-2020-02991
CORPS GPs 22
STATE ID# PBR

DESCRIPTION OF WORK:

Place temporary and permanent fill below the ordinary high water mark of three unnamed streams and in adjacent freshwater wetlands at Montville, Maine in order to replace four deteriorated culverts beneath Route 220. This work will result in approximately 150 s.f. of permanent and 300 s.f. of temporary stream bed impact; and 150 s.f. of permanent and 200 s.f. of temporary wetland impact. This work is shown on the attached plans entitled "WIN 025958.00, Route 220 Culvert Replacements, Montville, ME (Waldo County)" in eleven sheets
Project Description Continued on Page 2
See GENERAL and SPECIAL CONDITIONS attached.

LAT/LONG COORDINATES: 44.508350° N -69.278800° W USGS QUAD: MONTVILLE, ME

I. CORPS DETERMINATION:

Based on our review of the information you provided, we have determined that your project will have only minimal individual and cumulative impacts on waters and wetlands of the United States. Your work is therefore authorized by the U.S. Army Corps of Engineers under the Federal Permit, the Maine General Permits (GPs) which can be found at: https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit/ Accordingly, we do not plan to take any further action on this project.

You must perform the activity authorized herein in compliance with all the terms and conditions of the GP [including any attached Additional Conditions and any conditions placed on the State 401 Water Quality Certification including any required mitigation]. Please review the enclosed GPs, including the GPs conditions beginning on page 5, to familiarize yourself with its contents. You are responsible for complying with all of the GPs requirements; therefore you should be certain that whoever does the work fully understands all of the conditions. You may wish to discuss the conditions of this authorization with your contractor to ensure the contractor can accomplish the work in a manner that conforms to all requirements.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

Condition 45 of the GPs (page 19) provides one year for completion of work that has commenced or is under contract to commence prior to the expiration of the GPs on October 14, 2025. You will need to apply for reauthorization for any work within Corps jurisdiction that is not completed by October 14, 2026.

This authorization presumes the work shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to the undersigned.

No work may be started unless and until all other required local, State and Federal licenses and permits have been obtained. This includes but is not limited to a Flood Hazard Development Permit issued by the town if necessary.

II. STATE ACTIONS: PENDING [X], ISSUED [], DENIED [] DATE _____

APPLICATION TYPE: PBR: X, TIER 1: _____, TIER 2: _____, TIER 3: _____, LURC: _____, DMR LEASE: _____, NA: _____

III. FEDERAL ACTIONS:

JOINT PROCESSING MEETING: 11/19/20 LEVEL OF REVIEW: SELF-VERIFICATION: _____ PRE-CONSTRUCTION NOTIFICATION: X

AUTHORITY (Based on a review of plans and/or State/Federal applications): SEC 10 _____, 404 X, 10/404 _____, 103 _____

EXCLUSIONS: The exclusionary criteria identified in the general permit do not apply to this project.

FEDERAL RESOURCE AGENCY OBJECTIONS: EPA_NO _____, USF&WS_NO _____, NMFS_NO _____

If you have any questions on this matter, please contact my staff at 978-318-8676 at our Augusta, Maine Project Office. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at: http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0

Digitally signed by JAY L. CLEMENT
CLEMENT.JAY.LANGDON.1006350
980
Date: 2021.02.11 12:28:43 -05'00'

JAY L. CLEMENT
SENIOR PROJECT MANAGER
MAINE PROJECT OFFICE

Digitally signed by JAY L. CLEMENT
CLEMENT.JAY.LANGDON.100635
0980
Date: 2021.02.11 12:30:06 -05'00'

FOR FRANK J. DEL GIUDICE
CHIEF, PERMITS & ENFORCEMENT BRANCH
REGULATORY DIVISION



undated.

DOT WIN: 25958.00

**PLEASE NOTE THE FOLLOWING GENERAL AND SPECIAL CONDITIONS FOR
DEPARTMENT OF THE ARMY
MAINE GENERAL PERMITS 22
PERMIT NO. NAE-2020-02991**

GENERAL CONDITIONS

3. Other Permits. Permittees shall obtain other Federal, State, or local authorizations as required by law. Permittees are responsible for applying for and obtaining all required State of Maine or local approvals including a Flood Hazard Development Permit issued by the town/city. Work that is not regulated by the State of Maine, but is subject to Corps jurisdiction, may still be eligible for authorization under these GPs.

23. Soil Erosion, Sediment, and Turbidity Controls.

a. Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, installation of sediment control barriers (i.e. silt fence, vegetated filter strips, geotextile silt fences, erosion control mixes, hay bales or other devices) downhill of all exposed areas, retention of existing vegetated buffers, application of temporary mulching during construction, and permanent seeding and stabilization shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. They shall be capable of preventing erosion; of collecting sediment, suspended and floating materials; and of filtering fine sediment.

b. Temporary sediment control barriers shall be removed upon completion of work, but not until all disturbed areas are permanently stabilized. The sediment collected by these sediment barriers shall be removed and placed at an upland location and stabilized to prevent its later erosion into a waterway or wetland.

c. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date.

26. Temporary Fill.

a. Temporary fills, including but not limited to construction mats and corduroy roads shall be entirely removed as soon as they are no longer needed to construct the authorized work. Temporary fill shall be placed in its original location or disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S.

b. All temporary fill and disturbed soils shall be stabilized to prevent its eroding into waters of the U.S. where it is not authorized. Work shall include phased or staged development to ensure only areas under active development are exposed and to allow for stabilization practices as soon as practicable. Temporary fill shall be placed in a manner that will prevent it from being eroded by expected high flows.

c. Unconfined temporary fill authorized for discharge into waters of the U.S. shall consist of material that minimizes impacts to water quality (e.g. washed stone, stone, etc.).

d. Appropriate measures shall be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Materials shall be placed in a location and manner that does not adversely impact surface or subsurface water flow into or out of the wetland. Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric or other appropriate material laid on the pre-construction wetland grade where practicable to minimize impacts and to facilitate restoration to the original grade. Construction mats are excluded from this requirement.

e. Construction debris and/or deteriorated materials shall not be placed or otherwise located in waters of the U.S.

33. Permit(s)/Authorization Letter On-Site. The permittee shall ensure that a copy of the terms and conditions of these GPs and any accompanying authorization letter with attached plans are at the site of the work authorized by these GPs whenever work is being performed and that all construction personnel performing work which may affect waters of the U.S. are fully aware of the accompanying terms and conditions. The entire permit authorization shall be made a part of any and all contracts and subcontracts for work that affects areas of Corps jurisdiction at the site of the work authorized by these GPs. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means all terms and conditions of the GPs, the GPs, and the authorization letter (including its drawings, plans, appendices and other attachments) and subsequent permit modifications as applicable. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or subcontract. Although the permittee may assign various aspects of the work to different contractors or subcontractors, all contractors and subcontractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization,

34. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is eligible for authorization under these GPs, is being, or has been performed in accordance with the terms and conditions of these GPs. To facilitate these inspections, the permittee shall complete and return to the Corps the Work-Start Notification Form and the Compliance Certification Form when either is provided with an authorization letter. **These forms are attached after the plans.**

SPECIAL CONDITIONS

1. In water work is restricted to the following windows in order to minimize potential impacts to fisheries and local water quality:

- Culvert XC-124538 – between April 1 and October 1 of any year.
- Culvert XC-124549 – between July 15 and September 30 of any year.
- Culvert XC-124553 – between July 15 and September 30 of any year.



**US Army Corps
of Engineers®**
New England District

(Minimum Notice: Permittee must sign and return notification
within one month of the completion of work.)

COMPLIANCE CERTIFICATION FORM

Corps of Engineers Permit No: NAE-2020-02991

Name of Permittee: Maine Dept. of Transportation

Permit Issuance Date: _____

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Policy & Technical Support Branch *
* Regulatory Division *
* 696 Virginia Road *
* Concord, Massachusetts 01742-2751 *

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

Printed Name

Date of Work Completion

() _____
Telephone Number

() _____
Telephone Number



**US Army Corps
of Engineers**®
New England District

**GENERAL PERMIT
WORK-START NOTIFICATION FORM**
(Minimum Notice: Two weeks before work begins)

EMAIL TO: jay.l.clement@usace.army.mil

-or-

MAIL TO: Jay L. Clement
U.S. Army Corps of Engineers, Maine Project Office
442 Civic Center Drive, Suite 350
Augusta, Maine 04330

A Corps of Engineers Permit (No. NAE-2020-02991) was issued to the Maine Dept. of Transportation. The permit authorized the permittee to place temporary and permanent fill below the ordinary high water mark of three unnamed streams and in adjacent freshwater wetlands at Montville, Maine in order to replace four deteriorated culverts beneath Route 220. This work will result in approximately 150 s.f. of permanent and 300 s.f. of temporary stream bed impact; and 150 s.f. of permanent and 200 s.f. of temporary wetland impact.

The people (e.g., contractor) listed below will do the work, and they understand the permit's conditions and limitations.

PLEASE PRINT OR TYPE

Name of Person/Firm: _____

Business Address: _____

Telephone: () _____ () _____

Proposed Work Dates: Start: _____

Finish: _____

PERMITTEE'S SIGNATURE: _____ DATE: _____

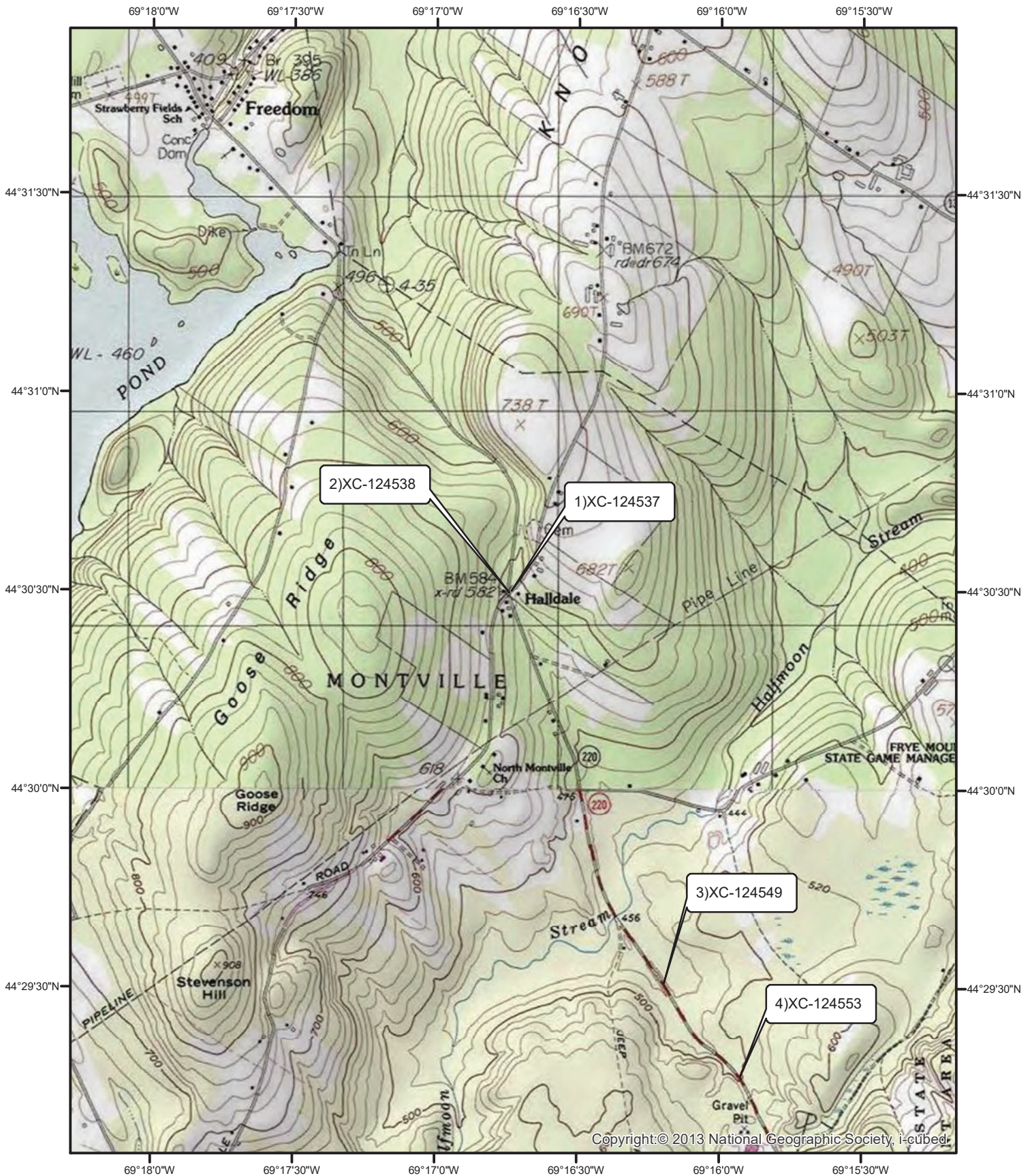
PRINTED NAME: _____ TITLE: _____

FOR USE BY THE CORPS OF ENGINEERS

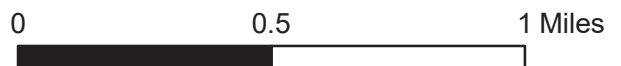
Project Manager: Clement Submittals Required: No

Inspection Recommendation: Inspect as convenient

Section 3: Project Location Map



WIN 025958.00
Route 220 Culvert Replacements
Montville, ME (Waldo County)
Montville, ME USGS 24k Topo Map
Lat: 44.50835 Long: -69.27880



WIN: 025958.00
 Montville, ME

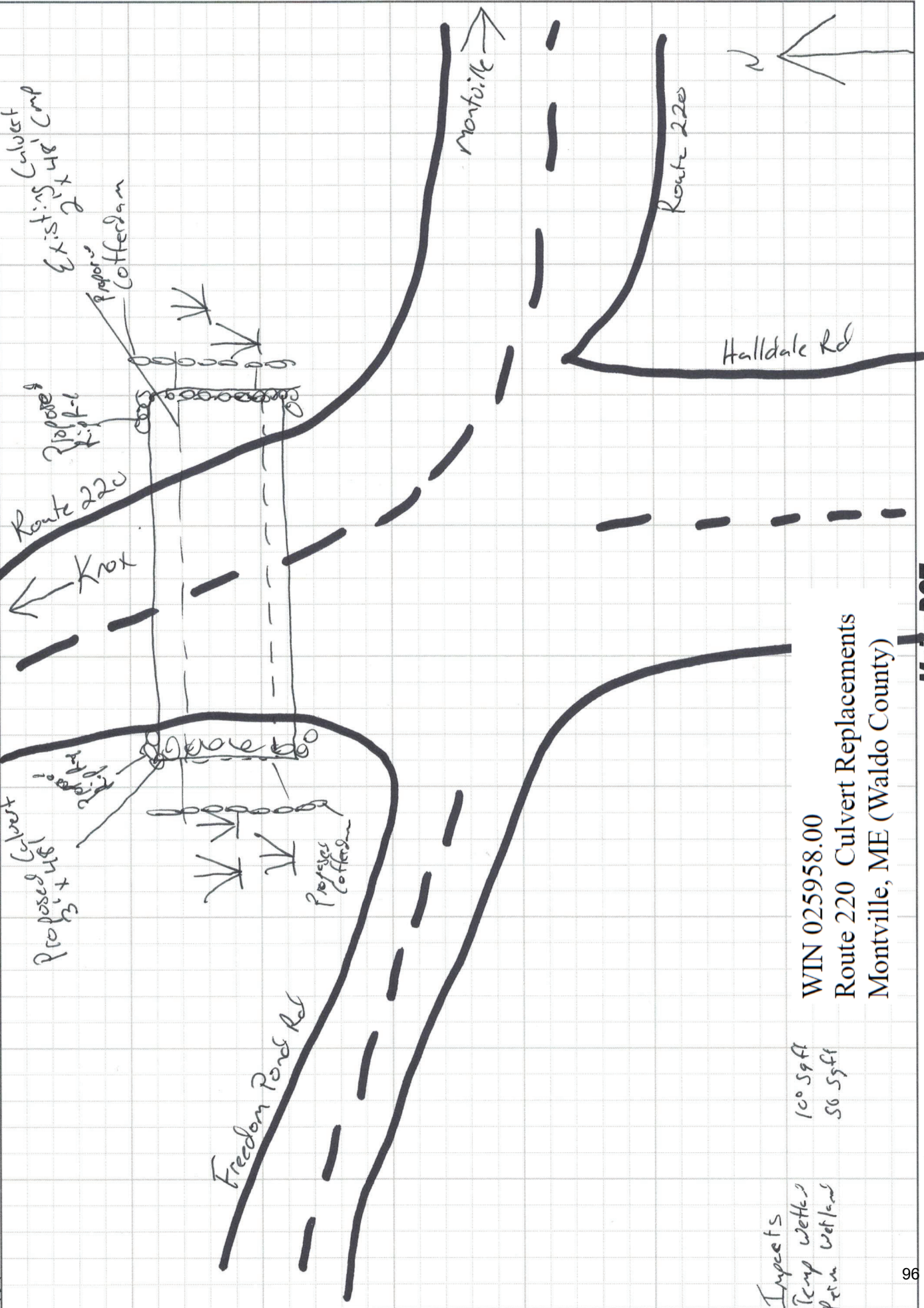
1) XC 124537

MaineDOT

MaineDOT

Outlet

Inlet



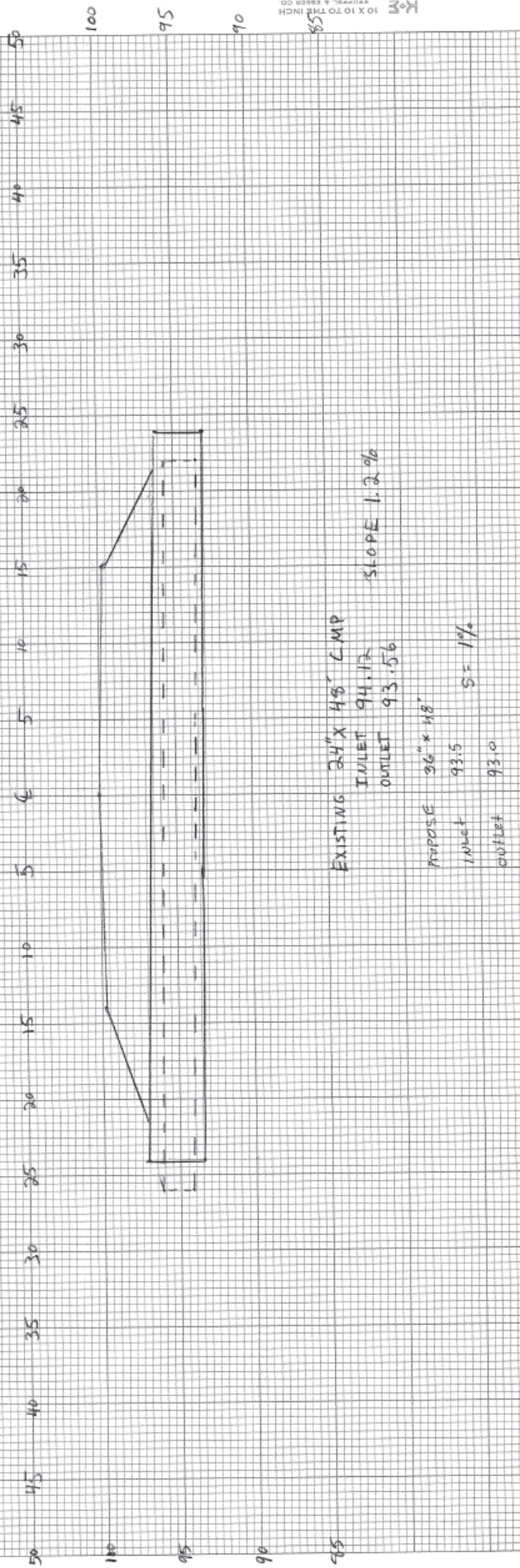
Not to Scale

WIN 025958.00
 Route 220 Culvert Replacements
 Montville, ME (Waldo County)

100 Sgft
 50 Sgft

Typical
 Temp Wetland
 Prime Wetland

RTE 220 MONTVILLE
 ASSET 121537
 G.P.S. 44.54487 = 69.27589
 WETLAND

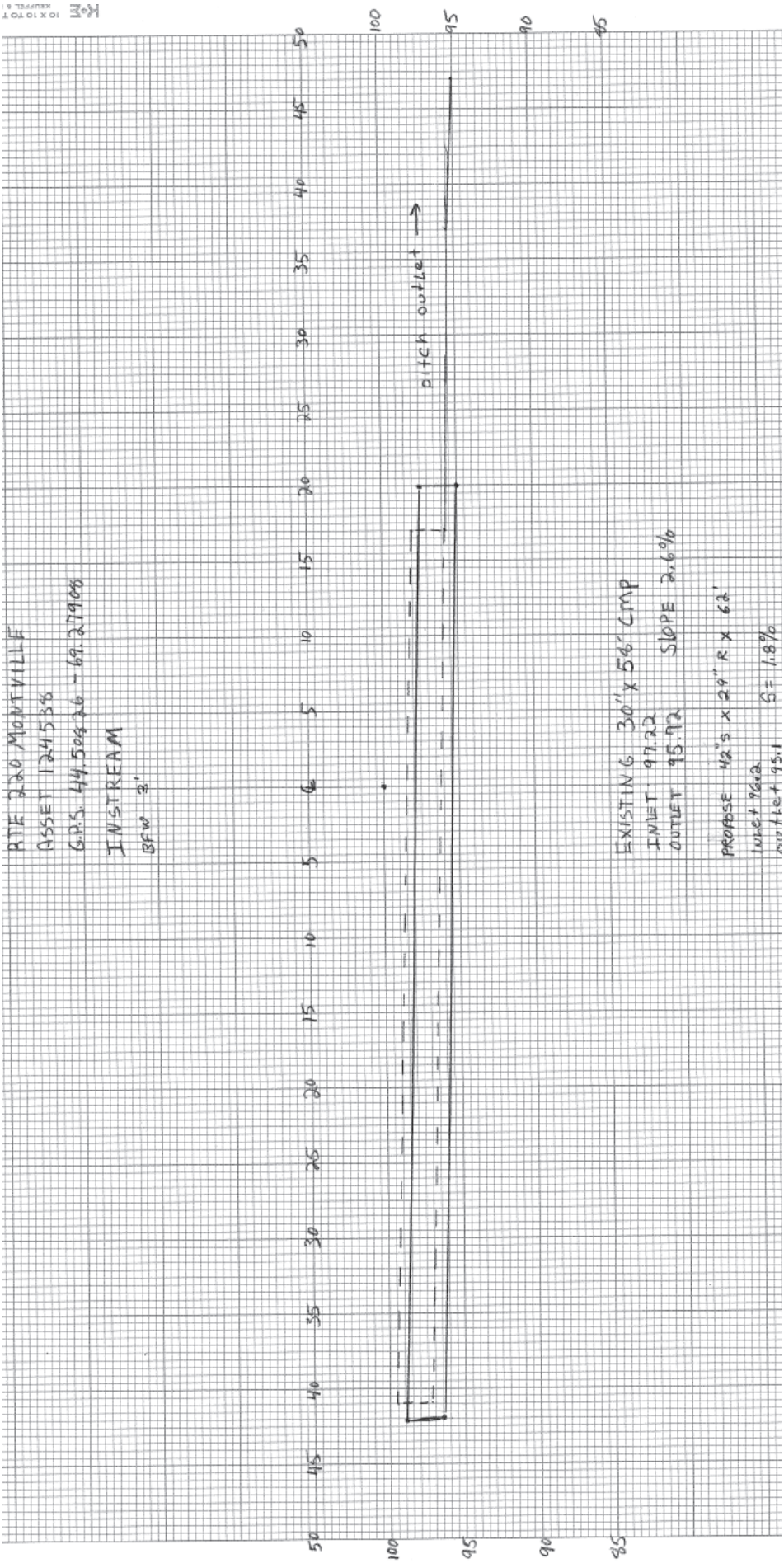


EXISTING 24" X 48" CMP
 INLET 94.12
 OUTLET 93.56
 SLOPE 1.2%

PROPOSE	36" X 48"
INLET	93.5
OUTLET	93.0
	S = 1%

WIN 025958.00
 Route 220 Culvert Replacements
 Montville, ME (Waldo County)

RT# 220 MONTVILLE
ASSET 124586
G.P.S. 44.50426 - 69.27900
INSTREAM
BFW 3'



WIN 025958.00

Route 220 Culvert Replacements

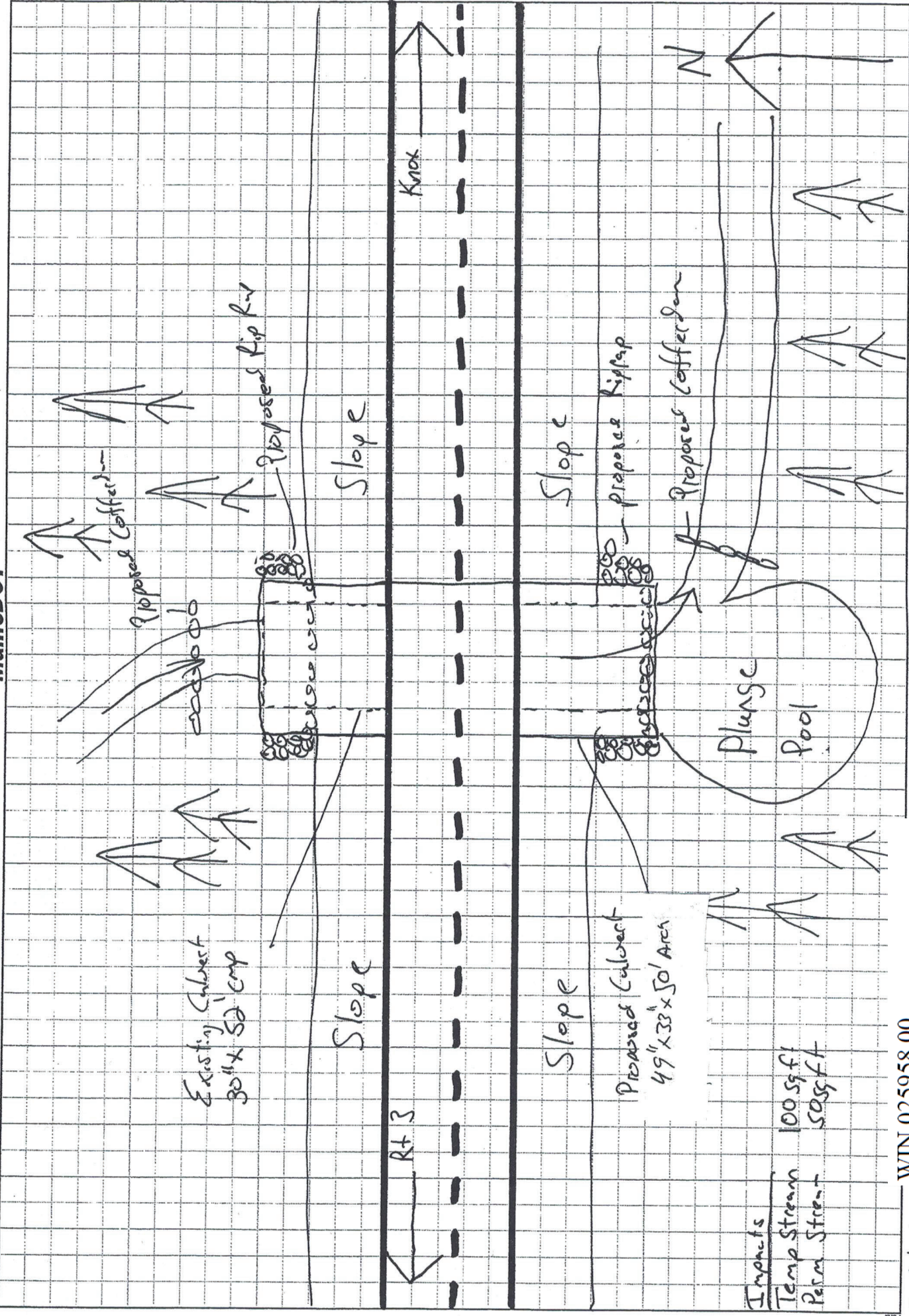
Montville, ME (Waldo County)

WIN: 025958.00
Montville Rt 220

3) XC 124549

MaineDOT

Inlet

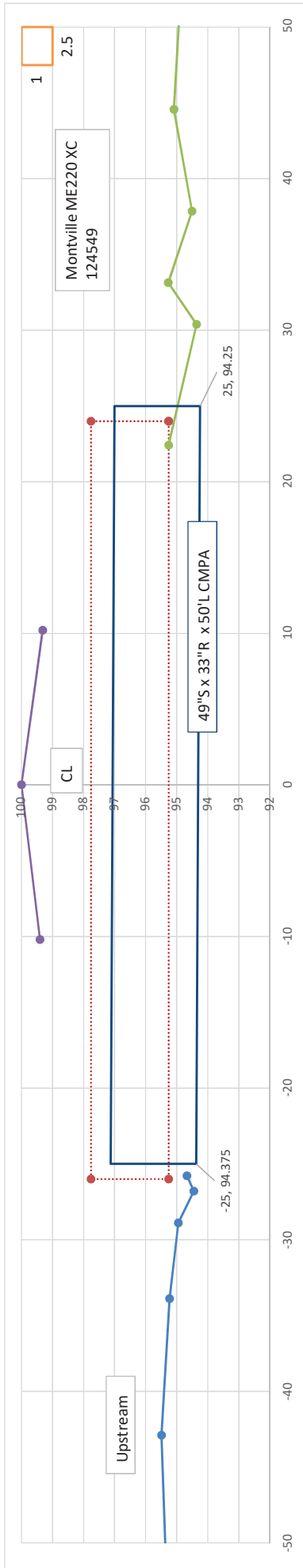


MaineDOT

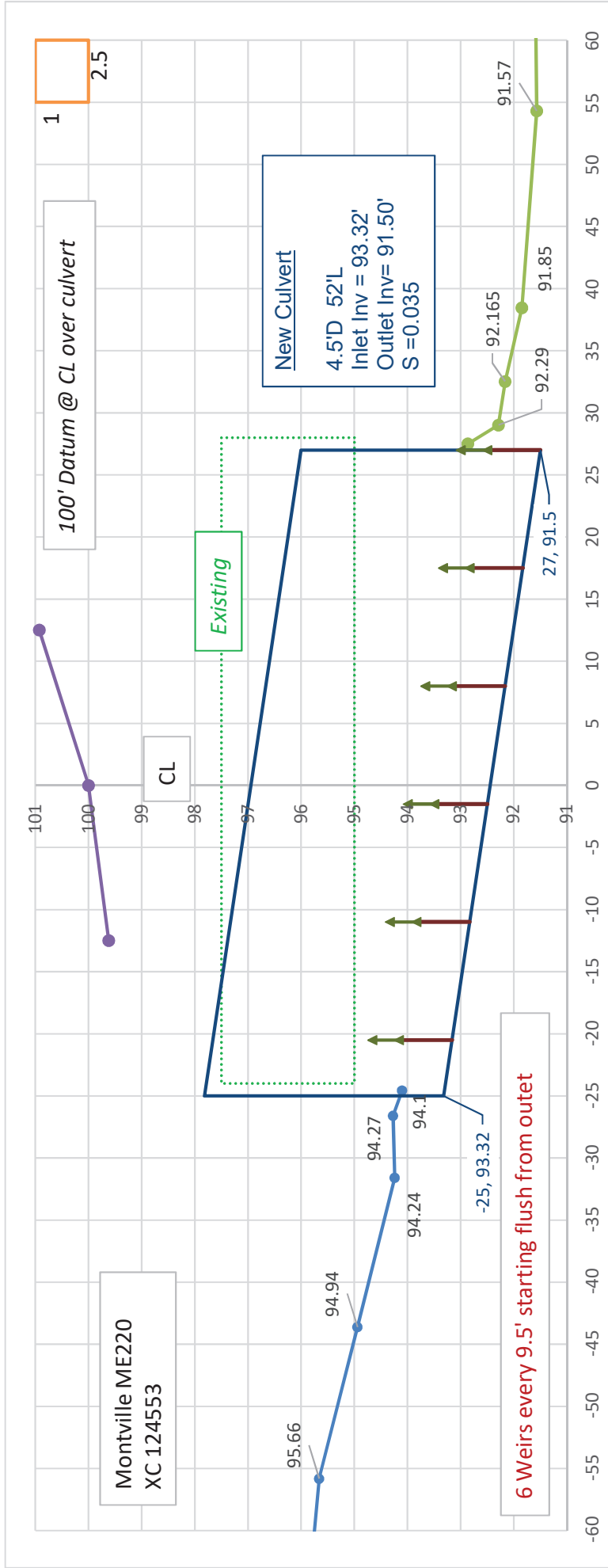
Outlet

WIN 025958.00
Route 220 Culvert Replacements
Montville, ME (Waldo County)

Not to Scale



WIN 025958.00
 Route 220 Culvert Replacements
 Montville, ME (Waldo County)



WIN 025958.00
Route 220 Culvert Replacements
Montville, ME (Waldo County)

