

MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

CONTRACT DOCUMENTS

CONTRACT 2018.15

BRIDGE REHABILITATION
COBBOSSEECONTEE STREAM OVERPASS
MILE 99.2

BRIDGE REPAIRS
ANDROSCOGGIN RIVER OVERPASS
MILE 78.9

NOTICE TO CONTRACTORS

PROPOSAL

CONTRACT AGREEMENT

CONTRACT BOND

FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT

SPECIFICATIONS

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

The Specifications are divided into two parts:
Part I, Supplemental Specifications and Part II, Special
Provisions.

The Maine Turnpike Supplemental Specifications are additions
and alterations to the 2014 Maine Department of
Transportation Standard Specifications. See Subsection 100.1.

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MAINE TURNPIKE AUTHORITY

NOTICE TO CONTRACTORS

Sealed Proposals will be received by the Maine Turnpike Authority for:

CONTRACT 2018.15

BRIDGE REHABILITATION
COBBOSSECONTEE STREAM OVERPASS

MILE 99.2

BRIDGE REPAIRS
ANDROSCOGGIN RIVER OVERPASS

MILE 78.9

at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, ME, until 11:00 a.m., prevailing time as determined by the Authority on August 21, 2018 at which time and place the Proposals will be publicly opened and read. Bids will be accepted from Contractors **prequalified** by the Maine Department of Transportation for Bridge Construction Projects. All other bids may be rejected. This Project includes a wage determination developed by the State of Maine Department of Labor.

The work consists of rehabilitating the Cobbosseecontee Stream Overpass (NB & SB) bridge in the Town of Litchfield/West Gardiner, Maine and repairing the Androscoggin River Overpass (NB & SB) bridges in the City of Lewiston/Town of Auburn, Maine. The work includes concrete deck and steel girder placement, concrete substructure modifications and repairs, approach work and paving, guardrail, bridge rails, substructure concrete repairs, bearing repairs, post tensioning sleeve repairs, maintenance of traffic, and all other work incidental thereto in accordance with the Plans and Specifications.

Plans and Contract Documents may be examined by prospective Bidders weekdays between 8:00 a.m. and 4:30 p.m. at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine. **The half size Plans** and Contract Documents may be obtained from the Authority upon payment of Seventy-Five (\$75.00) Dollars for each set, which payment will not be returned. Checks shall be made payable to: Maine Turnpike Authority. The Plans and Contract Documents may also be downloaded from a link on our website at <http://www.maineturnpike.com/project-and-planning/Construction-Contracts.aspx>.

For general information regarding Bidding and Contracting procedures, contact Nate Carll, Purchasing Manager, at (207)482-8115. For information regarding Schedule of Items, plan holders list and bid results, visit our website at <http://www.maineturnpike.com/project-and-planning/Construction-Contracts.aspx>. For Project specific information, fax all questions to Nate Carll, Purchasing Manager, at (207) 871-7739 or email ncarll@maineturnpike.com. Responses will not be prepared for questions received by telephone. Bidders shall not contact any other Authority

staff or Consultants for clarification of Contract provisions, and the Authority will not be responsible for any interpretations so obtained.

All work shall be governed by the Specifications entitled "State of Maine, Department of Transportation, Standard Specifications, Revision of November 2014", "Standard Details, Revision of November 2014" and "Best Management Practices for Erosion and Sediment Control", latest issue. Copies and recent updates to these publications can be downloaded at: <http://www.maine.gov/mdot/contractors/publications/> .

Proposals must be accompanied by an original bid bond, certified or cashier's check payable to the Maine Turnpike Authority in an amount not less than Five (5%) Percent of the Total Amount in the Proposal, but not less than \$500.00. The Bidder to whom a Contract is awarded will be required to furnish a Surety Corporation Bond, satisfactory to the Authority, on the standard Contract Bond form of the Authority, for a sum not less than the Total Amount of the Proposal.

Proposals must be made upon the Proposal Forms furnished by the Authority separately with the Contract Documents, and must be enclosed in the sealed special addressed envelope provided therefore bearing the name and address of the Bidder, the name of the Contract, and the date and time of Proposal opening on the outside.

A pre-bid conference will be held on August 7, 2018 at 10:00 a.m. at the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine.

The Authority reserves the unqualified right to reject any or all Proposals and to accept that Proposal which in its sole judgment will under all circumstances serve its best interest.

MAINE TURNPIKE AUTHORITY

Nate Carll
Purchasing Manager
Maine Turnpike Authority

Portland, Maine

Maine Turnpike Authority

MAINE TURNPIKE

PROPOSAL

CONTRACT 2018.15

BRIDGE REHABILITATION
COBBOSSECONTEE STREAM OVERPASS
MILE 99.2

BRIDGE REPAIRS
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MAINE TURNPIKE AUTHORITY

PROPOSAL

CONTRACT 2018.15

BRIDGE REHABILITATION
COBBOSSECONTEE STREAM OVERPASS
MILE 99.2

BRIDGE REPAIRS
ANDROSCOGGIN RIVER OVERPASS
MILE 78.9

TO MAINE TURNPIKE AUTHORITY:

The work consists of rehabilitating the Cobbosseecontee Stream Overpass (NB & SB) bridge in the Town of Litchfield/West Gardiner, Maine and repairing the Androscoggin River Overpass (NB & SB) bridges in the City of Lewiston/Town of Auburn, Maine. The work includes concrete deck and steel girder placement, concrete substructure modifications and repairs, approach work and paving, guardrail, bridge rails, substructure concrete repairs, bearing repairs, post tensioning sleeve repairs, maintenance of traffic, and all other work incidental thereto in accordance with the Plans and Specifications.

This Work will be done under a Contract known as Contract 2018.15 according to the Plans and Specifications which are on file in the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine.

On the acceptance of this Proposal for said Work, the undersigned will give the required bond with good security conditioned for the faithful performance of said Work, according to said Plans and Specifications, and the doing of all other work required by said Specifications for the consideration herein named and with the further condition that the Maine Turnpike Authority shall be saved harmless from any and all damages that might accrue to any person, persons or property by reason of the carrying out of said Work, or any part thereof, or by reason of negligence of the undersigned, or any person or persons under his employment and engaged in said Work.

The undersigned hereby declares that he/she has carefully examined the Plans, Specifications and other Contract Documents, and that he/she will contract to carry out and complete the said Work as specified and delineated at the price per unit of measure for each scheduled item of Work stated in the Schedule of Prices as follows:

It is understood that the TOTAL AMOUNT stated by the undersigned in the following Schedule of Prices is based on approximate quantities and will be used solely for the comparison of bids, and that the quantities stated in the Schedule of Prices for the various items are estimates only and may be increased or decreased all as provided in the Specifications.

SCHEDULE OF BID PRICES
CONTRACT NO. 2018.15
Bridge Rehabilitation & Repair
Cobbosseecontee Stream & Androscoggin River Overpass

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
201.31	Removal of Debris	Lump Sum	1				
202.202	Removing Pavement Surface	Square Yard	12,550				
202.2026	Removing Pavement Surface - Drainage Paths	Square Foot	22				
202.206	Removing Rumble Strips	Linear Foot	100				
202.10	Removing Existing Superstructure Property of Contractor	Lump Sum	1				
202.12	Removing Existing Structural Concrete	Cubic Yard	140				
202.13	Removing Existing Railings Retained by Authority	Linear Foot	980				
203.20	Common Excavation	Cubic Yard	930				
203.25	Granular Borrow	Cubic Yard	500				
203.43	Geofoam Lightweight Fill	Cubic Yard	280				
203.45	Leveling Sand	Cubic Yard	69				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
206.082	Structural Earth Excavation - Major Structures, Plan Quantity	Cubic Yard	420				
206.10	Structural Earth Excavation - Piers	Cubic Yard	700				
304.10	Aggregate Subbase Course - Gravel	Cubic Yard	250				
304.14	Aggregate Base Course - Type A	Cubic Yard	230				
403.207	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	Ton	700				
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	Ton	130				
403.2081	Hot Mix Asphalt, 12.5 mm (Polymer Modified) - RAP	Ton	1,300				
403.2084	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals)	Ton	80				
403.212	Hot Mix Asphalt, 4.75 mm Nominal Maximum Size	Ton	210				
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base Course)	Ton	620				
409.15	Bituminous Tack Coat - Applied	Gallon	1,435				
419.30	Sawing Bituminous Pavement	Linear Foot	1,980				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
470.08	Berm Dropoff Correction - Grindings	Ton	16				
470.081	Berm Correction	Linear Foot	1,350				
501.231	Dynamic Loading Test	Each	4				
501.38	Steel H-beam Piles 42 lb/ft, delivered	Linear Foot	510				
501.381	Steel H-beam Piles 42 lb/ft, in place	Linear Foot	510				
501.90	Pile Tips	Each	16				
501.91	Pile Splices	Each	5				
501.92	Pile Driving Equipment Mobilization	Lump Sum	1				
502.219	Structural Concrete, Abutments and Retaining Walls	Lump Sum	1				
502.239	Structural Concrete Piers	Lump Sum	1				
502.24	Structural Concrete Piers (placed under water)	Cubic Yard	310				
502.26	Structural Concrete Roadway and Sidewalk Slab on Steel Bridges	Lump Sum	1				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
502.264	Structural Concrete Parapets	Lump Sum	1				
502.31	Structural Concrete Approach Slab	Lump Sum	1				
503.14	Epoxy-Coated Reinforcing Steel, Fabricated and Delivered	Pound	243,000				
503.15	Epoxy-Coated Reinforcing Steel, Placing	Pound	243,000				
504.702	Structural steel, fabricated and delivered, welded	Lump Sum	1				
504.71	Structural steel erection	Lump Sum	1				
504.885	Post-Tensioning Sleeve Repair	Each	13				
505.08	Shear Connectors	Lump Sum	1				
506.9102	Zinc Rich Coating System (Shop Applied)	Lump Sum	1				
506.9105	Field Touch-Up of Existing Steel	Lump Sum	1				
507.091	Aluminum Bridge Railing, 1 Bar	Lump Sum	1				
508.14	High Performance Waterproofing Membrane	Lump Sum	1				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
511.071	Cofferdam Pier 1 - NB	Lump Sum	1				
511.072	Cofferdam Pier 1 - SB	Lump Sum	1				
511.073	Cofferdam Pier 2 - NB	Lump Sum	1				
511.074	Cofferdam Pier 2 - SB	Lump Sum	1				
511.075	Cofferdam Pier 3 - NB	Lump Sum	1				
511.076	Cofferdam Pier 3 - SB	Lump Sum	1				
514.06	Curing Box for Concrete Cylinders	Each	2				
515.201	Pigmented Protective Coating for Concrete Surfaces	Square Yard	1,400				
515.202	Clear Protective Coating for Concrete Surfaces	Square Yard	4,300				
515.23	Anti-Graffiti Coating	Square Yard	900				
518.40	Epoxy Injection Crack Repair	Linear Foot	355				
518.401	Epoxy Injection Crack Repair - Below Waterline	Linear Foot	485				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
518.51	Repair of Upward Facing Surfaces - Below Reinforcing Steel < 8 inches	Square Foot	67				
518.60	Repair of Vertical Surfaces < 8 inches	Square Foot	2,993				
518.601	Repair of Vertical Surfaces < 8 inches - Below Waterline	Square Foot	55				
518.70	Repair of Overhead Surfaces < 8 inches	Square Foot	91				
520.23	Asphaltic Plug Joint	Linear Foot	160				
520.224	Joint Armor Repair	Lump Sum	1				
523.52	Bearing Installation	Each	60				
523.5401	Laminated Elastomeric Bearings, Fixed	Each	12				
523.54021	PTFE Elastomeric Bearings, Expansion	Each	48				
523.56	Cleaning and Painting Bearing	Each	42				
523.561	Repair Bearing	Each	1				
523.562	Repair Bearing Keeper Strap	Each	10				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
524.301	Temporary Structural Support - Androscoggin Jacking	Lump Sum	1				
524.302	Temporary Structural Support - Cobbosseecontee Girders	Lump Sum	1				
524.303	Temporary Structural Support - Cobbosseecontee Braces	Lump Sum	1				
524.40	Protective Shielding - Steel Girders	Square Yard	2,250				
524.60	Temporary Access Platforms for Pier Inspection and Repair	Lump Sum	1				
526.306	Temporary Concrete Barrier, Type I - Supplied by Authority	Lump Sum	1				
527.301	Energy Absorbing System (CAT) - New	Each	3				
527.341	Work Zone Crash Cushions - TL-3	Unit	3				
603.159	12 inch Culvert Pipe Option III	Linear Foot	148				
603.179	18 inch Culvert Pipe Option III	Linear Foot	65				
603.28	Concrete Collar	Each	3				
604.184	Rebuild Catch Basin to Grade - Type II	Each	9				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
604.242	Catch Basin Type F3	Each	1				
604.40	Secure Catch Basin Grate	Each	2				
606.13	31" W-Beam Guardrail - Mid-Way Splice (7' Steel Post, 8" Offset Blocks, Single Faced)	Linear Foot	1,037.5				
606.1723	Bridge Transition - Type III	Each	4				
606.1724	Bridge Transition - Type III, Modified	Each	2				
606.1351	Terminal End - Anchored End - 31" W-Beam Guardrail	Each	1				
606.279	Terminal End - Anchored End, Thrie Beam	Each	1				
606.353	Reflectorized Flexible Guardrail Marker	Each	3				
606.354	Remove and Reset Reflectorized Flexible Guardrail Marker	Each	3				
606.64	Guardrail Thrie Beam - Double Rail	Linear Foot	1,225				
606.65	Guardrail Thrie Beam - Single Rail	Linear Foot	115				
606.791	Guardrail - Flared Terminal - 31" W-Beam Guardrail	Each	1				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
607.09	Woven Wire Fence - Metal Posts	Linear Foot	120				
607.33	Bracing Assembly, Type II - Metal Post	Each	2				
607.4311	Snow Drift Fence	Linear Foot	280				
609.15	Sloped Curb Type 1	Linear Foot	970				
610.08	Plain Riprap	Cubic Yard	1,108				
610.18	Stone Ditch Protection	Cubic Yard	17				
613.319	Erosion Control Blanket	Square Yard	160				
615.07	Loam	Cubic Yard	310				
618.141	Seeding Method Number 3	Unit	25				
619.1201	Mulch - Plan Quantity	Unit	25				
619.1202	Temporary Mulch	Lump Sum	1				
620.58	Erosion Control Geotextile	Square Yard	85				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
620.70	HDPE Geomembrane	Square Yard	700				
627.712	White or Yellow Pavement Marking Line	Linear Foot	21,600				
627.73	Temporary 6 Inch Pavement Marking Tape	Linear Foot	14,650				
627.731	Temporary 6 Inch Black Pavement Marking Tape	Linear Foot	6,650				
627.77	Removing Existing Pavement Marking	Square Foot	7,850				
627.94	Pavement Marking Tape	Linear Foot	140				
629.05	Hand Labor, Straight Time	Hour	40				
631.10	Air Compressor (including operator)	Hour	30				
631.11	Air Tool (including operator)	Hour	30				
631.12	All Purpose Excavator (including operator)	Hour	20				
631.172	Truck - Large (including operator)	Hour	40				
631.36	Foreman	Hour	20				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
644.10	Glare Screen - Supplied by Authority	Linear Foot	1,100				
652.30	Flashing Arrow	Each	4				
652.312	Type III Barricade	Each	1				
652.33	Drum	Each	206				
652.34	Cone	Each	170				
652.35	Construction Signs	Square Foot	1,510				
652.361	Maintenance of Traffic Control Devices	Lump Sum	1				
652.38	Flaggers	Hour	10				
652.41	Portable-Changeable Message Sign	Each	4				
652.45	Truck Mounted Attenuator	Calendar Day	48				
652.451	Automated Trailer Mounted Speed Limit Sign	Calendar Day	48				
652.46	Temporary Portable Rumble Strip	Unit	48				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
656.50	Baled Hay, in place	Each	20				
656.632	30 inch Temporary Silt Fence	Linear Foot	960				
656.64	Boom Supported Floating Silt Fence	Linear Foot	418				
659.10	Mobilization	Lump Sum	1				
TOTAL:							

Acknowledgment is hereby made of the following Addenda received since issuance of the Plans and Specifications: _____

Accompanying this Proposal is an original bid bond, cashiers or certified check on _____ Bank, for _____, payable to the Maine Turnpike Authority. In case this Proposal shall be accepted by the Maine Turnpike Authority and the undersigned should fail to execute a Contract with, and furnish the security required by the Maine Turnpike Authority as set forth in the Specifications, within the time fixed therein, an amount of money equal to Five (5%) Percent of the Total Amount of the Proposal for the Contract awarded to the undersigned, but not less than \$500.00, obtained out of the original bid bond, cashier's or certified check, shall become the property of the Maine Turnpike Authority; otherwise the check will be returned to the undersigned.

The performance of said Work under this Contract will be completed during the time specified in Subsection 107.1.

It is agreed that time is of the essence of this Contract and that I (we) will, in the event of my (our) failure to complete the Work within the time limit named above, pay to Maine Turnpike Authority liquidated damages in the amount or amounts stated in the Specifications.

The undersigned is an Individual/Partnership/Corporation under the laws of the State of _____, having principal office at _____, thereunto duly authorized.

_____ (SEAL)

_____ (SEAL)

*Affix Corporate Seal
or Power of Attorney
Where Applicable*

_____ (SEAL)

By: _____

Its: _____

Information below to be typed or printed where applicable:

INDIVIDUAL:

(Name) (Address)

PARTNERSHIP - Name and Address of General Partners:

(Name) (Address)

(Name) (Address)

(Name) (Address)

(Name) (Address)

INCORPORATED COMPANY:

(President) (Address)

(Vice-President) (Address)

(Secretary) (Address)

(Treasurer) (Address)

MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
YORK TO AUGUSTA
CONTRACT AGREEMENT

This Agreement made and entered into between the Maine Turnpike Authority, and sometimes termed the "Authority", and _____

_____ herein termed the "Contractor":

WITNESSETH: That the Authority and the Contractor, in consideration of the premises and of the mutual covenants, considerations and agreements herein contained, agree as follows:

FIRST: The parties hereto mutually agree that the documents attached hereto and herein incorporated and made a part hereof collectively evidencing and constituting the entire Contract to the same extent as if herein written in full, are the Notice to Contractors, the Accepted Proposal, the Specifications, the Plans, this Agreement, the Contract Bond and all Addenda to the Contract Documents duly issued and herewith enumerated:

SECOND: The Contractor for and in consideration of certain payments to be made as hereafter specified, hereby covenants and agrees to perform and execute all of the provisions of this Contract and of all documents and parts attached hereto and made a part thereof, and at his own cost and expense to furnish and perform everything necessary and required to construct and complete, ready for its intended purpose, in accordance with the Contract and such instructions as the Engineer may give, acceptable to the Authority, in the times provided, all of the Work covered and included under Contract No. _____ covering _____ as herein described.

THIRD: In consideration of the performance by the Contractor of his covenants and agreements as herein set forth, the Authority hereby covenants and agrees to pay the Contractor according to the Schedule of Prices set forth in the Proposal with additions and deductions as elsewhere herein provided in the times and in the manner stated in the Specifications. This Agreement shall insure to the benefit of, and shall be binding upon the parties hereto, and upon their respective successors and assigns; but neither party hereto shall assign or transfer his interest herein in whole or in part without the consent of the other, except as herein provided.

IN WITNESS WHEREOF the parties to this Agreement have executed the same in quintuplicate.

AUTHORITY -

MAINE TURNPIKE AUTHORITY

By: _____

Title: CHAIRMAN

Date of Signature: _____

ATTEST:

Secretary

CONTRACTOR -

CONTRACTOR

By: _____

Title: _____

Date of Signature: _____

WITNESS:

CONTRACT BOND

KNOW ALL MEN BY THESE PRESENTS that _____
of _____ in the County of _____ and 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 Maine Turnpike Authority in the sum of _____ Dollars (\$_____.____),
to be paid to said Maine Turnpike Authority, or its successors, for which payment, well and truly
to be made, we bind ourselves, our heirs, executors, successors and assigns jointly and severally
by these presents.

The condition of this obligation is such that the Principal, designated as Contractor in the
foregoing Contract No. _____ shall faithfully perform the Contract on his part and
satisfy all claims and demands incurred for the same and shall pay all bills for labor, material,
equipment and all other items contracted for, or used by him, in connection with the Work
contemplated by said Contract, and shall fully reimburse 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.

Signed and sealed this _____ day of _____, A.D., 201____

Witnesses:

CONTRACTOR

_____ (SEAL)

SURETY

_____ (SEAL)

(Surety must attach copy of Power of Attorney showing authority of Office or Agent to execute bonds)

FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT

Upon receipt of the sum of _____, which sum represents the total amount paid, including the current payment for work done and materials supplied for Project No. _____, in _____, Maine, under the undersigned's Contract with the Maine Turnpike Authority.

The undersigned, on oath, states that the Final Payment of _____ is the final payment for all work, labor, materials, services and miscellaneous (all of which are hereinafter referred to as "Work Items") supplied to the said Project through _____ and that no additional sum is claimed by the undersigned respecting said Project.

The undersigned, on oath, states that all persons and firms who supplied Work Items to the undersigned in connection with said Project have been fully paid by the undersigned for such Work Items or that such payment will be fully effected immediately upon receipt of this payment.

In consideration of the payment herewith made, the undersigned does fully and finally release and hold harmless the Maine Turnpike Authority, and its Surety, if any, from any and all claims, liens or right to claim or lien, arising out of this Project under any applicable bond, law or statute.

It is understood that this Affidavit is submitted to assure the Owner and others that all liens and claims relating to the Work Items furnished by the undersigned are paid.

(Contractor)

By: _____

Title: _____

State of MAINE
County of _____

I, _____, hereby certify on behalf of _____
(Company Officer) *(Company Name)*
its _____, being first duly sworn and stated that the foregoing representations are
(Title)
are true and correct upon his own knowledge and that the foregoing is his free act and deed in said capacity
and the free act and deed of the above-named

(Company Name)

The above-named, _____, personally appeared before me this ____ day of _____ and swears that this is his free act and deed.

(SEAL)

Notary Public
My Commission Expires: _____

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART I – SUPPLEMENTAL SPECIFICATIONS

(Rev. November 10, 2016)

Supplemental Specifications available on the Maine Turnpike Authority website

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART II – SPECIAL PROVISIONS

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MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART II - SPECIAL PROVISIONS

All work shall be governed by the Maine Department of Transportation Standard Specifications, Revision of November 2014, except for that work which applies to sections of the Maine Department of Transportation Standard Specifications which are amended by the Maine Turnpike Supplemental Specifications and the following modifications, additions and deletions.

General Description of Work

The work consists of rehabilitating the Cobbosseecontee Stream Overpass (NB & SB) bridge in the Town of Litchfield/West Gardiner, Maine and repairing the Androscoggin River Overpass (NB & SB) bridges in the City of Lewiston/Town of Auburn, Maine. The work includes concrete deck and steel girder placement, concrete substructure modifications and repairs, approach work and paving, guardrail, bridge rails, substructure concrete repairs, bearing repairs, post tensioning sleeve repairs, maintenance of traffic, and all other work incidental thereto in accordance with the Plans and Specifications.

Plans

The drawings included in these Contract Documents, and referred to as the Plans, show the general character of the work to be done under this Contract. They bear the general title “Maine Turnpike - Contract 2018.15 - Bridge Rehabilitation - Cobbosseecontee Stream Overpass - Mile 99.2 - Bridge Repairs - Androscoggin River Overpass - Mile 78.9”. The right is reserved by the Resident to make such minor corrections or alterations in the Plans as he deems necessary without change in the unit prices on the Schedule of Prices of the Proposal.

101.2 Definition

Holidays

The following is added after Memorial Day in the Supplemental Specifications:

Christmas 2018	12:00 p.m. preceding Monday noon to 6:00 a.m. the following Wednesday.
New Years 2019	6:00 p.m. preceding Monday to 6:00 a.m. the following Wednesday.
Independence Day 2019 (Fourth of July)	12:01 p.m. preceding Wednesday to 6:00 a.m. the following Friday.
Christmas 2019	12:00 p.m. preceding Tuesday noon to 6:00 a.m. the following Thursday.

New Years 2020	6:00 p.m. preceding Tuesday to 6:00 a.m. the following Thursday.
Independence Day 2020 (Fourth of July)	12:01 p.m. preceding Thursday to 6:00 a.m. the following Monday.
Christmas 2020	12:00 p.m. preceding Thursday noon to 6:00 a.m. the following Saturday.
New Years 2021	6:00 p.m. preceding Thursday to 6:00 a.m. the following Saturday.

103.4 Notice of Award

The following sentence is added:

The Maine Turnpike Authority Board is scheduled to consider the Contract Award on September 6, 2018.

104.3.8 Wage Rates and Labor Laws

Section 104.3.8 Wage Rates and Labor Laws has been amended as follows:

The fair minimum hourly rates determined by the State of Maine Department of Labor for this Contract are as follows:

THIS DOCUMENT MUST BE CLEARLY POSTED AT THE PERTAINING STATE FUNDED PREVAILING WAGE CONSTRUCTION SITE

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

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

Title of Project -----2018.15-Bridge Repair-Androscoggin River Overpass-Mile 78.9 and Bridge Rehabilitation-Cobbosseecontee Stream Overpass-Mile 99.2
Location of Project --Lewiston, Auburn, Litchfield, West Gardiner in Androscoggin, Kennebec Counties

2018 Fair Minimum Wage Rates
Heavy & Bridge Androscoggin-Kennebec County

Table with 8 columns: Occupation Title, Minimum Wage, Minimum Benefit, Total, Occupation Title, Minimum Wage, Minimum Benefit, Total. Lists various construction jobs and their corresponding wage and benefit rates.

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

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

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

Posting of Schedule - Posting of this schedule is required in accordance with 26 MRSA §1301 et. seq., by any contractor holding a State contract for construction valued at \$50,000 or more and any subcontractors to such a contractor.

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

Determination No: HB-044-2018

A true copy

Filing Date: July 12, 2018

Attest: [Signature]

Scott A. Cotnoir
Wage & Hour Director

Expiration Date: 12-31-2018

BLS(Heavy & Bridge Androscoggin-Kennebec)

THIS DOCUMENT MUST BE CLEARLY POSTED AT THE PERTAINING STATE FUNDED PREVAILING WAGE CONSTRUCTION SITE

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

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

Title of Project -----2018.15-Bridge Repair-Androscoggin River Overpass-Mile 78.9 and Bridge Rehabilitation-Cobbosseecontee Stream Overpass-Mile 99.2
Location of Project --Lewiston, Auburn, Litchfield, West Gardiner in Androscoggin, Kennebec Counties

2018 Fair Minimum Wage Rates
Highway & Earth Androscoggin, Kennebec Counties

Table with 8 columns: Occupation Title, Minimum Wage, Minimum Benefit, Total, Occupation Title, Minimum Wage, Minimum Benefit, Total. Lists various construction jobs and their corresponding wage and benefit rates.

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

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

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

Posting of Schedule - Posting of this schedule is required in accordance with 26 MRSA §1301 et. seq., by any contractor holding a State contract for construction valued at \$50,000 or more and any subcontractors to such a contractor.

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

Determination No: HI-136-2018

A true copy

Filing Date: July 12, 2018

Attest: [Signature]

Scott A. Cotnoir
Wage & Hour Director

Expiration Date: 12-31-2018

BLS(Highway & Earth Androscoggin, Kennebec Counties)

104.4.6 Utility Coordination

This Subsection is amended by the addition of the following:

These Special Provisions outline the arrangements which have been established by the Authority for coordination of the work to be accomplished by the utilities. The scope and schedule of utility relocation work is noted herein. The Contractor shall plan and conduct his work accordingly.

General

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

The Contractor shall plan and conduct his operations in accordance with the following utility schedule. The Contractor must comply with all OSHA regulations pertaining to work adjacent to utility wires. The Contractor shall plan and conduct his work accordingly.

The following utilities are located within the Project limits. The Contractor shall ascertain the location of the existing utilities and any other necessary information by direct inquiry at the office of the following utility owners:

AERIAL UTILITIES

SPECTRUM CABLE

Spectrum Cable is located within the Project Limits along Riverside Drive parallel with the southern abutment of the Androscoggin River Bridge. Spectrum Cable is the top 2 cables and their lines are just below the girders today. It is anticipated that the proposed work will have no impact on the existing lines, the Contractor should take note that the aerial lines restrict clearance for accessing the southern abutment.

Spectrum Cable
37 Alfred Plourde Parkway
Lewiston, ME 04240
ATTN: Mr. Paul Ouellette
paul.ouellette@roadrunner.com

CONSOLIDATED COMMUNICATIONS

Consolidated Communications is located within the Project Limits along Riverside Drive parallel with the southern abutment of the Androscoggin River Bridge. Consolidated is the bottom two cables just below Spectrum Cable. It is anticipated that the proposed work will have no impact on the existing lines, the Contractor should take note that the aerial lines restrict clearance for accessing the southern abutment.

FairPoint Communications
5 Davis Farm Road, Floor 2
Portland, ME 04103
ATTN: Mrs. Deborah Murphy
dmurphy@fairpoint.com

FEDERAL ENERGY REGULATORY COMMISSION PROJECT BOUNDARIES

BROOKFIELD RENEWABLE ENERGY

Brookfield Renewable Energy owns and operates a series of hydroelectric dams on the Androscoggin River that are located upstream and downstream from the Androscoggin River Bridges. Brookfield's licensing agreements with their regulating agencies generally required an easement be obtained by the MTA for construction. The Contractor is advised that actual water depths will vary from the provided approximate water depths based on a variety of factors including, but not limited to, unforeseen maintenance and repairs necessary at Brookfield's facilities and weather events. The Contractor should plan for variations in water elevations and develop his bid accordingly. The Contractor shall coordinate with representatives from Brookfield's regularly throughout the project while pier repair work is being completed at the Androscoggin River Bridges. All communications with Brookfield should be channeled through the Resident until after the preconstruction meeting where primary contacts will be established.

Brookfield Renewable Energy
259 Switzerland Road
Lewiston, ME 04240
ATTN: Peter Bragdon
peter.bragdon@brookfieldrenewable.com

104.4.7 Cooperation With Other Contractors

This Subsection is amended by the addition of the following:

Adjacent contracts currently scheduled for the 2019 and 2020 construction season include:

MTA Contract 2019.11 – Webster Road Underpass Bridge Repair MM 82.7

MTA Contract TBD – Grove Street Underpass Bridge Repair MM 83.7

MTA Contract TBD – Route 197 Underpass Bridge Repair MM 93.3

MTA Contract 2019.11 – Plains Road Underpass Bridge Repair MM 95.6

MTA Contract TBD – Exit 102 Gardiner/Litchfield Underpass MM 102.0

MTA Contract 2018.05 – Exit 103 I-295 Southbound Underpass MM 102.5

MTA Contract 2019.04 – West Gardiner I-295 Toll Plaza Replacement MM 103.0

105.2.4.2 Lead Paint

The Contractor shall note that the existing Androscoggin River Overpass bridges contain lead based paint. A copy of the Lead Determination Report is attached as **Appendix A**. The Contractor shall presume that the existing Cobbosseecontee Stream Overpass bridges contain lead based paint. Paint samples were not taken on these structures therefore Lead Determination Reports are not available. The Contractor shall institute every precaution when working with materials coated with lead based paints.

At the Contractor's option, the Contractor may have the bridge paint sampled and analyzed. Each pair of structures would require the fascia girders and the interior girders be sampled. Should the Contractor's testing demonstrate the girders are not lead based paint the requirements of this section are waived.

Lead Paint Removal

The Contractor is required to remove and dispose of lead based paint and paint residue before cutting, grinding, drilling and sandblasting existing materials in preparation of completing the work except as provided under the Drilling of Lead Based Paint subsection in this Special Provision. All lead based paint and paint residue shall be removed, handled, stored and disposed of in conformance with all local, State and Federal laws and regulations governing lead based paint. The Contractor may use his own properly trained employees to abate the lead based paint in accordance with applicable regulations and requirements; or he may hire a licensed lead abatement subcontractor to abate the lead based paint in accordance with applicable regulations and requirements.

The Contractor, or licensed lead abatement subcontractor, shall submit a Project specific Health and Safety (OSHA) Plan and a Hazardous Waste Management Plan (EPA/DEP) a minimum of two (2) weeks prior to undertaking the removal of lead based paint.

Drilling of Lead Based Paint

The Contractor may drill lead based painted steel, without lead based paint removal, provided the Contractor collects and recycles the drill cuttings at a licensed metal recycling facility. If the Contractor chooses not to collect and recycle the drill cuttings at a licensed metal recycling facility he will be required to abate the area where drilling is to occur in full accordance with the lead based paint removal, storage and disposal requirement of this Special Provision.

The Authority will require a signed statement from the Contractor stating the drill cuttings were collected and recycled at a licensed metal recycling facility and the name the recycling facility.

Health and Safety Plan

The Health and Safety Plan submittal shall describe how the Contractor/licensed lead abatement subcontractor intends to remove the lead based paints; and shall outline how the Contractor/licensed lead abatement subcontractor will adhere to all Federal, State and local ordinances which govern worker (including authorized representatives of the Authority) exposure to lead based paints, and ensure the safety of the workers performing lead removal. Copies of

current worker training certificates (OSHA), medical screenings, and respirator fit up shall be included in the submittal.

Hazardous Waste Management Plan

The Hazardous Waste Management Plan submittal shall describe how the Contractor/licensed lead abatement subcontractor intends to manage the hazardous waste that will be generated, temporarily accumulated, stored, transported off-site and disposed; adhere to ordinances associated with the management of hazardous wastes; and ensure protection of the environment.

The Hazardous Waste Management Plan shall:

- a) Be signed by the Contractor;
- b) State whether Contractor or licensed lead abatement subcontractor will be undertaking the work; and,
- c) State whether abated lead materials will be accumulated and stored on-site (required if Contractor is not licensed by DEP/EPA to transport and temporarily store lead based hazardous waste), or be removed in HEPA vacuums daily to the removal Contractor's licensed waste storage facility (permitted only if Contractor is licensed by DEP/EPA to transport and temporarily store lead based hazardous waste).

If abated lead materials are to be accumulated and stored on-site, the Hazardous Waste Management Plan shall include (at a minimum) the following:

- Container size and labeling standards:
 - Containers must be 55 gallons or less
 - Containers must have the labeled "HAZARDOUS WASTE"
- Accumulation requirements:
 - Labels will include accumulation start date and container full date
 - On-site storage will not exceed 180 days from full date
 - Total on-site storage shall not exceed 55 gallons or 220 pounds
- Inspections (including frequency and checklist):
 - Inspections shall be performed each day the Contractor works
 - Inspection checklist shall be similar to MaineDEP format (Refer to MaineDEP Handbook for Hazardous Waste Generators – January 2008)
- Transport and DOT "pre-transport requirements":
 - Specify the licensed hazardous waste transporter to be used
 - Obtain Generator's EPA ID No. (typically a provisional ID # is obtained through the licensed hazardous waste transporter)
 - USDOT – approved containers must be used for shipment
 - Schedule MTA for signing Hazard Waste Manifest
- Recordkeeping requirements:
 - Describe where at the jobsite the required records (e.g., inspection logs, training records, Lead Determination report/hazardous waste characterization, etc.) will be maintained

- Describe how and when copies of the required documents specified above will be transferred to the MTA Environmental Services Coordinator's office

The Contractor/licensed lead abatement subcontractor, shall provide documentation to the MTA that the employees who will be removing, handling, managing and/or directly supervising the hazardous waste operations have received required Resource Conservation and Recovery Act (RCRA) hazardous waste management training, and all training is current.

The lead based hazardous waste must remain on-site, unless the removal is being performed by a licensed lead abatement subcontractor that collects the paint residue in HEPA vacuums and is licensed by DEP/EPA to transport and temporarily store lead based hazardous waste at the removal Contractor's licensed waste storage facility. Both on-site and licensed off-site lead based hazardous waste storage facilities require secure storage and daily inspection of the stored waste.

If the removal Contractor is not licensed by DEP/EPA to transport and temporarily store lead based hazardous waste off-site, then an EPA licensed Hazardous Waste transporter(s) shall be used to remove hazardous waste from the site. All removal and disposal documentation will be required when the hazardous waste leaves the site. As the Generator, only the Authority's Environmental Services Coordinator or his trained designee shall sign waste manifests when material is removed from the Project site.

The removal, storage, handling, transporting, and disposal of lead based paint and lead based paint residue will not be measured separately for payment, but shall be incidental to the various Contract work items.

105.8.2 Permit Requirements

The Androscoggin River Overpass is being constructed under the Maine Department of Environmental Protection (MDEP) Natural Resources Protection Act Permit by Rule regulations Section 11 – State Transportation Facilities, updated June 8, 2012. A copy of the Section 11 – State Transportation Facilities Permit by Rule regulations are attached in **Appendix B**.

The Cobbosseecontee Stream Overpass is being constructed under the Maine Department of Environmental Protection (MDEP) Natural Resources Protection Act Permit by Rule regulations Section 11 – State Transportation Facilities, updated June 8, 2012. The permit expands the in-water work window at Cobbosseecontee Stream by allowing in-water construction the full duration of the project construction schedule. A copy of the Section 11 – State Transportation Facilities Permit by Rule regulations are attached in **Appendix B**.

The Cobbosseecontee Stream Overpass is also being permitted under Section 404 of the Clean Water Act, through the US Army Corps of Engineers Programmatic General Permit, Category 2. The permit expands the in-water work window at Cobbosseecontee Stream by allowing in-water construction the full duration of the project construction schedule. Final permit authorization is anticipated by September 14, 2018, work in the wetlands and water may not occur until authorization is received. An Addendum will be issued acknowledging receipt or denial of the permit; providing the actual US Army Corps of Engineer's permit conditions; and providing Plan and Specification changes (if required) to adjust the Project schedule or phasing to meet the permit requirements. A copy of the un-authorized General Permit is attached in **Appendix C**. A

signed copy of the Category 2 Notification Form must be sent to the Army Corps Maine Project Office at least two weeks before work commences.

The Project is subject to the requirements of the Maine Pollutant Discharge Elimination System (MPDES) General Permit for Stormwater Discharge from Construction Activity, as promulgated by the US Environmental Protection Agency (US EPA) and Administrated by the Maine Department of Environmental Protection (DEP).

A Notice of Intent (NOI), accompanied by a preliminary Limit of Disturbance (LOD) plan was submitted by the Authority to the DEP for coverage under the Maine Construction General Permit (MCGP). Compliance with the erosion and sedimentation control requirements outlined in this Contract is required by the Contractor.

The Contractor shall prepare a LOD plan illustrating the Contractor's proposed limit of earthwork disturbance. The LOD plan shall show all construction access locations, field office locations, material and temporary waste storage locations, as well as include the Contract limits of earthwork disturbance. All applicable erosion and sedimentation control devices needed shall be detailed on the Contractor's LOD plan and are not limited to those devices shown on the Contract LOD plan. **This Plan shall be submitted for review and approval, to the Resident within 14 days of Contract award.** Payment for creating, revising, and completing this plan shall be incidental to Item 659.10, Mobilization.

The LOD for this Contract has been estimated to be 1.46 acres at Cobbosseecontee Stream Overpass and less than 0.10 acres at Androscoggin River Overpass.

At any time during the Contract, if the Limit of Disturbance needs to be adjusted to accommodate construction activities, the Contractor shall resubmit the LOD plan (including any additional erosion and sedimentation control measures needed) to the Resident for review and approval prior to any additional disturbance taking place:

- If the cumulative area of disturbance exceeds the estimated LOD noted above, by less than one acre, the Resident shall have a minimum of five (5) working days to approve the revised LOD plan.
- If the cumulative area of disturbance exceeds the estimated LOD noted above, by over one acre, the Resident shall first approve of the plan and then possibly resubmit the NOI for MaineDEP approval. The approval may take a minimum of 21 working days.

Compliance with the erosion and sedimentation control requirements outlined in this Contract is required by the Contractor.

This Project is also subject to the requirements of the Maine Pollutant Discharge and Elimination System (MPDES) General Permit for the Discharge of Stormwater from MTA's Municipal Separate Storm Sewer Systems (MS4), because it is located within an Urbanized Area (UA) as defined by the 2000 census by the U.S. Bureau of the Census. MS4 compliance requires all Contractors to be properly trained in Erosion and Sedimentation Control (ESC) measures (as per Supplemental Specifications Subsections 105.8.1 and 656.07) and implement measures to reduce pollutants in stormwater runoff from construction activities. Refer to **Appendix D** for MS4 requirements and the Contractors Signature of Acknowledgement.

105.8.3 Wetland and Water Body Impacts

The following locations are classified as streams:

Androscoggin River	3989+37
Cobbosseecontee Stream	5065+77

Prior to starting work, the Contractor shall submit for approval a detailed construction plan for each stream location. The plan shall outline the schedule, equipment, access plan and materials the Contractor will utilize to complete the work.

107.1 Contract Time and Contract Completion Date

This Subsection is amended by the addition of the following:

All work shall be completed on or before June 4, 2021. The joint repair for the Androscoggin River Overpass shall be complete by November 2, 2018. The remaining repairs for the Androscoggin River Overpass shall be substantially complete by November 15, 2019. The construction for the Cobbosseecontee Stream Overpass shall be substantially complete by November 13, 2020.

107.1.1 Substantial Completion

This Subsection is amended by the addition of the following:

Substantially complete for Androscoggin River Overpass shall be defined by the Authority as the following:

- All Contract work complete with the exception of punchlist work.
- All temporary concrete barrier, traffic control devices, and temporary pavement markings shall be removed from the mainline.

Substantially complete for Cobbosseecontee Stream Overpass shall be defined by the Authority as the following:

- All bridge deck work, including parapet, surface pavement, and guardrail installation including attachments complete and available for traffic.
- Northbound and Southbound bridges fully opened to traffic including shoulders, guardrail, surface pavement and signage. This includes median openings restored and signs uncovered.

Supplemental Liquidated damages on a calendar day basis in accordance with Subsection 107.8 shall be assessed for each calendar day that substantial completion is not achieved and as outlined below in Subsection 107.4.6 Prosecution of Work.

107.3.2 Night Work

The Contractor shall be responsible to determine and adhere to the local regulations pertaining to night work time restrictions and noise limitations. The Contractor shall plan his work accordingly.

107.4.6 Prosecution of Work

The following activities must be completed by the date specified:

- a. All Contract work that requires in-water work in the Androscoggin River shall be completed between July 15, 2019 and October 1, 2019.
- b. All work related to the snow drift fence at the Cobbosseecontee Stream Overpass shall be completed as part of phase I. Traffic shall not be switched to phase II until the snow drift fence has been installed and accepted.

The Contractor shall submit to the Authority a construction schedule which shall document that the Contractor has the necessary labor and equipment to work immediately and continuously at the project site once the long term lane closures are implemented. The intent of this specification is to minimize the amount of time for bridge closure and maintenance of traffic, while providing the Contractor sufficient time to complete the work in a diligent manner and reopen the bridge as prescribed by the project's Substantial Completion date.

107.4.7 Limitations of Operations

There shall be no pipe pile or sheet pile driving during non-daylight hours. Pile driving will not be allowed within 10 feet of traffic.

Temporary access for pier construction must comply with the following:

- No infilling of the river or side slopes below the ordinary high water elevation;
- Maintain the existing water flow in the river; and,
- Temporary construction impacts must remain within the areas shown on the permit plans (**Appendix B & C**) and areas must be restored to original condition upon completion.

Traffic shall be maintained as described in Section 652.

The Contractor will not be permitted to place and remove temporary pavement markings on the final lift of surface pavement. The final surface lift of pavement shall be placed utilizing temporary lane closures once all concrete barrier has been removed.

Care shall be taken when working near catch basins and bridge drains to ensure foreign material and contaminants do not enter. The deck shall be maintained such that debris cannot leave the deck via the drains and enter the river. If foreign material and/or contaminants do enter the basin they shall be removed prior to the material exiting the basin into a waterway. Removal shall be completed to the satisfaction of the Resident and payment shall be incidental to the Contract.

The Contractor will not be permitted to install cofferdams or otherwise dewater the work area(s) in order to complete the work at the Androscoggin River Overpass.

The Contractor shall be responsible for sequencing all underwater repair work in a manner that minimizes the amount of site visits required by the Authority's third-party inspection firm to the extent practical. The Authority reserves the right to postpone the inspection of small and/or isolated repair areas until such time that the required underwater inspection efforts warrant mobilization of the inspection crew. Postponement of the inspection work by the Authority shall not entitle the Contractor to an adjustment for delay.

During jacking of the Androscoggin River Overpass Northbound bridge at the northern abutment a travel lane closure with temporary concrete barrier shall be in place while the temporary support is in place to minimize live load forces.

Temporary concrete barrier that is placed on new approach pavement shall be placed in a way that protects the new pavement from damage. Any damage to the pavement caused by the temporary concrete barrier use shall be repaired by the Contractor at no cost to the Authority. Alternatively, the Contractor may elect to shorten temporary concrete barrier layout lengths to avoid placement on new pavement.

SPECIAL PROVISION

SECTION 201

CLEARING RIGHT-OF-WAY

(Removal of Debris)

201.01 Description

The following paragraphs are added:

This work shall include the removal and disposal of debris (including timber, tree branches, tires, rubbish, etc.) that has accumulated in the Androscoggin River waterway, above and below the waterline. This work includes removal of a single tree trunk measuring approximately 4' in length that is lodged against the north nose of Pier 3.

201.03 General

The following paragraphs are added:

All work shall be in accordance with Maine Department of Environmental Protection's Chapter 305 Permit by Rule – Section 12 – Restoration of Natural Areas.

The means and methods to access the work and remove the debris shall be at the Contractor's option, and may include crane and grapple bucket, long reach excavator, cable skidder, laborers, divers, work boats, etc. Wheeled or tracked equipment may not operate in the water. Explosives may not be used. The debris may not be burned in place, or dislodged and floated downstream.

The Contractor shall remove one hundred percent (100%) of the debris from the bottom of the river (mud line or riprap surface) in the designated area; keeping as little as possible from floating downstream. Debris embedded in the mud that cannot be pulled-out shall be cut-off no greater than three inches above the mud line. Small tree branches less than two inches in diameter and less than three feet in length need not be removed, provided they are lying flat on the river bottom.

The Contractor may visit the site to make his own determination as of the quantity of debris to be removed from the bridge site and disposed of.

The work may be performed from the Androscoggin River bridge deck and roadway, the bridge embankments, the Androscoggin River or any combination thereof. The Contractor will be responsible for all site access, traffic control devices and maintenance of traffic control devices. Lane and shoulder and lane closures will be allowed only when permitted in Special Provision 652, Maintenance of Traffic (Specific Project Maintenance of Traffic).

All debris and other material removed shall be disposed of outside the limits of the Turnpike right-of-way. The Contractor shall provide the Resident with an affidavit stating the

final location of all disposed material and that the material was disposed in accordance with the Maine Department of Environmental Protection Solid Waste Regulations.

See Section 105.8.1, Temporary Soil Erosion and Water Pollution Control, and Section 656, Temporary Soil Erosion and Water Pollution Control, as they apply to work under this Section.

201.09 Method of Measurement

The following paragraphs are added:

Removal of debris will be paid for at the Contract lump sum price, which payment will be full compensation for removal, transportation and disposal of the debris at Contract commencement, completion, and any other times necessary. Payment also includes furnishing all equipment, labor and incidentals necessary to complete the work.

201.10 Basis of Payment

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
201.31 Removal of Debris	Lump Sum

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Pavement Surface)

202.01 Description

The following sentences are added:

This work shall also consist of removing the surface of the bituminous concrete pavement in all locations to the depth, width, grade, and cross section on the mainline as shown on the Plans or as directed by the Resident.

Removal of the pavement and membrane surface from the bridge decks shall be completed by scraping or other methods that will not damage the existing concrete deck surface. Milling of bridge deck pavement shall not be allowed.

Removal of approach pavement shall be completed through the use of a milling machine. The milling machine(s) shall be capable of accurately establishing profile grades by referencing from a floating straight edge, a minimum of 30 feet.

Areas requiring shim pavement to reach final pavement grade shall not be milled.

This work shall also consist of construction of temporary ramps at all butt joints as shown in the MaineDOT Standard Details, November 2014 Edition – Pavement Overlay Butt Joint Detail (Roadways), Page 202(01) or as approved by the Resident. The length of the temporary ramp shall be at least 1/2 L.

The following subsection is added:

202.032 Removing Bridge Pavement Surface and Membrane

All bridge deck pavement, membrane and scrapings shall be disposed of by the Contractor off of the turnpike right-of-way in accordance with the Maine Department of Environmental Protection Solid Waste Management Requirements.

The following paragraph is added:

Extreme care shall be taken to avoid damaging the existing concrete or bituminous pavement intended to remain. All existing bituminous pavement and bridge deck concrete, intended to remain, damaged by the Contractor's removal operations shall be repaired by the Contractor as approved by the Resident at no additional cost to the Authority.

202.061 Removing Pavement Surface

This Subsection is deleted and replaced with the following:

The equipment for removing the bituminous surface, excluding bridge decks, shall be a power-operated milling machine or planer capable of removing the bituminous concrete pavement to the required depth, transverse cross slope, and profile grade by use of an automated grade and slope control system. The controls shall automatically increase or decrease the pavement removal depth as required, and readily maintain desired cross slope to compensate for surface irregularities in the existing pavement course. The mill head on the machine shall have a maximum 8mm tooth spacing pattern and a minimum triple wrap configuration. The milling machine shall be capable of accurately establishing profile grades by referencing from a floating straight edge, minimum of 30± feet. The equipment shall also have an effective means for removing excess material from the surface and preventing flying material in compliance with Subsections 105.2.5 Compliance with Health and Safety Laws and 105.2.6 Convenience of the Public, of the Specification.

The Contractor shall operate the milling machine such that the forward operating speed of the machine in feet per minute (fpm) does not exceed 65% of the mill head in revolutions per minute (rpm). i.e. 100 rpm head speed equals maximum forward operating speed of 65 fpm. The Contractor shall avoid stopping the milling operation during truck exchanges by staging the haul units accordingly.

The Contractor shall locate, identify and remove all objects in the pavement through the work area that would be detrimental to the milling machine.

The Contractor shall be responsible for the layout of the longitudinal centerline between the travel lane and passing lane.

The finished milled surface will be inspected before being accepted, and any deviations in the profile exceeding 3/8 inch under a 16 foot string line or straightedge placed parallel to the centerline will be corrected. Any deviations in the cross slope that exceed 3/8 inch under a 10 foot string line or straightedge placed transversely to the centerline will be corrected. In no case shall the cross slope in a single lane width be inverted resulting in a depression as measured transverse to the direction of travel. Any cross slope inversions or depressions shall be corrected by spot shimming the area with HMA as directed by the resident prior to installing any leveling or wearing course. These corrections shall be done with no additional expense to the Authority.

All surplus pavement grindings, shall be disposed of by the Contractor off the turnpike right-of-way. All grindings shall be disposed of in accordance with the Maine Department of Environmental Protection Solid Waste Management Requirements.

202.07 Method of Measurement

The removal of existing bituminous concrete pavement – mainline will be measured by the square yard of material removed to the required depth.

The following sentences are added:

Transporting and stockpiling of the pavement grindings at the maintenance facilities will not be measured separately for payment, but shall be incidental to the Removing Pavement Surface items.

Installation of temporary bituminous ramps will not be measured separately for payment, but shall be incidental to the Contract.

Removal of temporary bituminous ramps will not be measured separately for payment, but shall be incidental to the Contract.

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Pavement Surface – Drainage Paths)

202.01 Description

The following paragraphs are added:

This work shall consist of grinding drainage paths in the existing inside and outside bituminous shoulders on the mainline and interchange ramps. The depth shall match the elevation of the adjacent milled travel lane. Locations and lengths of removal shall be as shown on the Plans or as directed by the Resident.

This work shall also consist of repaving the shoulder drainage paths with bituminous pavement to match the existing grades on each side of the drainage path to coincide with the paving operation of the adjacent travel lane as shown on the Plans or as directed by the Resident.

The following Subsection is added:

202.011 Materials

Grinding shall be done in accordance with Section 202.

Bituminous pavement shall conform to Section 401, Hot Mix Asphalt, 12.5 mm.

Bituminous tack coat shall conform to Section 409.

Joint sealant shall conform to Federal Specifications SS-S-1401C.

202.06 Removing Bituminous Concrete Pavement

This Subsection is deleted and replaced with the following:

The drainage paths shall be milled concurrently with the adjacent travel lane milling. The drainage paths shall be located such that they include all of any milled section of an impacted rumble strip.

The drainage paths shall be installed at the roadway low points of the sag vertical curves and at 500 foot intervals in both the outside and inside shoulders. Drainage paths shall not be installed within 500 feet of the crest of a vertical curve. The drainage paths shall extend from the edge of the milled travel lane (Lane 2) and daylight six feet into the outside shoulder and from the edge of the milled passing lane (Lane 1) and the edge of pavement (4'-0") without guardrail.

All grindings shall be disposed of in accordance with the Maine Department of Environmental Protection Solid Waste Management Requirements.

The Contractor may request that the Resident waive the requirement for the installation of drains at 500 foot intervals. The Resident will consider the weather forecast as well as the Contractor’s proposed paving schedule when reviewing the request.

The tapered sides of the outside drainage paths shall be milled to form a vertical face prior to paving. The drainage paths shall be joint sealed, tack coated, and paved concurrently with the adjacent lane.

The Contractor shall not be required to replace the shoulder rumble strips removed for the drainage paths.

Vehicles will be permitted to traverse unfilled drainage paths.

202.07 Method of Measurement

The second paragraph is deleted and replaced with the following:

Removing Pavement Surface – Drainage Paths shall be measured by the square foot.

202.08 Basis of Payment

The following is added after the last paragraph:

Removing Pavement Surface – Drainage Paths shall be paid for at the Contract unit price per square foot which includes all grinding, tack coat, sealant, bituminous pavement, equipment, labor, and incidentals necessary to satisfactorily complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
202.2026 Removing Pavement Surface – Drainage Paths	Square Foot

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Rumble Strips)

202.01 Description

The following paragraph is added:

This work shall consist of grinding existing rumble strip locations to a depth of 1-1/2 inches, coating vertical and horizontal surfaces with bituminous tack coat, and installing 1-1/2 inches of hot mix asphalt, 9.5 mm over the entire milled area. Locations and lengths of removal shall be as shown on the Plans or as approved by the Resident.

The following Subsections are added:

202.011 Materials

Grinding shall be done in accordance with Section 202. Bituminous tack coat shall conform to Section 409.

Hot mix asphalt, 9.5 mm shall conform to Section 401.

202.025 General

Existing rumble strips are approximately 16 inches long, seven inches wide, 1/2 inch deep, and spaced approximately every five inches.

202.07 Method of Measurement

The following paragraph is added:

Removing Rumble Strips shall be measured by the linear foot removed and accepted. Measurement shall be parallel to the baseline.

202.08 Basis of Payment

The following sentences are added:

Removing Rumble Strips shall be paid for at the Contract unit price per linear foot which includes all grinding, bituminous tack coat, pavement, equipment and labor necessary to satisfactorily complete the work.

Payment will be made under:

Pay Item

Pay Unit

202.206 Removing Rumble Strips

Linear Foot

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Existing Structural Concrete)
(Removing Existing Railing Retained by Authority)

202.01 Description

This section is amended by the addition of the following:

Prior to starting any demolition work, the Contractor shall submit a demolition plan to the Resident for approval. The demolition plan shall be stamped by a Professional Engineer licensed in the State of Maine. The demolition plan shall consider the effect of construction equipment, methods of operation, and sequence of work on the capacity and stability of the bridge. The capacity of the structure shall be calculated to demonstrate the proposed work activities will not result in unacceptable overstress in the structure.

No demolition will be permitted until the approved method of shielding is completely installed. Traffic will not be permitted to use the travelway directly under the demolition work; a lane closure will be required.

All materials removed as part of this work shall become the property of the Contractor unless otherwise noted. The Contractor shall provide the Resident with an affidavit stating the final location of all disposed material and that the material was disposed of in accordance with the Maine Department of Environmental Protection Solid Waste Regulations.

202.03 Removing Existing Superstructure, Structural Concrete, Railings, Curbs, Sidewalks and Bridges

The first sentence of the fifth paragraph is deleted and replaced with the following:

When the material from an existing structure is specified on the plans to be retained by the Authority the Contractor shall carefully dismantle it, and all materials, except those that may be specified to be reused in the new structure, shall be loaded on trucks, transported and neatly stacked by the Contractor at the location specified on the plans.

The seventh paragraph is deleted and replaced with the following:

All materials not specified to be retained by the Authority shall become the property of the Contractor and shall be removed from the site at the completion of the Project. The Contractor shall provide the Resident with an affidavit stating the final location of all disposed material and that the material was disposed of in accordance with the Maine Department of Environmental Protection Solid Waste Regulations.

202.031 Removing Existing Bituminous Pavement and Concrete Wearing Surface from Bridges and Scarifying the Top of Deck.

The first paragraph is amended by the addition of the following:

The use of milling equipment to remove existing bituminous pavement is not allowed.

202.08 Basis of Payment

The last sentence in the first paragraph is deleted and replaced with the following:

Removing and stacking the existing bridge railing system will not be measured separately for payment, but shall be incidental to the removal pay item.

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

203.01 Description

The following paragraph is added:

This work shall consist of cutting, removing and disposing of the full depth of existing bituminous concrete pavement at the approaches to the bridge structures within the limits of work as shown on the Plans or as approved by the Resident. The pavement shall be sawcut to the full depth of pavement at the limits of the excavation to provide a clean, vertical cut surface.

203.04 General

The following sentence is added to the end of the third paragraph.

There are no approved waste storage areas or waste areas within the Project limits unless shown on the Plans. Unsuitable materials shall be disposed of off-site in accordance with Subsection 203.06.

All excavations shall be accomplished in accordance with the applicable OSHA Standards. The Resident reserves the right to request the Contractor to prepare an excavation plan. This plan shall include, but not necessarily be limited to, the limit and depth of excavation, side slope, shoring, trench box and utility support.

203.10 Embankment Construction - General

The thirteenth and fourteenth paragraphs are deleted and replaced with the following:

All portions of the embankment shall be compacted in accordance with the designated embankment compaction requirements specified for the Project.

The existing slopes should be benched as shown on the drawings prior to placing additional fill. Embankment fill should be placed in lifts which extend laterally beyond the limits of the design side slopes such that the specified degree of compaction is achieved within the limits of the completed embankment. The slopes should then be trimmed back to design dimensions.

203.16 Winter Construction of Embankments

The word “core” is deleted from the first and second sentences in the first paragraph.

203.18 Method of Measurement

The following paragraphs are added:

There will be no additional payment for the required excavation plan, and costs shall be incidental to the Excavation items.

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

(Geofoam Lightweight Fill)

203.01 Description

The following sentence is added:

This work shall include furnishing all qualifications, shop drawings, material and equipment, placing and providing approved field quality control personnel to oversee and certify the installation of the Geofoam Lightweight Fill as shown on the approved shop drawings. Geofoam is referred to in this Specification as expanded polystyrene (EPS).

The following Subsection is added:

203.011 Reference Publications

Some or all of the publications referred to hereinafter form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only. The latest edition of the referenced publication shall govern.

AMERICAN SOCIETY OF TESTING MATERIALS (ASTM) PUBLICATIONS

ASTM DESIGNATION	TEST METHOD FOR
C203	Breaking Load and Flexural Properties of Block-Type Thermal Insulation
C578	Rigid Cellular Polystyrene EPS Thermal Insulation
D732	Strength of Plastics by Punch Tool
C272	Water Absorption of Core Materials for Structural Sandwich Construction
D1621	Compressive Properties of Rigid Cellular Plastics
D1622	Apparent Density of Rigid Cellular Plastics
D1623	Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics
D6817	Standard Specification for Rigid Cellular Polystyrene Geofoam

203.02 Materials

The EPS block supplier shall provide the EPS blocks, mechanical fasteners, shop drawings for installation, and full time on-site supervision of the EPS block installation. Upon completion of the installation, the EPS block supplier shall provide a letter certifying that the EPS blocks were manufactured and installed in accordance with the Plans and Specifications and the approved shop drawings.

The following Subsections are added:

203.021 EPS Block Supplier Qualifications Submittal – (70 Days Prior to Delivery)

At least 70 calendar days prior to first delivery of EPS to the site, the Contractor and/or Geofoam supplier shall submit the following:

- List at least three (3) similar projects using EPS blocks in a load bearing or embankment application.
- Provide contact reference for each project with telephone number and address.
- Provide resumes of the Project Manager and the field quality control personnel listing specific geofoam lightweight fill project experience. Personnel to be assigned to this Project must be identified by the supplier and approved by the Authority or its Geotechnical Consultant. Alternate personnel may be used only after their qualifications are reviewed and approved by the Authority or its Geotechnical Consultant.
- Written documentation verifying that the Geofoam Supplier has a third-party certification program in force. If multiple Geofoam suppliers are used, each Supplier shall have a program in force. If multiple suppliers are used, third-party certification must be acceptable for each and every Supplier; otherwise, it will be denied for each and every molder. The documentation shall identify the business entity providing the third party certification, the firm's experience and qualifications, and shall describe in detail the steps to be taken by the agency to verify the Geofoam Supplier(s) compliance with the specific requirements described herein.
- Provide detailed description of manufacturing and field QA services to be provided for this Project.

A review of the EPS block supplier's qualifications, the third-party inspection firm qualifications, and quality assurance plan will be completed by the Authority or its Geotechnical Consultant within 10 working days of receipt.

At least ten working days prior to the first delivery of Geofoam to the site, the Contractor shall provide certifications, in the form of a letter prepared by the Geofoam Supplier, that the Geofoam will be, or has been, manufactured in accordance with these Specifications and that the specified minimum physical property requirements will be, or have been, met.

No geofoam shall be shipped to the site until such time as all qualification related submittals have been reviewed and approved by the Authority.

Upon completion of the installation, the Contractor shall provide a letter certifying that the Geofoam was manufactured and installed in accordance with the Specifications and approved shop drawings. The letter shall include copies of all QA certification testing completed for the project.

203.022 EPS Block Supplier Shop Drawing Submittal – (60 Days Prior To Delivery)

At least 60 days prior to delivery of material to the site, the approved EPS block supplier shall submit complete shop drawings for the installation. The drawings shall indicate a placement pattern for all blocks in each layer. The blocks shall be labeled to match the approved shop drawings. The submitted drawings shall include plans, elevations, and cross sections needed to clearly show the configuration and limits of the geofoam.

A review of the shop drawings or revised shop drawings will be completed by the Authority or its Geotechnical Consultant within 10 working days of receipt. If revisions are required, the supplier shall submit the revised shop drawings for review. EPS blocks shall not be shipped to the site prior to notification that the shop drawings have been approved for construction.

203.023 Geofoam Lightweight Fill

Geofoam Lightweight Fill shall be ASTM C 578 Type IX (or AASHTO EPS 100), 1.8 pcf minimum, conforming to this Specification, as supplied by:

Poly Molding Corp.

96 4th Avenue
Haskell, NJ 07420

Tel.: 800.229.7161

Fax: 973.835.2438

Insulation Technology, Inc.

P.O. Box 578
35 First Street
Bridgewater, MA 02324

Tel.: 508.697.6926

Fax: 508.697.6934

Thermal Forms, Inc.

P.O. Box 1981
6173 South Bay Road
Cicero, NY 13039

Tel.: 315.699.8734

Fax: 315.699.4969

Branch River Plastics

15 Thurber Boulevard
Smithfield, RI 02917

Tel.: 401.232.0270

Fax: 401.231.3434

or an approved equal.

EPS shall be fabricated using virgin feedstock manufactured into blocks having no more than five percent regrind content. Blocks shall have a height of at least two feet, a width of at least four feet, and length of at least eight feet except blocks under proposed guardrail which shall be one foot thick. All blocks shall be shop-trimmed as necessary so that all surfaces are smooth and flat, and are within tolerances of 0.5 percent of respective height, width and length dimensions. The blocks shall be labeled to match the approved shop drawings. Additional field and/or shop trimming and cutting will be required as necessitated by the geometry of the fill being constructed.

EPS blocks shall conform to the specified type category in ASTM C-578 and have the following physical properties:

Physical Property	ASTM Test Procedures	Accepted Value	
		Type IX	Units
Density	D1622	1.8 (29)	pcf (Kg/m ³)
Compressive Resistance	D1621	25 (173)	psi (kN/m ²) Minimum @ yield or 10% Deformation
Flexural Strength	D203	50 (345)	psi (kN/m ²) Minimum
Tensile Strength	D1623	23 (159)	psi (kN/m ²) Minimum
Water Absorption	C272	2	%, Less than by volume

The EPS shall contain a flame retardant additive and shall have UL Certification of Classification as to External Fire Exposure and Surface Burning Characteristics. EPS should be considered combustible and should not be exposed to open flame or any source of ignition. EPS shall be treated to prevent insect attack and shall be protected from burrowing animals. The manufacturer shall present proposed treatment methods to the Resident for review and approval.

The Contractor shall furnish the Resident with a certified test report from the manufacturer showing all data required to indicate compliance with the Specifications.

Connectors shall be galvanized steel multi-barbed connectors. Each connector shall have a lateral holding strength of at least 60 lbs. when tested with ASTM D 6817 EPS, with a safety factor of two.

The following Subsections are added:

203.041 Sampling and Testing

Quality assurance testing and sampling, to monitor the conformance of the EPS with the Specification requirements, will be completed as approved by the Resident. Density and geometry (dimensional tolerances) testing shall be conducted using full-size blocks. Blocks in conformance with Contract requirements can be used to make required fills.

Testing to monitor the quality of the EPS shall be done at the discretion of the Authority or its Geotechnical Consultant. The Authority and its Geotechnical Consultant has the right to randomly sample at the manufacturing plant and/or at the jobsite. If any block does not conform to the physical requirements, or if it is damaged in any way, it may be rejected by the Resident.

203.042 Protection

The Contractor shall prevent damage to the EPS during delivery, storage, and construction. Prior to delivery of EPS to the Project site, the Contractor shall review and be thoroughly knowledgeable with the manufacturer's care and handling recommendations. Any EPS to be exposed to sunlight for more than 30 days shall be covered with opaque material which will prevent ultraviolet light degradation.

Placement of embankment will require special procedures and careful selection of appropriate construction equipment to prevent damage to the EPS. No heavy construction

equipment or vehicles shall be allowed directly on the EPS. EPS must be protected from petroleum-based solvents such as gasoline and diesel fuel.

Damage to EPS shall be corrected as follows:

Slight damage (less than 0.12 cubic feet) with no linear dimension greater than one foot may be left in place as-is.

Moderate damage (less than 0.35 cubic feet) with no linear dimension greater than 3.3 feet shall be filled with leveling sand.

EPS blocks with excessive damage (i.e., exceeding the “moderate” category) shall be replaced with EPS blocks which meet the damage criteria. EPS blocks not meeting the damage criteria may be cut to eliminate the excessive damage and the remaining undamaged portion of the block may be used within the fill, provided the undamaged portion of the block meets all other requirements.

Leveling sand, HDPE Geomembrane and embankment fill over the side slopes of the EPS shall be placed starting at the bottom of the slope in such a manner as to prevent damage to the EPS. Finished EPS on side slopes shall have a minimum of two feet of embankment fill cover.

Non-woven geotextile fabric, crushed stone, tire chip geotextile fabric and embankment fill over the side slopes of the EPS shall be placed starting at the bottom of the slope in such a manner as to prevent damage to the EPS. Finished EPS on side slopes shall have a minimum of two feet of embankment fill cover.

The embankment fill over the side slopes shall be compacted using approved manually-operated compaction equipment.

203.043 Subgrade Preparation

Clear and grub site in accordance with Section 202, Clearing Right-of-Way, and Section 203, Excavation and Embankment. Provide temporary construction dewatering during subgrade preparation, placement of non-woven geotextile fabric, crushed stone and geofoam installation and filling until adequate cover is in place to prevent flotation of geofoam blocks. Temporary construction dewatering shall be provided at no additional cost to the Authority.

Bench into existing slope as required to provide a level subgrade to support each layer of geofoam. Recompact subgrade to a minimum of 92 percent of maximum dry density as determined by AASHTO T180. Place a uniform layer of leveling sand over the prepared surface, with an six inch minimum thickness. Level to 1/4 inch per 10 feet horizontal. Compact leveling sand to a minimum of 92 percent of maximum dry density as determined by AASHTO T180.

203.044 Placement

EPS shall be placed to the lines and grades shown in the approved shop drawings and as directed by the Geotechnical Consultant. The surface of a layer of EPS blocks to receive additional EPS blocks shall be constructed with a variation in surface tolerance of no more than 1/2 inch in any 10 foot interval. All blocks shall accurately fit relative to adjacent blocks and structures. No

gaps greater than 3/4 inch will be allowed on vertical joints. The finished surface of the EPS beneath pavement sections shall be constructed to within the tolerances of zero to minus 0.2 foot of the indicated grade. The finished surface of the EPS on side slopes that receive soil cover shall be constructed to within a tolerance of plus 0.3 feet to minus 0.3 feet of the indicated grade.

Blocks placed in a row in a particular layer shall be offset two feet relative to blocks placed in adjacent rows of the same layer as shown on the approved shop drawings. In order to avoid continuous joints, each subsequent layer of blocks shall be offset two feet relative to blocks placed in the previous layer. The long axis of all blocks will be placed perpendicular to the embankment centerline. Connector plates should be placed between horizontal layers of blocks. Blocks shall be cut using a saw or hot wire, where necessary.

A minimum of two blocks depth shall be provided throughout the installation.

Because of the light unit weight of the EPS, it is the Contractor’s responsibility to provide temporary weighing and/or guying as necessary until all blocks are built into a homogeneous mass, and the soil cover and pavement section are in place.

Install a minimum of three connectors for each four foot by eight foot section of geofoam material, as shown on approved shop drawings, or directed by the Geotechnical Consultant. Press firmly into the rigid foam until the connector is flush with the surface. Position the next foam block as specified and set firmly before placing subsequent blocks.

203.18 Method of Measurement

The following sentences are added:

Geofoam Lightweight Fill furnished and placed in accordance with the Plans and Specifications shall be measured by the cubic yard in place and accepted.

203.19 Basis of Payment

The following paragraphs are added:

Geofoam Lightweight Fill will be paid for at the Contract unit price per cubic yard which shall be full compensation for furnishing all qualifications, on-site supervision from supplier, shop drawings, labor, materials, equipment, dewatering and incidentals necessary to complete the work.

Leveling sand and HDPE membrane shall be paid for under separate items.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
203.43 Geofoam Lightweight Fill	Cubic Yard

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

(Leveling Sand)

203.01 Description

The following sentence is added:

This work shall include furnishing, placing, grading and densifying leveling sand as shown on the Plans or as approved by the Resident.

203.02 Materials

The following sentence is added:

Leveling sand shall meet the requirements of Subsection 703.05, Aggregate for Sand Leveling.

203.04 General

The following paragraph is added:

Leveling sand shall be placed and graded to a uniform slope as shown on the Plans. Densification shall be achieved with an approved manually-operated power compactor or as directed by the Geotechnical Consultant.

203.18 Method of Measurement

The following sentence is added:

Leveling Sand shall be measured by the cubic yard complete and accepted in place.

203.19 Basis of Payment

The following sentences are added:

Leveling Sand will be paid for at the Contract unit price per cubic yard which shall be full compensation for all labor, materials, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
203.45	Leveling Sand	Cubic Yard

SPECIAL PROVISION

SECTION 401

HOT MIX ASPHALT PAVEMENT

Section 401 of the Maine Turnpike Authority 2016 Supplemental Specifications is modified as follows:

401.01 Description

The following paragraph is added:

A Quality Control Plan(QCP) is required.

401.02 Materials

Section 401.02 is deleted in its entirety and replaced with the following:

Aggregates for HMA Pavements Coarse Aggregate and fine aggregate for HMA pavements shall be graded such that when combined in the proper proportions, including filler if required, the resultant blend will meet the composition of mixture for the type of pavement specified. Materials shall meet the requirements specified in Section 700 – Materials:

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

Mainline Surface HMA Coarse aggregate: The material retained on the No. 4 sieve, shall consist of angular fragments obtained from crushed quarry stone and be free of dirt or other objectionable materials. Coarse aggregate shall have a Micro-Deval value of 16.0 percent or less as determined by AASHTO T 327. The crushed stone shall have a maximum of 1.5% material finer than the No. 200 mesh when tested in accordance with AASHTO T-11. Flat and elongated particles shall not exceed a maximum of 8% at a 5:1 ratio in accordance with ASTM D-4791. Coarse aggregate angularity shall be a minimum of 95/90 in accordance with AASHTO T-335.

Mainline Surface HMA Fine aggregate: The material passing the No. 4 sieve, shall be crushed manufactured sand free from dirt, clay balls, or other objectionable material. Natural sand may be incorporated into the mix at a rate no greater than 13 percent by weight of total aggregate. The unconfined void content of the fine aggregate blend shall be a 45 minimum value when tested in accordance with AASHTO T-304, method A. AASHTO T-176 sand equivalent value shall be 45 minimum.

Asphalt Low Modulus Joint Sealer: Asphalt Low Modulus Joint Sealer shall be a modified asphalt and rubber compound designed for sealing and improving the strength and performance of the base asphalt cement and shall conform to ASTM D6690 Type IV and the following specifications:

Cone Penetration	90-150
Flow @ 60°C [140°F]	3.0mm [1/8 in] max
Bond, non-immersed	Three 12.7mm [1/2 in] specimens pass 3 cycles @ 200% extension @ -29°C [-20°F]
Resilience, %	60 min
Asphalt Compatibility, ASTM D5329	pass*

* There shall be no failure in adhesion, formation of any oily exudate at the interface between the sealant and asphaltic concrete or other deleterious effects on the asphaltic concrete or sealant when tested at 60°C [140°F].

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

Section 401.03 Composition of Mixtures

Section 401.03 is deleted in its entirety and replaced with the following:

HMA pavement mixtures for local road and bridge projects shall be a currently approved MDOT design.

HMA pavement mixtures for Mainline paving projects shall conform to the following requirements:

The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. HMA shall be designed and tested according to AASHTO R35 and the volumetric criteria in Table 1. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF). The Contractor may use a maximum of 15 percent reclaimed asphalt pavement (RAP) in any mainline surface course, and a maximum of 20 percent RAP in any base, intermediate, or shim course. Current MaineDOT approved designs with up to 20 percent RAP will be allowed on local roads.

The Contractor shall submit a job mix formula (JMF) developed for each specified mixture at least 30 days prior to placement.

The JMF shall establish a single percentage of aggregate passing each sieve size within the limits shown in Subsection 703.09. The mixture shall be designed and produced, including all production tolerances, to comply with the allowable control points for the particular type of mixture as outlined in Subsection 703.09. The JMF shall state the original source, gradation, and percentage to be used of each portion of the aggregate and mineral filler if required. It shall also state the proposed PGAB content, the name and location of the refiner, the supplier, the source of PGAB submitted for approval, the type of PGAB modification if applicable, and the location of the terminal if applicable.

In addition, the Contractor shall provide the following information with the proposed JMF:

- Properly completed JMF indicating all mix properties (Gmm, VMA, VFB, etc.).
- Stockpile Gradation Summary.
- Test reports for individual aggregate consensus properties
- Design Aggregate Structure Consensus Property Summary.
- Design Aggregate Structure Trial Blend Gradation Plots (0.45 power chart).
- Trial Blend Test Results for at least three different aggregate blends.
- Selected design aggregate blend.
- Test results for the selected design aggregate blend at a minimum of three binder contents.
- Test results for final selected blend compacted to N_{max} .
- Specific Gravity for the PGAB to be used.
- Recommended mixing and compaction temperatures from the PGAB supplier.
- Material Safety Data Sheets (MSDS) For PGAB.
- Asphalt Content vs. Air Voids trial blend curve.
- Test report for Contractor's Verification sample.
- Summary of RAP test results (if used), including count, average and standard deviation of binder content and gradation.

At the time of JMF submittal, the Contractor shall identify and make available the stockpiles of all proposed aggregates at the plant site. There must be a minimum of 150 ton for stone stockpiles, 75 ton for sand stockpiles, and 50 ton of blend sand before the Authority will sample. The Authority shall obtain samples for laboratory testing. The Contractor shall also make available to the Authority the PGAB proposed for use in the mix in sufficient quantity to test the properties of the asphalt and to produce samples for testing of the mixture. Before the start of paving, the Contractor and the Authority shall split a production sample for evaluation. The Contractor shall test its split of the sample and determine if the results meet the requirements. If the results are found to be acceptable, the Contractor will forward their results to the Authority's Lab, which will test the Authority's split of the sample. The results of the two split samples will be compared and shared between the Authority and the Contractor. If the Authority finds the mixture acceptable, an approved JMF will be forwarded to the Contractor. The Authority will then notify the Contractor that paving may commence. The first day's production shall be monitored, and the approval may be withdrawn if the mixture exhibits undesirable characteristics such as checking, shoving or displacement. The Contractor shall be allowed to submit aim changes within

24 hours of receipt of the first Acceptance test result for an individual JMF. Adjustments will be allowed of up to 2% on the percent passing the 2.36 mm sieve through the 0.075 mm and 3% on the percent passing the 4.75 mm or larger sieves. Adjustments will be allowed on the %PGAB of up to 0.2 percent. Adjustments will be allowed on GMM of up to 0.010.

The Contractor shall submit a new JMF for approval each time a change in material source or materials properties is proposed. The same approval process shall be followed. The cold feed percentage of any aggregate except natural sand may be adjusted up to 10 percentage points from the amount listed on the JMF, however no aggregate listed on the JMF shall be eliminated. Natural sand may be adjusted up to 5 percent from the amount listed on the JMF but shall not exceed 13% by weight of total aggregates. The cold feed percentage for RAP may be reduced up to five percentage points from the amount listed on the JMF and shall not exceed the percentage of RAP approved in the JMF or for the specific application.

TABLE 1
VOLUMETRIC DESIGN CRITERIA

Design ESAL's (Millions)	Required Density (Percent of G _{mm})			Voids in the Mineral Aggregate (VMA)(Minimum Percent)				Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
				Nominal Maximum Aggregate Size (mm)					
	N _{initial}	N _{design}	N _{max}	19	12.5	9.5	4.75		
10 to <30	≤89.0	96.0	≤98.0	13.5	14.5	15.5	15.5	65-80*	0.6-1.2

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

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

* For 4.75mm nominal maximum aggregate size mixtures, the Fines/Effective Binder Ratio is 0.6-1.4

As part of the JMF submittal, there are Hamburg Wheel Tracker requirements, the Contractor shall provide the Authority the test results in accordance with AASHTO T324. The results shall be generated by a third party independent testing laboratory as approved by the Authority. The test results shall meet the requirements of Table 1A

TABLE 1A
HAMBURG WHEEL TRACKER REQUIREMENTS

Specified PG Binder Grade	Test Temperature (°C)	Maximum Rut Depth (mm)	Minimum Number of Passes	Minimum Allowable SIP*
64-28	45	12.5	20,000	15,000
64E-28	45	8.0	20,000	15,000
70E-34	45	6.3	20,000	15,000

* As calculated by the most recently published version of the Maine DOT HWT worksheet, which is available online at <http://www.maine.gov/mdot/contractors/publications/>

Section 401.08 Hauling Equipment Trucks for Hauling HMA

Add the following paragraph:

The undercarriage of haul units actively hauling HMA to the site shall be relatively free of dust / mud agglomerations. Haul units found to be contaminating the paving surface shall be removed from the site and cleaned prior to returning.

Section 401.091 Material Transfer Vehicle (MTV)

The fourth paragraph shall be deleted and replaced with:

The MTV shall be designed so that the mix receives additional mixing action.

Section 401.165 Longitudinal Joint Density

The first paragraph shall be deleted and replaced with:

When noted in Special Provision Section 403, the Authority will measure the pavement density of longitudinal joints between adjoining mainline travel lanes in both the unconfined and confined condition as determined by the days paving operation.

The eighth paragraph shall be deleted and replaced with:

The minimum density of the completed pavement shall be 92.0 percent of the theoretical maximum density obtained. Two consecutive failing tests shall result in production shut down. Prior to resuming paving operations, the contractor quality control unit shall satisfy the Authority that the paving operation will produce joint densities in compliance with the Specifications.

The eleventh paragraph and associated table shall be deleted and replaced with:

Payment reduction will be applied to each subplot that has a density lower than 92.0% as outlined below.

PERCENT COMPACTION	PERCENT PAY
92.0 or greater	100
91.9 to 90.0	95
89.9 or less	90

Section 401.17 Joints

The fourth paragraph shall be deleted and replaced with:

When required by Special Provision Section 403, Mainline Longitudinal joints shall be constructed as notched-wedge joint and constructed in a manner that will best ensure joint integrity.

Section 401.18 Quality Control

The following shall be added to section c. Quality Control Technician(s) QCT:

The QCT shall be on site during paving operations performing quality control activities. QCT's shall not act as equipment operators or laborers.

Section 401.191 Inspection/Testing

In paragraph nine delete and replace Item #8 with:

8. Secure High Speed Internet Access

SPECIAL PROVISIONSECTION 403HOT MIX ASPHALT PAVEMENT403.01 Description

This work shall also consist of the construction, maintenance and removal of all temporary bituminous ramps at locations as shown on the Plans or as directed by the Resident.

403.02 General

The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. The Performance Graded Asphalt Binder (PGAB) shall be polymer modified as detailed in this special provision and shall conform to the requirements of AASHTO M 320. The PG64E-28 Binder shall contain a minimum of 2.5% Styrene-Butadiene-Styrene (SBS) polymer {BWT} in a homogeneous blend. The stability of the modified binder shall be verified in accordance with ATSM D7173 using the Dynamic Shear Rheometer (DSR). The DSR $G^*/\sin(\delta)$ results from the top and bottom sections of the ATSM D7173 test shall not differ by more than 10%. The results of ASTM D7173 shall be included on the Certified Test Report. The binder shall meet the requirements of AASHTO M 332 (including Appendix X1).

403.03 Construction

All areas which have been milled or overlaid shall have a minimum length temporary ramp constructed as determined by the Resident at the milled or overlaid limits prior to opening the roadway to traffic. Temporary ramps shall be constructed using the same material as being placed on that day or as directed by the Resident. All temporary ramps are to be constructed on a sand joint. The Contractor shall be responsible for all repairs and maintenance required for the temporary ramps.

The Contractor shall be responsible for the layout of the longitudinal centerline between the travel lanes.

The sand and loose debris adjacent to the median guardrail shall be removed and disposed of by the Contractor off of Turnpike property.

The forty-five degree pavement safety edge needed between lanes 1 and 2 shall be incidental to the 202 pay items.

A minimum test strip of 100 tons placed at a nominal depth of 1 ½ inches, full lane width, shall be required. It shall be evaluated under testing requirements for mix volumetric and density. The exact location will be identified by the Authority. Prior to placement of the test strip, a leveling course (Item 403.211) shall be placed at the chosen location. A fog coat of Item 409.15, Bituminous Tack Coat, shall be applied to the level course prior to the placement of the HMA surface course, payment to be made under the 409.15 pay item. The test strip will be excluded from the remainder of the projects' QA analysis. The Contractor shall notify the Authority at least 48 hours in advance of placing the test strip. The test strip is intended to allow

the Contractor to establish a method of compaction and adjust plant settings prior to mainline plant production.

403.04 Method of Measurement

The construction and removal of temporary ramps on sand joints, and maintaining the ramps will not be measured separately for payment, but shall be incidental to Items 403.

The removal of sand and loose debris will not be measured separately for payment, but shall be incidental to paving items.

Hot Mix Asphalt, 12.5 mm (Polymer Modified pavement with (up to) 15% RAP, placed as a wearing surface will be measured under Item 403.2081 Hot Mix Asphalt, 12.5 mm (Polymer Modified) - RAP.

403.05 Basis of Payment

Hot Mix Asphalt, 12.5 mm (Polymer Modified) pavement with (up to) 15% RAP, placed as a wearing surface will be paid under Item 403.2081 Hot Mix Asphalt, 12.5 mm (Polymer Modified) – RAP.

The following pay items are added:

<u>Pay Item</u>	<u>Pay Unit</u>
403.2081 Hot Mix Asphalt, 12.5 mm (Polymer Modified) – RAP	Ton
403.2084 Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (sidewalks,drives, islands& incidentals)	Ton

SPECIAL PROVISIONSECTION 403HOT MIX ASPHALT PAVEMENT

Course	HMA Grading	Item Number	Total Thickness	No. of Layers	Complimentary Notes
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Mainline Mill and Fill

Wearing	12.5 mm	403.2081	1.5"	1	A,C,F,I,J,K,L,N
Intermediate	12.5 mm	403.213	1.5"	1	B,C,F,J,L,N
Shim	4.75 mm	403.212	½"	1	B,C,F,J,L,N

Mainline Full Depth Pavement

Wearing	12.5 mm	403.2081	1.5"	1	A,C,F,I,J,K,L,N
Intermediate	12.5 mm	403.213	1.5"	1	B,C,F,J,L,N
Base	19.0 mm	403.207	4.5"	2	B,C,F,J,L,N
Shim	4.75 mm	403.212	½"	1	B,C,F,J,L,N

Median Pavement

Wearing	12.5 mm	403.208	2"	1	A,C,F,I,J,L,N
Intermediate	12.5 mm	403.213	2"	1	B,C,F,J,L,N

COMPLEMENTARY NOTES

- A. The required PGAB for this mixture shall be **64E-28**.
- B. The required PGAB for this mixture shall be **64-28**.
- C. A maximum of 15 percent RAP may be used.
- D. RAP may not be used.
- E. The Maine DOT will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. The design verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**. (N design) Minimum and Maximum PGAB content shall not apply.
- F. The MTA will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 10 to <30 million ESALS for mix placed under this contract. The design verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**. (N design)
- G. A material transfer vehicle (MTV) shall be used for the placement of Hot Mix Asphalt wearing surface on all roadways including acceleration and deceleration lanes and all ramps.
- H. Joints shall be constructed as the "notched wedge" type in accordance with Subsection 401.17.
- I. Joint density will be measured in accordance with Subsection 401.165.
- J. Tack coat shall be applied between all layers of pavement at a rate of 0.04 G/SY.

- K. PGAB shall conform to the provisions of 403.02 – Polymer Modified PGAB for HMA
- L. The contractor shall furnish a quality control technician equipped with an approved densometer to ensure density requirements are met.
- M. Hydrated Lime shall be incorporated into the mixture.
- N. No vehicular loads shall be permitted on newly completed pavement until adequate stability has been attained and the material has cooled sufficiently to prevent distortion or loss of fines. The newly paved area may be opened to traffic after the internal temperature of the pavement has cooled to 120° F. The Resident will test the internal temperature of the pavement and shall be the sole judge as to the opening to traffic. The period of time before opening to traffic may be extended at the discretion of the Resident. The lane closure may not be removed until the internal temperature has cooled to 120° F.

SPECIAL PROVISION

SECTION 409

BITUMINOUS TACK COAT

409.02 Bituminous Material

This Subsection is deleted and replaced with the following:

Bituminous material shall conform to the Specifications for Emulsified Asphalt RS-1h, of the AASHTO Designation M-140.

409.05 Equipment

Add “or as determined by the Resident”, after the words “gal/yd²” in the fourth line of the second paragraph of this Subsection.

409.06 Preparation of Surface

The following paragraph is added:

All existing pavement and shoulder areas on which bituminous concrete mixtures are to be placed shall receive a tack coat. The surface area where the tack coat is to be applied shall be dry and cleaned of all dirt, sand, and loose material. Cleaning shall be accomplished by use of revolving brooms or mechanical sweepers. Undesirable material not removed by the above means shall be cleaned by hand sweeping or scraping, or a combination of both. Small areas otherwise inaccessible may be swept with hand brooms. The tack coat shall be applied only when the existing surface is dry.

409.08 Method of Measurement

The following paragraphs are added:

Measurement will be based on delivery slips made out in duplicate by the Contractor and signed by the Resident, or his representative, at the point of delivery. One of these slips shall be retained by the Resident and one by the Contractor. Delivery slips shall be furnished by the Contractor and shall provide space for identifying the vehicle and driver, for stating the volume of material carried, the source of the material, the date, and the Resident or his representative's signature.

Material included in the delivery slips and not used or rejected shall be deducted from the amount being measured for payment. Each day's delivery slips shall be reconciled by the Contractor and the Resident within 24-hours.

Cleaning of the surface area where tack coat is to be applied shall be incidental to Item 409.15, Bituminous Tack Coat - Applied.

409.09 Basis of Payment

The following pay items are added:

<u>Pay Item</u>		<u>Pay Unit</u>
409.15	Bituminous Tack Coat – Applied	Gallon

SPECIAL PROVISION

SECTION 419

SAWING AND SEALING JOINTS IN BITUMINOUS PAVEMENT

(Sawing Bituminous Pavement)

419.01 Description

This work consists of sawing bituminous concrete pavement as shown on the Plans, as specified herein or as approved by the Resident.

419.02 General

The bituminous concrete pavement to be sawed shall be accurately marked before cutting. The marking shall be in accordance with the locations as shown on the Plans or as approved by the Resident. Cutting shall be with an approved power driven saw with an abrasive blade.

Unless otherwise noted or directed, the sawcut shall be vertical, a minimum of 3/8 inch wide, and extend to the depth as shown on the Plans.

Residue or debris from the sawing operation shall be removed immediately and legally disposed of by the Contractor.

419.03 Method of Measurement

Sawing Bituminous Pavement will be measured by the linear foot of pavement actually cut and accepted. No additional payment will be made for variations in the pavement thickness.

419.04 Basis of Payment

Sawing Bituminous Pavement will be paid for at the Contract unit price per linear foot which shall be full compensation for all materials, tools, equipment labor, and all incidentals necessary for the completion of the work to the satisfaction of the Resident. The disposal of sawcut residue shall be incidental to this item.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
419.30 Sawing Bituminous Pavement	Linear Foot

SPECIAL PROVISION

SECTION 470

BERM DROP OFF CORRECTION

(Berm Dropoff Correction - Grindings)
(Berm Correction)

470.01 Description

This work shall consist of furnishing and placing bituminous grindings to eliminate the berm dropoff along the inside and outside shoulder edges at all locations, including guardrail sections at locations shown on the plans or as directed by the Resident.

The work shall also consist of removing materials at the inside and outside shoulder edges at all locations, including guardrail sections at locations shown on the plans or as directed by the Resident.

470.02 Bituminous Materials

The recycled bituminous pavement shall be reprocessed (crushed) to meet the following gradations:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieve
¾"	100
½"	95-100
No. 4	50-80
No. 50	18-28
No. 200	3-10

470.03 Method of Construction

Work under this item shall be in accordance with the details as shown on the Plans or as directed by the Resident.

At a minimum, a walk behind plate compactor shall be used for compaction. Other methods may be used upon approval by the Resident.

470.04 Method of Measurement

Berm Dropoff Correction – Grindings will be measured by the ton of Pavement grindings delivered and installed.

Material included in the delivery slips and not used or rejected shall be deducted from the amount being measured for payment.

Berm Correction will be measured by the linear foot for material removed.

470.05 Basis of Payment

The accepted quantity of “Berm Dropoff Correction – Grindings” will be paid for at the contract unit price per ton, which price shall include all materials, crushing to gradation range, weighing, transportation, placement, labor, equipment, and all incidentals necessary to accomplish the work.

The accepted quantity of “Berm Correction” will be paid for at the contract unit price per linear foot, which price shall include removing all materials, grading, transportation, labor, equipment, and all incidentals necessary to accomplish the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
470.08	Berm Dropoff Correction – Grindings	Ton
470.081	Berm Correction	Linear Feet

SPECIAL PROVISION

SECTION 504

STRUCTURAL STEEL

504.03 Drawings

This Subsection is amended by the addition of the following:

The Contractor shall submit a structural steel erection plan stamped by a Professional Engineer licensed in the State of Maine. The erection plan shall include the number and location of crane(s), the weight of the pick, crane capacities, bracing locations and all other pertinent information needed to demonstrate the structural steel can be safely erected and assembled.

504.51 Installation

This Subsection is amended by the addition of the following:

Where an outer face of the bolted parts has a slope of more than one to 20 with respect to a plane normal to the bolt axis, a smooth beveled washer will be used to compensate for the lack of parallelism.

504.641 Method of Measurement

There will be no additional payment for the required erection plan. The cost shall be incidental to the Structural Steel Erection pay item.

SPECIAL PROVISION

SECTION 504

STRUCTURAL STEEL

(Post-Tensioning Sleeve Repair)

504.01 Description

The following paragraphs are added:

This work includes repairing the existing post-tensioning system conduit sleeves at the Androscoggin River Bridges at locations shown on the Plans and as identified by the Resident. Localized areas of the sleeves have failed and require repair to prevent future moisture penetration. The Contractor shall submit shop or working drawings of the proposed repair detail for approval.

The following subsection is added:

504.015 Definitions

Anchor Block – a fabricated steel anchorage device, which transfers the loads from the post-tensioned tendon to the steel girder.

Duct: Material forming a conduit to accommodate prestressing steel installation and provide an annular space for the grout which protects the prestressing steel.

Post-tensioning: A method of prestressing where tensioning of the tendons introduces additional force into a structural member to increase its load-carrying capability.

Prestressing Steel: The steel element of a post-tensioning tendon, which is elongated and anchored to provide the necessary permanent prestressing force.

Post-Tensioning System: An assembly of specific models of hardware, including but not limited to anchorage assembly, local zone reinforcement, wedge plate, wedges, inlet, outlet, couplers, ducts, duct connections, and caps, used to construct a tendon of a particular size and type. The entire assembly must meet the system pressure testing requirement. Internal and external systems are considered independent of one another.

Strand: An assembly of several high-strength steel wires wound together. Strands usually have six outer wires helically wound around a single straight wire of a similar diameter.

Tendon: A single or group of prestressing steel elements and their anchorage assemblies imparting prestress forces to a structural member or the ground. Also, included are ducts and corrosion protection materials or coatings.

504.02 Post-Tensioning Sleeve

The sleeve repair shall consist of a flexible material that is able to permanently adhere to the smooth plastic duct (polyolefin plastic) and the steel pipe (galvanized Gr 36 steel) attached to the anchor block. The flexible material and adhesive shall have the capability to handle up to 1” of elongation or expansion and hold up against UV degradation and other environmental stresses. The repair shall provide an air and water tight interface.

The sleeve repair shall consist of one of the following systems. Other alternatives may be proposed by the Contractor.

- Heat shrink material having unidirectional circumferential recovery manufactured specifically for the size of the duct being coupled consisting of a material for external applications. Furnish adhesive having the same bond value to steel and polyolefin plastic materials. Install heat shrink sleeves using procedures and methods in accordance with the manufacturer’s recommendations. Ensure the heat shrink sleeves have an adhesive layer that will withstand 150° F operating temperature.
- Neoprene sleeve with a zipper interface to wrap around the existing plastic duct and steel pipe. Install sleeve using procedures and method in accordance with the manufacturer’s recommendations. Connection between the plastic duct and steel pipe shall be achieved with adhesive and/or mechanical couplers.

504.03 Method of Measurement

The following paragraphs are added:

The quantity of Post-Tensioning Sleeve Repairs shall be measured by each repair location performed. Miscellaneous hardware such as clamps, sleeves, and adhesive shall not be measured separately but rather shall be incidental to the pay item.

504.04 Basis of Payment

The Subsection is deleted in its entirety and replaced with the following:

Post-Tensioning Sleeve Repairs will be paid for at the Contract price per Each installed, completed, and accepted. Payment will be full compensation for removing the existing sleeve, disposal of the existing sleeve, necessary surface preparation, furnishing and installing the sleeve repair, miscellaneous hardware, all testing, and all equipment, access and incidentals necessary for completing the work in accordance with the Contract Documents. Payment for Post-Tensioning Sleeve Repairs will be made following successful placement, inspection, and approval by the Resident.

Payment will be made under the following items:

<u>Pay Item</u>	<u>Unit</u>
504.885 Post-Tensioning Sleeve Repair	Each

SPECIAL PROVISION

SECTION 506

SHOP APPLIED PROTECTIVE COATING - STEEL

(Zinc Rich Coating System – Shop Applied)

506.05 Inspection

This section is amended by the addition of the following:

The QAI shall be given ample notice in order to inspect the product prior to coating, recoating or removal of paint from the area. “Ample notice” shall be defined at the Pre-Job meeting depending on shop or site conditions.

Substrates that are primed or surfaces that are recoated without notification of the QAI will be rejected and no further coating shall be done on the piece. Coating applied without notification of the QAI will be investigated by destructive and non-destructive testing as approved by the Resident and by a review of the JCR. The Resident may reject, conditionally accept, or accept the coating based on documentation and test results. Rejected coating shall be removed and re-applied. Conditionally accepted coatings shall be made acceptable as approved by the Resident. The cost of additional testing and repairs shall be borne by the Contractor.

At the completion of the shop coating the completion date (month and year), NTPEP System No. (provided on the NEPCOAT Qualified Products List), the type of coating system used (Inorganic Zinc = IOZ, Organic Zinc = OZ), and top coat federal color number shall be stenciled on the inside of the fascia beams, at the locations designated by the Resident, in four inch letters and numbers (for example: 6/05, SSC(09)-01, IOZ, Fed Color #30045). The paint used for this marking shall be white or black (whichever provides greater contrast) polyurethane or such other paint as may be approved by the Resident.

506.11 Materials

This first paragraph is deleted and replaced with the following:

Coatings systems shall be from the Northeast Protective Coating Committee (NEPCOAT) Qualified Products List (QPL), list A. The list may be found through NEPCOAT’s web page: <http://www.nepcoat.org>.

506.17 Handling and Storage

This section is amended by the addition of the following:

The coating shall be adequately cured before handling, but under no circumstances shall the product be handled before the coating has achieved the manufacturer’s published minimum cure time.

Material shall not be loaded for shipment until the shop coating has adequately cured and been inspected and accepted. The components will be stamped "APPROVED" only after the loading has been completed and approved, and no material shall be shipped without the prior approval of the Resident.

further cleaning shall be done until the QCI and QAI agree upon the acceptable Job Standard for cleanliness. If more than one method of cleaning is used (e.g., power sanders and needle guns), the acceptable Job Standard shall be established for each method.

The allowable time between cleaning and coating application shall not exceed the manufacturer’s published recommendations.

506.26 Repairs

Damaged or unacceptable coatings shall be repaired in accordance with the manufacturer’s published instructions or as approved by the Resident. Damaged or unacceptable coatings shall be repaired using the same coating removed and prepared for repair. Environmental conditions, cure times and DFTs shall be in accordance with manufacturer’s published directions for the coating being applied. Repairs to topcoat shall result in a uniform gloss and color match. The Resident shall have final authority concerning acceptable appearance.

506.90 Method of Measurement

Field Touch-Up of Existing Steel shall be measured by the lump sum method, complete and accepted. The limits shall be as shown on the Plans or as described within the respective subsections.

Galvanizing will not be measured separately for payment, but shall be incidental to the item being galvanized.

506.91 Basis of Payment

All work for Field Touch-Up of Existing Steel will be paid for at the lump sum price for the respective item. Payment will be full compensation for all work and materials needed to complete the item; coating and cleaning materials, testing, labor, surface preparation, cleaning, application, curing and repairs to coating.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
506.9105 Field Touch-Up of Existing Steel	Lump Sum

SPECIAL PROVISION

SECTION 506

PAINTING STRUCTURAL STEEL

506.01 Description

This work shall consist of field applying two coats of cold galvanizing to the bare steel exposed by the bearing cleaning work at the Androscoggin River Overpass in accordance with this specification.

506.02 Materials

The proposed cold galvanizing compound shall contain 95% metallic zinc by weight in the dried film.

506.03 Submittals

The Contractor shall submit for review by the Authority a materials list and other such details as described within the Plans and the respective subsections of this Specification.

506.04 Inspection

Quality Control (QC) is the responsibility of the Contractor. The Quality Control Inspector (QCI) shall inspect all aspects of the work and shall supervise required testing.

Quality Assurance (QA) is the prerogative of the Authority. The Resident will ensure that the QC function is performed properly, verify documentation, periodically inspect workmanship and witness testing. QA testing deemed necessary by the Resident, in addition to the minimum testing requirements, shall be scheduled to minimize interference with the production schedule.

506.05 Inspector's Authority

The Resident will have the authority to reject material or workmanship that does not meet the Contract requirements.

506.06 Rejections

Rejected material and workmanship shall be corrected or replaced by the Contractor in accordance with Subsection 106.8.2 of the Standard Specifications.

506.07 Limits of Work

All areas of existing steel exposed by the removal of existing protective coatings shall receive two layers of cold galvanizing compound as noted herein.

The application of cold-galvanizing compound shall, at a minimum, extend six inches beyond the limits of paint removal and cover all areas of bare steel exposed as part of this contract.

506.08 Surface Preparation

Prior to cleaning, all corners and edges of members and plates, whether rolled cut or sheared, exposed in the assembled product shall be rounded to approximately 1/8 inch radius. A series of tangents to the approximate radius will be considered as rounded.

Surfaces to be field painted shall be cleaned to meet the requirements of SSPC-SP 3 prior to the application of paint. SSPC VIS 3 shall be used to determine acceptable cleanliness. If more than one method of cleaning is used (e.g., power sanders and needle guns), an acceptable job standard shall be established for each method. All surfaces shall be solvent wiped in accordance with SSPC-SP1 immediately prior to application of the protective coating.

The allowable time between cleaning and coating application shall not exceed the manufacturer's published recommendations.

506.09 Application

Cold galvanizing compound shall be applied by roller or brush in accordance with the manufacturer's recommendations.

Thinning and mixing of coatings shall be in conformance with the manufacturer's published instructions. Thinner shall be measured using a graduated cup or other container that clearly indicates the amount of thinner being added. Mixing shall be done using the method, equipment and for the amount of time recommended by the coating manufacturer.

All protective coatings shall be applied in accordance with the manufacturer's published recommendations. Environmental conditions in the immediate vicinity of the surfaces to be coated shall be within the range of the manufacturer's published requirements both during the coating operation and during the curing period. Primer shall not be force cured.

The Resident shall be given ample notice in order to inspect the product prior to coating, recoating or removal of paint from the area. "Ample notice" shall be defined at the Pre-Construction meeting depending on shop or site conditions.

Substrates that are primed or surfaces that are recoated without notification of the Resident will be rejected and no further coating shall be done on the piece. Rejected coating shall be removed and re-applied. The cost of repairs shall be borne by the Contractor.

506.11 Repairs

Damaged or unacceptable coatings within the limits of paint removal shall be repaired. Damaged areas shall be prepared in accordance with the manufacturer's published instructions or as approved by the Resident. The Resident shall have final authority concerning acceptable appearance.

506.12 Method of Measurement

The application of protective coatings will not be measured for payment separately, but shall be considered incidental to the related contract items.

SPECIAL PROVISION

SECTION 507

RAILINGS

507.09 Basis of Payment

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
507.091	Aluminum Bridge Railing, 1 Bar	Lump Sum
507.092	Aluminum Bridge Railing, 2 Bar	Lump Sum

SPECIAL PROVISION

SECTION 511

COFFERDAMS

(Cofferdam)

511.03 Cofferdam Construction

The first paragraph is deleted and replaced with the following:

- A. Working Drawings. The Contractor shall submit Working Drawings, showing the materials to be used and the proposed method of construction of cofferdams to the Department. All cofferdam design computations, plans, and working drawings shall be designed and sealed by a Professional Engineer, who must be licensed in accordance with the laws of the State of Maine. Construction shall not start on cofferdams until such Working Drawings have been submitted, reviewed and accepted by the Resident. Any review of or comment on, or any lack of review of or comment on, these Working Drawings by the Authority shall not result in any liability upon the Authority and it shall not relieve the Contractor of the responsibility for the satisfactory functioning of the cofferdam.

The temporary earth retaining structures shall be designed to support all appropriate combinations of earth, static water, stream pressure, ice loads and surcharge loads (from traffic, construction equipment, material stockpiles, and other sources) imposed on the system during all phases of construction. The Contractor's design shall consider the means and methods and construction sequencing proposed by the Contractor. The height of the cofferdam and the depth of the seal concrete shall be determined by the Contractor's Engineer. The working drawings shall indicate the water elevation above which the cofferdam should be flooded to avoid overloading.

Design computation shall be in accordance with the requirement of either the AASHTO Standard Specifications for Highway Bridges, 17th edition, or the AASHTO LRFD Bridge Design Specifications, Latest Edition. Additionally, the Contractor's Engineer shall design the cofferdam to conform to all Federal, State, County and Local Regulations and Permits.

SPECIAL PROVISIONSECTION 515PROTECTIVE COATING FOR CONCRETE SURFACES

(Pigmented Concrete Protective Coating)

Section 515, Protective Coating for Concrete Surfaces, is deleted in its entirety and replaced with the following:

515.01 Description

The work shall include the surface preparation and application of a pigmented concrete protective coating system, consisting of a clear penetrating sealer followed by a pigmented top coat, to protect new and existing concrete and masonry structures. The coating system shall be applied to piers, endposts, wingwalls, abutments, curbs and fascia in accordance with the Plans, Specifications and the manufacturer's published recommendations.

Where pigmented protective coatings are already present on concrete surfaces specified to receive new protective coatings, the work shall also include removing areas of existing protective coating that are blistered, flaking, peeling or otherwise loosely adhered to the concrete substrate prior to application of the new coating. The removal of loosely adhered pigmented protective coatings shall be completed by high-pressure washing. Where the removal of existing pigmented coatings is required the anticipated removal limits, and the anticipated quantity of removal, will be shown on the plans. The actual removal limits may vary and will be established and marked in the field by the Resident.

515.02 Materials

The pigmented penetrating sealer system shall be a two coat system consisting of Certi-Vex Guard Clear (primer/sealer) and Certi-Vex HBC Smooth (top coat), as manufactured by Vexcon Chemicals, Inc., or an approved equal, consisting of the following two parts:

- The primer shall be a vinyl toluene acrylic silane polymer blend or an approved equal. This primer shall provide the main protection against the ingress of water borne chlorides and sulfates.
- The top coat shall be solvent borne modified acrylic resins with selected pigments and fillers.

The products shall comply with regulations limiting the Volatile Organic Compound (VOC) content of architectural and industrial maintenance coatings.

The Contractor shall submit the Vexcon Chemical's product data sheets, material safety data sheets and recommended instructions for application of the Certi-Vex Guard Clear and Certi-Vex HBC Smooth.

The pigmented penetrating sealer color shall be Concrete Gray.

Materials shall be delivered to the site in original packages or containers bearing the manufacturer's labels and identification.

515.021 Substitute Materials

The Contractor shall submit a written request for approval of proposed substitute material naming the proposed manufacturer and product. This request shall be accompanied by:

1. Test data from an independent testing laboratory stating that the proposed substitute meets or exceeds the specified requirements as listed and has been tested in accordance with the specified test standards.
2. Documentation that the proposed material has a proven record of performance when used in the intended application as confirmed by actual field tests and successful installations in place on at least five similar projects.
3. Certification that if two or more types of products are intended to be used as part of a system they will be supplied by the same manufacturer to ensure compatibility of materials, and to maintain single source manufacturer responsibility.

The Resident reserves the right to require additional testing to evaluate any proposed substitute product at no additional cost to the Authority. The Resident's decision as to the acceptability or non-acceptability of the proposed product shall be final.

515.03 Surface Preparation

All caulking, patching, and joint sealant shall be installed prior to application of the sealer. The surface shall be prepared in strict accordance with the instructions of the approved manufacturer. Surface shall be fully cured, dry, and free from contamination such as asphalt coatings, oil, grease, loose particles, decaying matter, moss, algae growth, and curing compounds. For maximum penetration of the primer, the Contractor shall lightly sandblast the surface.

Existing form tie hole plugs which are loose or deteriorated shall be completely removed. The holes shall be reamed to sound concrete. All open form tie holes, new and existing shall be filled with an approved non-shrinking mortar, and after setting, rubbed level to the adjacent surface. Filled holes shall be cured for at least two (2) days prior to the application of the concrete protective coating.

Grass and vegetation adjacent to surfaces to be coated shall be removed or trimmed closely to permit proper preparation and application of the coating.

Where coatings are specified to be applied to concrete surfaces that have been previously covered with pigmented coating, the Contractor shall remove any protective coating that, in the judgement of the Resident, is blistered, flaking, peeling or otherwise loosely adhered to the concrete substrate. Loosely adhered coating shall be generally defined as any coating that can be removed by vigorously scraping the concrete surface using a 3" steel putty knife and firm pressure. The goal of the removal work is to remove areas of flaking, missing or otherwise compromised

coating systems; protective coatings that are tightly adhered to the concrete substrate need not be removed.

The removal of existing protective coatings shall be completed using high pressure washing. The specific pressure, flow rate, nozzle and standoff distance for the high-pressure washing operation shall be selected by the Contractor to remove loosely adhered coatings as specified. After high-pressure washing the Resident shall verify all loosely adhered coatings have been removed from the specified areas by scraping the surfaces with a putty knife. The Contractor will be required to complete additional pressure washing to remove any remaining loosely adhered coatings identified by the Resident

Following removal of existing coating systems all exposed surfaces of the substructure unit to be coated shall be cleaned and rinsed by pressure washing. The Contractor may use, when required, appropriate cleaning materials recommended by the sealer manufacturer in conjunction with high pressure water for cleaning the concrete or masonry. After pressure washing the concrete surfaces shall be allowed to air dry for a minimum of 48 hours prior to applying the new protective coating.

The Contractor will be responsible for controlling and filtering runoff resulting from the pressure washing operations in accordance with Supplemental Specification 656, and all local, state and federal requirements.

515.04 Application

The materials shall be mixed and applied in strict accordance with the instructions of the approved manufacturer. Spray or roll the primer at the recommended application rate. If the surface is very absorbent, the primer should be applied until surface is saturated per the manufacturer's written instructions. All areas not to receive coating shall be marked with straight, even lines as the limit lines.

The Contractor shall, in the presence of the Resident, apply the materials on a sample area which is representative of a jobsite application. When color and application methods are approved, the sample area shall serve as a standard of acceptance for all further work.

The primer shall not be applied in direct sunlight when the air or surface temperature is greater than 90°F, or when air or surface temperature is below 35°F. The top coat shall not be applied when air or surface temperature is below 45°F or as approved by the Resident.

For surfaces that have previously received pigmented coating the primer shall only be applied to areas where the existing coating was marked for removal and then removed by sandblasting. The primer application shall extend beyond the removal limits of the existing coating system by six inches on all sides.

The primer shall be allowed to dry for a minimum of two-hours before applying pigmented top coat. Under poor drying conditions this time shall be extended. The primer shall not be coated with top coat until the surface is dry. The top coat should be applied by brush, roller or suitable airless spray.

Top coat material shall be applied per the manufacturer’s recommended application rate and in strict accordance with the manufacturer’s written instructions. The top coat shall provide consistent color without light spots or shadows. The Resident reserves the right to have the Contractor recoat the top coat if the dried top coat(s) lack consistent color or show light spots or shadows.

For surfaces that have previously received pigmented coating the top coat shall be applied to the complete limits of pigmented coating application as described on the Contract Plans, not just the area of old coating removal.

Regardless of the application method used (sprayer, roller or brush) the Contractor shall be responsible for achieving 100% coverage of the concrete including the interior surfaces of concrete voids, recesses, or other depressions on the concrete surface.

Protect plants, grass, sealant, asphalt, traffic, etc. during application from spray.

515.05 Method of Measurement

Pigmented Concrete Protective Coating will be measured for payment by the square yard, satisfactorily applied and accepted.

The removal of existing pigmented protective coatings will not be measured for payment separately, but shall be incidental to the Pigmented Protective Coating for Concrete Surfaces pay item.

515.06 Basis of Payment

Pigmented Concrete Protective Coating will be paid at the Contract unit price per square yard which price shall be full compensation for all labor, materials, equipment and incidentals required for furnishing and applying the pigmented concrete protective coating as shown on the Plans, in accordance with these Specifications or as approved by the Resident.

Surface preparation, including high-pressure washing to remove existing pigmented coatings, vegetation removal, and protection of surfaces not designated for treatment will not be paid for separately, but shall be incidental to the Pigmented Concrete Protective Coating item.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
515.201 Pigmented Protective Coating for Concrete Surfaces	Square Yard

SPECIAL PROVISION

SECTION 515

PROTECTIVE COATING FOR CONCRETE SURFACES

(Clear Concrete Protective Coating)

Section 515, Protective Coating for Concrete Surfaces, is deleted in its entirety and replaced with the following:

515.01 Description

The work shall include the surface preparation and application of a clear protective coating on concrete surfaces to protect new cast-in-place concrete, precast concrete and masonry structures. The coating system shall be applied to piers, endposts, curbs and fascia in accordance with the Plans, Specifications and the manufacturer’s published recommendations.

515.02 Materials

The penetrating sealer shall be StandOff® SLX100 Water & Oil Repellent, as manufactured by ProSoCo, Inc., or an approved equal. The sealer shall have the following properties:

Active Substance:	modified alkyl alkoxy silane
Active Content:	> 90%
Form:	clear liquid
VOC:	< 3.5 pounds per gallon

The product shall comply with regulations limiting the Volatile Organic Compound (VOC) content of architectural and industrial maintenance coatings.

The Contractor shall submit the ProSoCo's product data sheets, material safety data sheets and recommended instructions for application of the StandOff® SLX100.

Materials shall be delivered to the site in original packages or containers bearing the manufacturer's labels and identification.

515.021 Substitute Materials

The Contractor shall submit a written request for approval of proposed substitute material naming the proposed manufacturer and product. This request shall be accompanied by:

1. Test data from an independent testing laboratory stating that the proposed substitute meets or exceeds the specified requirements as listed and has been tested in accordance with the specified test standards.

2. Documentation that the proposed material has a proven record of performance when used in the intended application as confirmed by actual field tests and successful installations in place on at least five similar projects.
3. Certification that if two or more types of products are intended to be used as part of a system, they will be supplied by the same manufacturer to ensure compatibility of materials, and to maintain single source manufacturer responsibility.

The Resident reserves the right to require additional testing to evaluate any proposed substitute product at no additional cost to the Authority. The Resident's decision as to the acceptability or non-acceptability of the proposed product shall be final.

515.03 Surface Preparation

All caulking, patching, and joint sealant shall be installed prior to application of the sealer. On new surfaces to be treated, all voids shall be dressed by dry rubbing to remove form marks and blemishes to present a neat appearance. Concrete and masonry surfaces shall be cleaned free of dust, surface dirt, oil, efflorescence and contaminants to ensure penetration of the sealer. The surface may be slightly damp at the time of treatment.

The Contractor may use, when required, appropriate cleaning materials recommended by the sealer manufacturer in conjunction with high pressure water for cleaning the concrete or masonry.

515.04 Application

The Contractor shall apply the clear concrete protective coating in strict accordance with the manufacturer's published recommendations.

The application shall not be conducted when surface and air temperatures are below 40°F or above 90°F. The work shall not be conducted when there is a chance of the surface temperature falling below 40°F in the 24-hours following application; nor should it be applied on hot, windy days.

The treatment shall not be applied during rain to wet surfaces or when there is a chance of rain within 24-hours after application. After treatment, surfaces should be protected from rain for not less than 48-hours. It shall not be applied when winds are sufficient to carry airborne chemicals to unprotected surfaces.

Prior to applying the sealer, the Contractor shall protect all surrounding non-masonry/non-concrete surfaces, landscape and lawn areas, and surfaces not designated for treatment, from contact with the penetrating sealer, and prevent overspray of the penetrating sealer caused by wind drift.

The Contractor shall ensure that all safety equipment, facilities and precautions recommended by the product manufacturer are furnished and/or strictly adhered to.

The sealer material shall be applied in the manner and with the equipment recommended by the product manufacturer. Coverage will vary depending on condition, texture and porosity of the surfaces. Pre-testing is required.

Sealer shall be applied as packaged without dilution or alteration. The sealer shall be applied with low pressure (20 psi) airless spray equipment or with a heavily saturated brush or roller unless otherwise permitted by the Resident. Sufficient material shall be applied to thoroughly saturate the surface making sure to brush out excess material that does not penetrate.

When the sealer is applied to horizontal surfaces, it shall be applied in a single saturating application with sufficient material and applied so the surface remains wet for one to two minutes before penetration into the concrete. Surface residues, pools and puddles shall be broomed-out thoroughly until they completely penetrate into the surface.

When the sealer is applied to vertical and sloped surfaces, it shall be applied in a "wet-on-wet" application for best results on most porous materials. In the case of extremely dense concrete, it may be necessary to restrict the amount of material applied to one saturating application in order to prevent surface darkening. Apply from the bottom up with sufficient material to thoroughly coat the surface and create a slight rundown below the spray pattern. Allow the first application to penetrate the concrete surface, and within a few minutes after the first coat appears dry, reapply in the same saturating manner.

When the sealer is applied to vertical and sloped surfaces, it shall be applied in two applications, 10 minutes apart, with a low pressure (20 psi) airless sprayer.

515.05 Method of Measurement

Clear Protective Coating for Concrete Surfaces will be measured for payment by the square yard, satisfactorily applied and accepted.

515.06 Basis of Payment

Clear Protective Coating for Concrete Surfaces will be paid at the Contract unit price per square yard which price shall be full compensation for all labor, materials, equipment and incidentals required for furnishing and applying the clear concrete protective coating as shown on the Plans, in accordance with these Specifications or as approved by the Resident.

Surface preparation, vegetation removal, and protection of surfaces not designated for treatment will not be measured separately for payment, but shall be incidental to the Clear Concrete Protective Coating item.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
515.202	Clear Protective Coating for Concrete Surfaces	Square Yard

SPECIAL PROVISION

SECTION 515

PROTECTIVE COATING FOR CONCRETE SURFACES

(Anti-Graffiti Coating)

This Section is deleted in its entirety and replaced with the following:

515.01 Description

This work shall include the surface preparation and application of anti-graffiti protective coating to existing substructure concrete surfaces. The coating system shall be applied to all exposed substructure surfaces in accordance with the Plans, Specifications and the manufacturer's published recommendations.

This work also includes providing, cleaning, coating and curing a test area on one of the existing substructure units to ensure product suitability, number of coats required and that the desired results have been achieved.

515.02 Materials

The protective coating shall be Si-COAT 531 Spray Grade Anti-Graffiti Protective Coating, as manufactured by CSL Silicones, Inc. The Contractor shall submit CSL Silicones product data sheets, material safety data sheets and recommended instructions for application of the Si-COAT 531 to the Resident.

Materials shall be delivered to the site in original packages or containers bearing the manufacturer's labels and identification.

515.021 Substitute Materials

No material substitutions will be allowed for this item.

515.03 Surface Preparation

The selected surfaces shall be thoroughly cleaned of dust, dirt, grease, oil, loose materials or other objectionable materials before applying the coating. Cleaning shall be completed by pressure washing in accordance with the manufacturer's written instructions. Sandblasting will not be permitted. The coating shall be applied as soon as practicable after cleaning is completed. If in the opinion of the Resident, the surface has become soiled or otherwise contaminated prior to the application of the coating, the surface shall be recleaned at no additional cost.

515.04 Application

A test area on one of the substructure units to be coated shall be performed measuring a minimum of 4 feet by 4 feet, cleaned, coated and cured to ensure product suitability, number of coats required and that the desired results have been achieved. The test area and final results shall

be inspected and approved by the Resident prior to applying the coating to the remaining substructure units.

The Contractor shall apply the coating in strict accordance with these specifications and the manufacturer's published recommendations, whichever is more stringent.

Application of the protective coating shall not be conducted when surface and air temperatures are below 40°F. The environmental temperature shall be at least 5°F above the dew point prior to and during application. The work shall not be conducted when there is a chance of the surface temperature falling below 40°F in the 24-hours following application.

The coating shall not be applied during rain, to damp or wet surfaces, or when there is a chance of rain within 24-hours after application.

The coating shall not be applied when winds are sufficient to carry airborne coating to unprotected surfaces.

Prior to applying the coating the Contractor shall protect all surrounding surfaces not designated to receive anti-graffiti coating from accidental coating due to overspray or drifting.

The material shall be applied in a single coat using an airless sprayer taking care to evenly coat all pores and textured areas. The material shall be applied as packaged without dilution or alteration. A uniform application rate shall be used that provides a 12.5 mils DFT coating thickness.

The Contractor shall ensure that all safety equipment, facilities and precautions recommended by the product manufacturer are furnished and/or strictly adhered to.

515.05 Method of Measurement

Anti-Graffiti Coating will be measured for payment by the square yard satisfactorily applied and accepted.

No separate measurement will be made for providing, cleaning, and coating test area.

515.06 Basis of Payment

Anti-Graffiti Coating will be paid at the Contract unit price per square yard which price shall be full compensation for all labor, materials, equipment and incidentals required for furnishing and applying the coating as shown on the Plans, in accordance with these Specifications or as approved by the Resident.

Surface preparation, vegetation removal, and protection of surfaces not designated for treatment will not be measured separately for payment, but shall be incidental to the Anti-Graffiti Coating pay item.

Providing, cleaning, and coating test area will not be measured separately for payment, but shall be incidental to the Anti-Graffiti Coating pay item.

Payment will be made under:

Pay Item

Pay Unit

515.23 Anti-Graffiti Coating

Square Yard

SPECIAL PROVISION

SECTION 518

STRUCTURAL CONCRETE REPAIR

(Epoxy Injection Crack Repair)

518.01 Description

The following paragraphs are added:

The work includes epoxy injection crack repair as described below.

- Epoxy Injection Crack Repair includes all concrete crack widths in the concrete equal to or greater than 0.06 inches as shown on the plans or identified by the Resident.

518.02 Repair Materials

The following paragraphs are added:

Epoxy injection crack repairs shall be completed using a high strength, low viscosity moisture tolerant epoxy resin as recommended by the manufacturer and approved by the Resident. The proposed repair materials shall be submitted to the Resident for approval.

The structural properties of all crack repair materials shall meet or exceed the following requirements:

Tensile Strength (@ 7 days)	5,000 psi	ASTM D638
Bond Strength (@ 14 days)	1,000 psi	ASTM C882
Compressive Strength (@ 3 days, 73 °F)	5,000 psi	ASTM D695
Compressive Modulus (@ 7 days)	250 ksi	ASTM D695
Flexural Strength (@14 days)	8,000 psi	ASTM D790

The Contractor shall submit the product data sheets, material safety data sheets and recommended instructions for application of the proposed material.

Materials shall be delivered to the site in original packages or containers bearing the manufacturer’s labels and identification.

Wide cracks (1/2” +/- and greater) may be repaired with a non-shrink cementitious grout as recommended by the manufacturer. The following product shall be used:

- CONSPEC UW300 as manufactured by Dayton Superior, 7777 Washington Village Drive, Suite 130, Dayton OH, 45459

The following Subsection is added:

518.071 Placing Epoxy Injection Materials

Preparation:

- d) The crack to be repaired and its surrounding surface, within three inches along each side shall be free of oil, solvent, grease, dirt, loose particles, laitance, and foreign matter
- e) Cleaning of the crack shall be performed by air blasting, wire brush, and scrapers or other methods approved by the Resident.
- f) Place injection ports along the crack using a high-modulus epoxy adhesive ensuring that the injection ports are spaced no more than six inches apart and that the opening of the injection port is not covered by the epoxy.
- g) The Resident shall approve the prepared crack prior to applying the sealer.

Application:

- a) Mix epoxy components per manufacturer's instructions. Review pot life characteristics of combined materials and prepare quantities accordingly;
- b) Open all injection ports along the crack and ensure that all injection ports are securely fastened to the concrete substrate;
- c) Attach injection device to the first port in the series on horizontal cracks;
- d) Slowly and under constant pressure, inject the epoxy material into the first port until the epoxy flows out of the next port in the series. While maintaining constant pressure and flow at the first port, close the adjacent port and continue injection process until epoxy flows from the subsequent port in the series, or until no additional epoxy can be injected into the first port.
- e) Seal the crack with epoxy adhesive using a small trowel, by pushing the epoxy into the crack and then feathering the surface so that the epoxy forms a raised profile over the crack and bonds to the adjacent concrete surface.
- f) Repeat the above procedure until all ports have been injected.
- g) The epoxy adhesive shall cure for the minimum duration recommended by the manufacturer.
- h) The sealant shall not be applied during rain to wet surfaces or when there is a chance of rain within 24-hours after application.

518.10 Method of Measurement

The following paragraphs are added:

The quantity of Epoxy Injection Crack Repair will be measured by the linear foot.

518.11 Basis of Payment

The following paragraphs are added:

Epoxy Injection Crack Repair will be paid at the Contract unit bid price per linear foot for each repair; which price shall include, but not necessarily be limited to, removal and disposal of materials, cleaning existing concrete, furnishing and installing pressure injection system, placing,

curing and finishing epoxy and all materials, labor, equipment, tools and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
518.40	Epoxy Injection Crack Repair	Linear Foot

SPECIAL PROVISION

SECTION 518

STRUCTURAL CONCRETE REPAIR

(Epoxy Injection Crack Repair – Below Waterline)
(Repair of Vertical Surfaces < 8 inches – Below Waterline)

518.01 Description

The following paragraphs are added:

The work includes pier surface patch repair below water and epoxy injection crack repair below water.

- Epoxy Injection Crack Repair – Below Waterline includes the epoxy injection of cracked horizontal, vertical and overhead surfaces of the piers, abutments, wingwalls, culverts and respective footings located below the approximate ordinary water elevation shown on the plans or as directed by the Resident. Cracks measuring less than 1/8” wide will not be repaired.
- Repair of Vertical Surfaces < 8 inches – Below Waterline includes concrete patching on all vertical surfaces as shown on the plans or identified on the Resident located below the approximate ordinary water elevation shown on the plans.

The ordinary water elevation shown on the plans shall delineate payment for above and below water repairs regardless of the actual water elevation at the time of repair. The Contractor shall bid the work accordingly.

This work also includes providing the Authority, or its duly authorized representatives with access to all portions of the substructure units located above the water line for the purposes of inspection, testing, and observation as requested.

This work also includes coordinating with the Resident for the completion of third-party inspection by the Authority at prescribed “hold” points for repairs occurring below the waterline.

518.02 Repair Materials

The following paragraphs are added:

All repairs occurring below water shall use an approved pre-bagged one component, polymer modified, silica fume enhanced, Portland Cement pump and pour mortar with aggregate sized for depth of repair and bar spacing based on manufacturer’s recommendations.

The product minimum requirements are:

Compressive strength at 7 days:	≈5,500 psi
Bond strength at 28 days:	≥2,200 psi

Chloride ion permeability: ≤ 600 coulombs

For placement of mortar underwater, provide an anti-washout admixture to prevent the washout of cementitious materials during pumping and placement.

One of the following products shall be used for all underwater concrete repairs. The manufacturer's recommendations for preparation and placement shall be strictly followed:

- Sika Mono Top611, extended with aggregate, with Sikament 100 SC anti washout admixture, as manufactured by Sika Corp., 201 Polito Avenue, Lakehurst, NJ 07011.
- Five Star Structural Concrete Underwater PG, extended with aggregate, as manufactured by Five Star Products Inc. 750 Commerce Drive, Fairfield CT, 06825.
- Emaco S66 CI, extended with aggregate, as manufactured by Degussa Building Systems, 889 Valley Park Drive Shakopee, MN, 55379.

Epoxy injection crack repairs shall be completed using a high strength, low viscosity moisture tolerant epoxy resin approved by the Resident. The material proposed for use below the water line shall be specifically formulated and approved by the manufacturer for application below water. The proposed repair materials shall be submitted to the Resident for approval.

The structural properties of all crack repair materials shall meet or exceed the following requirements:

Tensile Strength (@ 7 days)	5,000 psi	ASTM D638
Bond Strength (@ 14 days)	1,000 psi	ASTM C882
Compressive Strength (@ 3 days, 73°F)	5,000 psi	ASTM D695
Compressive Modulus (@ 7 days)	250 ksi	ASTM D695
Flexural Strength (@ 14 days)	8,000 psi	ASTM D790

518.03 Removal of Unsound Concrete

The following paragraphs are added:

To the extent practical all pier repairs shall be completed during periods of low flow when the repair areas are exposed and do not require in-water work. The Contractor shall plan the work accordingly.

The following paragraph is added:

All concrete and other material removed shall be recovered from the Project site and disposed of outside the limits of the Turnpike Right-of-Way. At no time shall material be permitted to fall into the Androscoggin River. Materials which fall into the river shall be extracted by the Contractor at his own expense. The Contractor shall provide the Resident with an affidavit stating the final location of all disposed material and that the material was disposed of in accordance with Chapter 404 of the Maine Department of Environmental Protection Solid Waste Regulations.

The following Subsection is added:

518.04 Reinforcing Steel

The following paragraph is added:

For below-water repairs all existing reinforcing steel exposed by the concrete repairs that will remain in place shall be thoroughly cleaned by rigorous mechanical abrasion, supplemented by chipping hammers, water blasting or other means as necessary, so that the surfaces are free of rust, scale, mortar and other foreign material, and reasonably free of shadows. The cleaning shall be completed such that all surfaces of the bars are as free from rust and other foreign material as practical.

518.07 Placing Repair Materials

The following paragraphs are added for material batching, mixing and application for pier occurring below the water line:

Batching and mixing:

- a. Prepackaged polymer modified mortar shall be mixed and prepared according to manufacturer's instructions.
- b. Limitations on time of placement following mixing shall be strictly adhered to.
- c. Batching and mixing equipment: This equipment shall be a high pressure, low volume concrete repair pump using the swing tube operating principle.
- d. The maximum concrete pressure will be 1,330 psi.
- e. The swing tube pump shall be equipped with a pressure reducing valve to reduce the hydraulic pumping pressure and allow the pressure on the forms to be reduced if needed.

Application:

- a. Placement techniques – use either “job built” or manufactured form systems to conform to the desired contours of the area to be formed. Apply form release agent or use plastic lined plywood to create a bond breaker at form inner face.
- b. Where possible, and at regular intervals, place vents in the form work to monitor material flow and vent excess displaced water.
- c. Pump the material with a high-pressure, low volume concrete pump. Pump continuously until forms are completely filled. Continue pumping until a 3 to 5 psi increase in normal line pressure is evident and STOP pumping. Form should not deflect. This process may involve multiple valve systems as required to complete the work.
- d. Vibrate form while pumping.
- e. All vents shall be capped when a steady flow is evident.
- f. Leave forms in place during the seven (7) day curing period.

The following Subsection is added:

518.071 Placing Epoxy Injection Materials

- a. Mix epoxy components per manufacturer's instructions. Review pot life characteristics of combined materials and prepare quantities accordingly;
- b. Open all injection ports along the crack and ensure that all injection ports are securely fastened to the concrete substrate;
- c. Attach injection device to the lowest port on vertical cracks, or the first port in the series on horizontal cracks;
- d. Slowly and under constant pressure, inject the epoxy material into the first port until the epoxy flows out of the next port in the series. While maintaining constant pressure and flow at the first port, close the adjacent port and continue injection process until epoxy flows from the subsequent port in the series, or until no additional epoxy can be injected into the first port.
- e. Repeat the above procedure until all ports have been injected.

518.09 Inspection

The following is added after the first paragraph:

The Authority will acquire the services of a third-party underwater inspection firm to inspect all repairs completed below the waterline. All below waterline repair areas shall be inspected by the Authority at the following hold points:

- For Below Waterline Surface Patch Repairs:
 - After all repair areas have been chipped to sound concrete, and after final surface preparation, but before the construction of forms.
 - During selected placements of repair materials (as determined by the Resident).
 - After the removal of formwork / prior to final acceptance of the work.
 - At other times deemed appropriate by the Resident.
- For epoxy injection crack repairs:
 - After all repair areas have been cleaned, but before the application of sealants and injection ports.
 - During selected placements of repair materials (as determined by the Resident).
 - Prior to final acceptance of the work.
 - At other times deemed appropriate by the Resident.

The Contractor shall coordinate with the Resident for the completion of underwater inspection at the above hold points. Requests for inspection shall be submitted to the Resident in writing. Underwater inspection work will be completed within five working days of the Contractor's request for inspection. The Contractor shall plan and execute the work accordingly.

The Contractor shall be responsible for sequencing the work in a manner that minimizes the amount of site visits required by the third-party inspection firm to the extent practical. The Authority reserves the right to postpone the inspection of small and/or isolated repair areas until such time that the required underwater inspection efforts warrant mobilization of the inspection crew. Postponement of the inspection work by the Authority shall not entitle the Contractor to an adjustment for delay.

518.10 Method of Measurement

The following paragraphs are added:

The quantity of Epoxy Injection Crack Repair – Below Waterline will be measured by the linear foot where the repair occurs below the approximate ordinary water elevation on the plans.

The quantity Repair of Vertical Surfaces < 8 inches – Below Waterline will be measured by the square foot and shall be computed as the sum of the products of the average length and width of each area repaired where the repair occurs below the approximate ordinary water elevation on the plans.

Where required the fabrication and placement of reinforcing steel for surface patch repairs will not be measured for payment separately, but shall be considered incidental to the related contract items.

Earth excavation required to expose repair areas for pier repairs is not expected based on inspection results, however if minor areas are required it will not be measured separately for payment, but shall be incidental to the related items.

Cleaning debris as required to allow inspection and sounding of the concrete will not be measured for payment separately, but shall be considered incidental to the related contract items

518.11 Basis of Payment

The following paragraphs are added:

Epoxy Injection Crack Repairs – Below Waterline will be paid at the Contract unit bid price per linear foot; which price shall include, but not necessarily be limited to dive crews; cleaning concrete; furnishing and installing pressure injection system; placing, curing, and finishing epoxy injection materials; and all secondary materials, equipment, tools and incidentals to complete the work.

Repair of Vertical Surfaces < 8 inches – Below Waterline will be paid for at the Contract unit bid price per square foot for each type of repair; which price shall include, but not necessarily be limited to dive crews, removal and disposal of materials; cleaning debris; cleaning existing concrete and reinforcing steel; furnishing and placing new reinforcing steel where required; furnishing, placing and removal of forms, staging, temporary supports where required; placing, curing and finishing new concrete; and, all materials, labor, equipment, tools and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
518.401	Epoxy Injection Crack Repair – Below Waterline	Linear Foot
518.601	Repair of Vertical Surfaces < 8 inches – Below Waterline	Square Foot

SPECIAL PROVISION

SECTION 520

EXPANSION DEVICES – NON-MODULAR

(Asphaltic Plug Joint)

Section 520, Expansion Devices, Non-Modular, is deleted in its entirety and replaced with the following:

520.01 Description

This work consists of furnishing and installing asphaltic plug joint systems at the location(s) shown on the Plans, in accordance with these Specifications or as directed by the Resident. This work shall include furnishing, installation and removal of any bond breaking materials used to prevent asphalt pavement layers from adhering to waterproofing membrane, all temporary header(s) installed with the intent to form the asphaltic plug joint channel, and all preparation required for the installation of the asphaltic plug joint.

This work shall also include having the approved manufacturer provide a qualified technical representative to supervise the installation of the joint systems. The representative shall instruct, train and supervise the Contractor's personnel in the proper methods of installation. All costs associated with this service shall be included in the unit price of the work.

Bridging plates for asphaltic plug joint systems shall only be used when shown on the Contract Plans.

520.02 Submittals

Prior to construction, the Contractor shall submit the following to the Resident for review and approval:

- (a) Complete and detailed Shop Drawings of asphaltic plug joint system. Shop Drawing shall include information covering materials, their properties, installation procedures, storage and handling requirements, and Safety Data Sheets.
- (b) The resume of the manufacturer's technical representative, which shall include the representative's experience installing the asphaltic plug joint system along with the names and telephone numbers of contact persons for recent projects where technical assistance was provided.
- (c) Certified test reports of the asphaltic binder, closed cell foam backer rod, and the plastic compound.
- (d) Certificates of Compliance for bridging plates, centering nails, and aggregate.

520.03 Materials

The asphaltic plug joints shall consist of a system including bridge joint binder material, aggregate, backer rod, elastomeric concrete header material, and polysulfide joint sealant conforming to the details and dimensions shown on the Plans, in accordance with these Specifications and as directed by the Resident.

The following systems are acceptable for use as asphaltic plug joints:

<u>Thorma-Joint</u>	<u>Wabo Expandex</u>	<u>Matrix 502</u>
Surface Dynamics, Ltd.	Watson Bowman ACME	D.S. Brown
373 Village Road	95 Pineview Drive	300 East Cherry Street
Pennsdale, PA 17756	Amherst, New York 14228	North Baltimore, OH 45872

Fibrejoint
 Fibrecrete Preservation
 Technologies
 131 St. James Way
 Mount Airy, NC 27030

Materials which are incorporated in or used in conjunction with approved asphaltic plug joint systems are as follows:

(a) Asphaltic Binder:

Binder shall meet or exceed requirements of AASHTO M301 (ASTM D3405) and consist of hot applied, thermoplastic polymeric modified asphalt with the following properties when tested in accordance with the following ASTM methods:

PROPERTY	REQUIREMENT	TEST METHOD
Softening Point, °F	180 min.	ASTM D36
Tensile Adhesion @ 77°F, %	700 min.	ASTM D3583
Ductility @ 77°F, inch	40 min.	ASTM D113
Penetration, 0.1 mm 77°F, 150 g, 5 s 0°F, 200 g, 60 s	90 max. 10 max.	ASTM D3407
Flow 5 hrs @ 140°F, mm	3.0 max.	ASTM D3407
Bond @ -20°F	pass 3 cycles	ASTM D3407
Resilience @ 77°F, %	40 to 70	ASTM D3407
Asphalt Compatibility @ 140°F	Pass	ASTM D3407
Recommended Pouring Temperature, °F	380 to 390	
Safe Heating Temperature, °F	400 min.	

(b) Backer Rod:

Backer rod shall be a cylindrical closed cell expanded polyethylene foam rod, with a diameter of 150 percent of joint opening width, capable of withstanding the temperature of the hot binder materials and having the following properties:

PROPERTY	REQUIREMENT	TEST METHOD
Density, lb/ft ³	2.0 min.	ASTM D1622
Tensile Strength, psi	20 min.	ASTM D1623
Water Absorption, % of wt.	1.0 max.	ASTM C509

(c) Bridging Plate:

Bridging Plate shall be either Plate Steel or Aluminum Flashing as specified on the plans.

Plate Steel Bridging Plates shall be fabricated from ASTM A36 steel, shall be a minimum of 1/4 inch thick and shall be galvanized. Holes for centering nails shall be located approximately one foot on center along the centerline of plates.

Aluminum Flashing Bridging Plates shall be rust-free roll aluminum. The aluminum flashing shall be a minimum of 6" wide and have a minimum thickness of 0.02 inches.

(d) Centering Nail:

Nail shall be 16d or larger and hot dip galvanized in accordance with ASTM A153.

(e) Aggregates:

Aggregate shall be crushed, double-washed and dried granite or basalt, and meet the ASTM C33 Size No. 6 gradation. This aggregate shall also be used for top dressing on the finished joints.

(f) Plastic Compound:

Plastic compound used for repairing overcuts in bituminous concrete overlays shall be a two-component liquid with a synthetic resin base. It shall have a minimum viscosity of 3,500 cps at 77°F and a maximum viscosity of 65,000 cps at 25°F. The plastic compound shall be cured by the addition of a specific hardener. Sufficient hardener shall be used to cure the plastic compound in approximately 30 minutes at 77°F. It shall have sufficient strength and resiliency to withstand stresses set up by vibration, expansion and contraction due to temperature changes. It shall also be resistant to most chemicals and solvents, including most salts, acids, and hydrocarbons.

520.04 Installations

Asphaltic plug joint system shall be installed in accordance with manufacturer's latest instructions and specifications. Manufacturer's representatives shall be present during the entire installation to ensure satisfactory results are obtained.

Asphaltic plug joint system shall allow total joint movement for up to two inches. The installation shall be centered over the expansion joint gap as indicated on the Plans. It shall not be installed when ambient or substrate temperatures are below 40°F, when rain is imminent, or in other environmental conditions disapproved by the Resident. The area shall be free of any dirt, dust, moisture, petroleum or solvents that might contaminate the joint materials or reduce the bond of the joint system to the substrate or vertical faces. The use of compressed air and heat may be required to dry the area before installing the joint system.

The asphalt pavement layers shall be removed to the required dimensions shown on the plans. The asphalt pavement shall be sawcut to a depth that will not damage the waterproofing membrane, but permit the removal of the asphalt pavement layer. The pavement layer shall be removed in a manner that will not damage the waterproofing membrane. Bond breakers such as interlayers and fabrics, or temporary header(s), may be used with new hot mix asphalt placements to avoid unnecessary saw cuts and protect the waterproofing membrane from damage. The method of attaching any temporary header(s) to the concrete deck shall be approved by the Resident. The use of a temporary header shall not be allowed if it will need to be anchored into a precast prestressed concrete member. Should a concrete leveling course be required before installing the bridging plates, and the membrane layer is removed in the process, it shall be replaced before the asphaltic plug joint system is installed. Vertical surfaces of the asphalt pavement layers shall be cleaned to remove all water, dust, or other contaminants.

Backer rods shall be installed in expansion joint openings at a minimum of one inch depth as indicated on the Plans.

Unless otherwise specified by the asphaltic plug joint system manufacturer, liquid asphalt binder meeting the requirements of a 64-28 or 58-28 PGAB shall be used to coat the membrane and bridging plate surfaces.

The binder shall be heated to 350°F to 410°F, or a safe temperature as recommended by manufacturer. Heating kettles shall be equipped with continuous agitation system, temperature controller, calibrated thermometer, and double steel jacket with an oil layer in between, to prevent scorching of the binder. During application, the temperature of binder shall be maintained at a minimum of 350°F, but no greater than 410°F. It shall be poured and leveled into expansion joint openings until overfilled, and the excess binder spreads over the area covered by the bridging plates.

If called for on the plans the bridging plates, whether fabricated from steel plate or aluminum flashing, shall be placed from curb to curb on the roadway portion of expansion joints. The plates shall be centered over joint openings. Centering nails shall be placed in pre-drilled holes and hammered in to secure plates.

Once the bridging plates are installed, liquid asphalt binder shall be poured and leveled over the bridging plates and adjacent membrane surfaces in a manner that ensures full coverage.

Areas with excessive application, such as pooling of liquid, should be removed or dispersed along the joint area.

Asphaltic plug joint system aggregate shall be heated in a rotating drum mixer to a minimum of 350°F but no greater than 410°F, or as recommended by the manufacturer. The thermoplastic polymeric modified asphalt binder shall be added to the mixer to pre-coat aggregates.

Coated aggregate shall be placed into blockouts in layers as recommended by the manufacturer. Blockouts shall be overfilled with coated aggregate as required to compensate for compaction. Equipment for compaction shall be as recommended by the manufacturer. Additional thermoplastic polymeric modified asphalt binder shall be screeded over the compacted joint to fill any surface voids.

Top dressing aggregate shall be applied per the manufacturer’s recommendation.

Plastic compound shall be used for repairing overcuts in bituminous concrete. Cleaning, mixing and application shall be in conformance to the manufacturer’s instructions.

Vehicular traffic may pass over finished joints two-hours after compaction or as recommended by the manufacturer.

520.05 Method of Measurement

The Expansion Device - Asphaltic Plug Joint system will be measured by the linear foot along the top surface of installed joints to the limits as shown on the Plan. Preparation of surfaces for the proposed joint system including cutting, grinding, and cleaning will not be measured separately for payment, but shall be incidental to the Expansion Device - Asphaltic Plug Joint pay item.

520.06 Basis of Payment

The asphaltic plug joint system will be paid for at the Contract unit price per linear foot, which price shall be full compensation for all labor, materials, equipment, and incidentals required for furnishing and installing the Expansion Device - Asphaltic Plug Joint as shown on the Plans, in accordance with these Specifications, and as directed by the Resident.

The backer rod, closed cell foam, all patching needed for the waterproofing membrane, and elastomeric sealant installed up the vertical face, and across the horizontal surfaces, of bridge curbs and sidewalks will not be measured separately for payment, but shall be incidental to the Expansion Device - Asphaltic Plug Joint pay item.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
520.23	Asphaltic Plug Joint	Linear Foot

SPECIAL PROVISION

SECTION 520

EXPANSION DEVICES – NON-MODULAR

(Joint Armor Repair)

520.01 Description

The following paragraph is added:

The work shall also include repairing the existing modular joint armor on the Androscoggin River Northbound bridge at Abutment 2.

520.02 Materials

The following paragraph is added:

All new steel required to repair joint shall conform to AASHTO M270 Grade 50.

520.06 Installation

The following paragraph is added:

For Joint Armor Repair, care shall be taken to avoid damaging the existing joint seals.

520.07 Method of Measurement

The following paragraph is added:

Joint Armor Repair will be paid at the Contract unit price per lump sum.

520.08 Basis of Payment

The following paragraph is added:

Joint Armor Repair will be paid for at the Contract unit price which price shall be full compensation for furnishing and installing the proposed steel repair, including all materials, labor, tools, equipment and incidentals necessary to complete the work with the Plans and Specifications.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
520.224	Joint Armor Repair	Lump Sum

SPECIAL PROVISION

SECTION 523

BEARINGS

(Bearing Installation)

523.01 Description

The following paragraphs are added:

This work shall also consist of removing and disposing the existing steel bearings (bearings, sole plates and masonry plates).

This work shall also consist of removing all lead based paint that will be disturbed by the removal of the existing steel rocker bearings and the installation of the new elastomeric bearings.

This work shall also include: cutting of existing anchor bolts and installation of new anchor bolts in the locations shown on the Plans; and preparing the existing steel girders to receive new bearings.

523.05 Fabrication

Removal of lead based paint shall be in accordance with Subsection 105.2.4.2, Lead Paint. The Contractor shall submit a lead based paint removal plan to the Resident for approval prior to the start of the work.

All surfaces of the new and existing steel girders, where paint is removed for welding and bearing installation, shall be repaired to the requirements of Subsection 506.26, Repairs, upon completion of the work.

523.51 Basis of Payment

The third sentence of the first paragraph is amended as follows:

Removal of the existing bearings, including all materials, equipment, labor, and incidentals necessary to remove, transport and dispose the existing bearings in accordance with the Plans and Specifications, shall be incidental to the Bearing Installation item.

The following paragraphs are added:

All materials, equipment, labor and incidentals required for: preparing the new and existing steel girders to receive the new bearings; lead paint removal; field repair of new and existing paint; trimming of existing anchor bolts and proposed anchor bolt installation; and installation of grout pads (if required), shall be incidental to the Bearing Installation item.

Touch-up of galvanized coating for the sole plates and masonry plates shall be included in the unit price.

Payment will be made under:

Pay Item

Pay Unit

523.52 Bearing Installation

Each

SPECIAL PROVISION

SECTION 523

BEARINGS

(Cleaning and Painting Bearing)
(Repair Bearing)
(Repair Bearing Keeper Strap)

523.01 Description

The following paragraphs are added:

Cleaning and Painting Bearings shall consist of inspecting and cleaning the steel rocker bearing assemblies (masonry plates, rocker bearings and sole plates) to remain at the locations described on the Plans and rehabilitating them to the satisfaction of the Resident.

Repair Bearing shall consist of inspecting and cleaning the existing steel rocker bearing on the Northbound Bridge at Abutment 2 as shown on the Plans. This will generally include removing the existing sole plate (rivets, plate, pins) and replacing it as shown on the Plan details. Once complete the bearing shall be cleaned and painted as described above.

Repair Bearing Keeper Strap shall consist of replacing the existing keeper straps as described in the Plans in select locations determined by the Resident.

523.02 Materials

The following paragraphs are added:

All new steel required to rehabilitate the existing bearings shall conform to AASHTO M270 Grade 36.

523.05 Fabrication

The following paragraphs are added:

The sole plate and hardware fabricated for the existing bearing repair at Abutment 2 are intended to match the existing details.

The following Subsection is added:

523.095 Cleaning and Painting Bearings

Each bearing shall be cleaned by removing rust, debris and other foreign materials, including lead from the exposed surfaces, jacking is prohibited. These bearing surfaces shall be cleaned to an SSPC-SP3 surface finish.

Removal of lead based paint shall be in accordance with Subsection 105.2, Health and Safety. The Contractor shall submit a lead based paint removal plan to the Resident for approval prior to the start of the work.

Once each bearing is cleaned the Contractor shall apply two coats of zinc rich cold galvanizing paint in accordance with Special Provision 506 Painting Structural Steel.

The following Subsection is added:

523.096 Repair Bearing

The Northbound Bridge Girder 1 bearing at Abutment 2 shall be repaired. The sole plate shall be replaced in-kind as shown on the Plans. Removal of the existing sole plate will require rivet removal and shall be performed in accordance with section 523.097. The proposed sole plate shall be reattached to the girder using galvanized ASTM A325 high strength bolts matching the diameter of the existing rivets removed.

The Contractor shall provide a jacking system and a temporary support system with the capacity to lift and support the design reactions provided on the Plans. Refer to Special Provision 524, Temporary Structural Support for additional information.

Extreme care shall be exercised during the removal of existing bearing components to avoid damaging the existing structure to remain. Any portion of the existing structure damaged by the Contractor shall be repaired in accordance with Section 504.412(e).

The following Subsection is added:

523.097 Rivet Removal

1. Rivet removal and replacement with high-strength bolts shall be completed as follows:
 - i. The removal of all rivets shall be completed in accordance with Special Provision 105.2.4.2 , Lead Paint.
 - ii. Where the rivet head bears directly on a primary girder component (e.g. girder web or flange) the rivet shall be removed by drilling, grinding, mechanically cutting or by shearing the rivet head using a pneumatically driven rivet breaker (helldog). After the rivet head is removed the shank shall be driven out using a pneumatic punch.
 - iii. Where the rivet head bears on a secondary girder component (e.g. stiffener angle, connection plate or fill plate) the rivet may be removed by any of the above methods or by thermal cutting methods (air-carbon arc washing or oxygen lancing). Thermal cutting shall be performed in accordance with American Welding Society (AWS) D1.5, Section C-3.2.6, and in accordance with Subsection 504.411.
2. Upon removal of each rivet the base metal shall be examined for surface irregularities and cracks. Where thermal cutting methods have been used for rivet removal the inspection of the base metal shall be completed by a certified welder. All cracks shall

be immediately brought to the attention of the Engineer. If the Engineer so determines that remedial action is required, the Contractor shall perform the work in accordance with Subsection 109.3 - Extra Work. Nicks, burrs, and foreign substances which may interfere with the seating of bolt head, washer and/or nut shall be removed at no additional cost.

3. Prior to installing the high-strength bolt all areas of exposed steel shall be solvent cleaned and receive a single coat of an approved cold-galvanizing compound containing at least 95% metallic zinc by weight in the dried film. The cold-galvanizing compound shall be allowed to dry sufficiently to handle in accordance with the manufacturer's recommendations before installing high-strength bolts.
4. Replacement bolts shall be in conformance with Section 504.45 of the Standard Specifications and shall be the same diameter as the rivet that was removed.
5. Installation, tensioning and inspection of high-strength bolts shall be done in accordance with Subsections 504.50 through 504.53 of the Standard Specifications, except as modified in this Specification.

If the bolt will not fit in the hole the hole shall be sufficiently reamed to accommodate the bolt. If the reaming results in a hole exceeding the tolerances in Standard Specification 504 a larger bolt shall be substituted at no additional cost.

The following Subsection is added:

523.098 Repair Bearing Keeper Strap

The keeper straps on the existing expansion bearings shall be removed and replaced if the cleaning of the bearing does not result in a free moving lower rocker rod. The Resident shall inspect each bearing after cleaning to determine if the strap requires removal to satisfactorily clean the area and restore bearing movement. The existing strap may be reused if the Resident deems that the condition of the plates and anchor rods warrant reuse.

Keeper strap replacement shall include cutting the existing anchor rods flush with the concrete and installing a slightly longer strap with anchor rods directly adjacent to the existing location. Anchor rods material and installation shall be in accordance with Standard Specification Section 523.

523.50 Method of Measurement

The following sentences are added:

Cleaning and Painting Bearings will be measured for payment by the actual number of existing bearings cleaned and painted in accordance with the Plans and Specifications.

Repair Bearing will be measured for payment by the actual number of existing bearings repaired in accordance with the Plans and Specifications.

Repair Bearing Keeper Strap will be measured for payment by the actual number of existing bearings keeper straps replaced in accordance with the Plans and Specifications

523.51 Basis of Payment

The following paragraphs are added:

Cleaning and Painting Bearings will be paid for at the contract unit price each, which will be full compensation for all materials, equipment, labor and incidentals required to inspect and rehabilitate the existing bearings to remain including, but not limited to lead removal.

Repair Bearing will be paid for at the contract unit price each, which will be full compensation for all materials, equipment, labor and incidentals required to inspect and rehabilitate the existing bearing to remain including, but not limited to, rivet removal. Jacking and temporary support shall be measured and paid for separately under Item 524.301, Temporary Structural Support.

Repair Bearing Keeper Strap will be paid for at the contract unit price each, which will be full compensation for all materials, equipment, labor and incidentals required to inspect and rehabilitate the existing bearings to remain including, but not limited to anchor rod installation.

All materials, equipment, labor and incidentals required for preparing the existing steel girders to receive the rehabilitated existing bearings including, but not limited to, lead paint removal and field repair of existing paint shall be incidental to the related Contract Items.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
523.56	Cleaning and Painting Bearing	Each
523.561	Repair Bearing	Each
523.562	Repair Bearing Keeper Strap	Each

SPECIAL PROVISION

SECTION 523

BEARINGS

(PTFE Elastomeric Bearings, Expansion)

523.01 Description

The following paragraph is added:

This work shall also consist of the installation of new elastomeric bearings with PTFE sliding surfaces at the locations shown on the Plans.

523.02 Materials

The following paragraphs are added:

All exposed steel surfaces shall be galvanized in accordance with ASTM A123 and A153 as applicable.

Stainless steel plates shall be 20 gauge (GA) conforming to ASTM A240 Type 304. Sliding surfaces shall have a surface finish of 10 micro inches R.M.S. (Root-Mean-Square) on the side in contact with PTFE. The reverse side shall be prepared for bonding to the auxiliary plate or load plate. The stainless steel shall be a minimum of 1/4 inch smaller than the auxiliary load plate in all directions, and shall be bonded to the auxiliary load plate with an epoxy adhesive meeting the requirements of this Specification, or as approved by the Resident.

Epoxy adhesive shall meet the requirements of the following Table:

Physical Property	ASTM Test Method	Requirement
Flexural Modulus	D790	2 x 10 ⁴
Safe Operating Temperature		-60° to 145° C
Linear Expansion Coefficient, in/in	D696	4.8 x 10 ⁻⁵
Bond Strength, psi (Tensile Shear)	D1002	1,000

Polytetraflouroethylene (PTFE): PTFE sliding surfaces shall be 100 percent virgin unfilled PTFE polymer and bonded to a rigid confining substrate. The substrate shall limit the elongation of the confined PTFE to not more than 0.009 inch under a load of 2,000 psi for 15 minutes at 78°F for a 2 inch by 3 inch test sample. The virgin unfilled PTFE shall have a minimum thickness of 1/16 inch.

PTFE properties shall conform to the requirements of the following Table:

Physical Property	ASTM Test Method	Requirement
Hardness at 78°F	D2240	50 -65 Durometer D
Tensile Strength, psi	D1457	2800 (min. avg.)
Elongation %	D1457	200 (min. avg.)
Deformation Under Load % 78°F – 2,000psi (1/2”x1/2”x1/32”)	D621	4 (max.)
Specific Gravity	D792	2.14 to 2.21

Coefficient of friction between contacting PTFE and polished stainless steel surfaces shall not exceed 0.06 at an 800 psi compressive loading.

PTFE shall be bonded to the upper load plate or elastomeric pad with rigid confining medium substrate conforming to the requirements of this Specification.

523.09 Installation of Bearings

The following paragraphs are added:

Where required, removal of existing lead based paint shall be in accordance with Subsection 105.2, Health and Safety. The Contractor shall submit a lead based paint removal plan to the Resident for approval prior to the start of the work.

All surfaces of the new and existing steel girders, where paint is removed for welding and bearing installation, shall be repaired to the requirements of Special Provision 506.26 Repairs, upon completion of the work.

Welding of structural steel adjacent to elastomeric bearing pads shall be controlled such that no portion of the bearing pad or Teflon surface will be subjected to temperatures in excess of 200°F. Temperature Indicating Crayons are to be used on the steel components immediately adjacent to the elastomeric bearing and Teflon surfaces during field welding operations to assure that these temperature restrictions are not exceeded.

523.51 Basis of Payment

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
523.54021 PTFE Elastomeric Bearings, Expansion	Each

SPECIAL PROVISIONSECTION 524TEMPORARY STRUCTURAL SUPPORTS

(Temporary Structural Support - Androscoggin Jacking)

524.01 Description

The following paragraphs are added:

This work shall consist of the jacking and temporary structural support of the existing superstructure for repair of the bearing at Abutment 2 of the Androscoggin River Bridges.

This work shall also consist of designing, fabricating, erecting, operating, maintaining, and dismantling the temporary structural supports and jacking systems required to perform the work. The calculated unfactored jacking and temporary support loads, including live load impact, are as follows:

- At Abutment 2: 105 kips Dead Load, per bearing
 100 kips Live Load, per bearing

The Contractor shall provide hydraulic jacks with the capacity of at least 150% of the loads stated at the respective girder. The temporary support system may be designed based on the actual applied loads.

The Contractor shall make provisions to prevent longitudinal and transverse movement of the superstructure and twisting of the stringers during the jacking operations. These provisions shall be submitted to the Resident for approval.

The Contractor shall note that the Androscoggin River Bridges have modular joint systems that include carrying beams spanning between the bridge deck and backwall. This carrying beam will limit the amount the girder ends can be lifted vertically at the abutments. The Contractor shall plan and monitor the work to ensure the modular joint systems are not damaged during the jacking and temporary support operations. Any damage to the modular joint system resulting from the Contractor's operations shall be repaired at no additional cost to the Authority.

524.02 Materials

The following sentence is added:

All structural steel shall have minimum yield strength of 36,000 psi.

524.03 Design

The following is added to the end of the first paragraph:

Whereas the proposed temporary support system will carry active highway traffic all design, detail and load requirements shall conform to the most current edition of the AASHTO

LRFD Bridge Design Specifications, applicable Interim Specifications, and these Specifications unless otherwise noted on the Plans. The design computations shall verify the proposed jacking scheme does not introduce unacceptable stresses in the existing bridge components including steel girders, diaphragms and connections. All design computations submitted for approval shall be reviewed, checked and initialed accordingly. Any support systems requiring attachment to existing concrete shall be subject to approval by the engineer. Systems requiring extensive drilling and anchoring into existing concrete will not be accepted.

The following paragraph is added:

Removal of lead based paint, where required, shall be in accordance with Subsection 105.2.4.2, Lead Paint. The Contractor shall submit a lead based paint removal plan to the Resident for approval prior to the start of the work.

524.04 Erection and Removal

The following paragraphs are added:

The existing superstructure shall be raised by jacking at the location required on the plans. The jacking shall be performed in such a way that a maximum of 1/4 inch vertical lift is achieved, or as limited by the modular joint system, whichever is less.

The Contractor may support the jacking systems and temporary structural support systems off of the abutment seats, footings, or Contractor-furnished blocking systems. Bracing shall be provided to maintain the superstructure in a stable condition during the jacking operations. Due to clearance issues at the North Abutment, Contractor may be required to remove soil or ledge to fit jacking assembly and temporary blocking.

Calculations and drawings showing the method the Contractor chooses to raise, temporarily support, and brace the superstructure shall be prepared and stamped by a Professional Engineer licensed in the State of Maine, and shall be submitted to the Resident for approval.

The following Subsection is added:

524.641 Method of Measurement

The first sentence of the first paragraph is removed and replaced with the following:

Temporary Structural Support will be measured as one lump sum for the satisfactory design, installation and removal of all required temporary jacking and support systems.

524.65 Basis of Payment

This section is removed and replaced with the following:

Temporary Structural Support will be paid for at the contract unit price each which price shall be full compensation for all materials, equipment, excavation, ledge removal, labor and incidentals necessary for the design, installation, maintenance and dismantling of the jacking and temporary support system in accordance with these specifications.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
524.301	Temporary Structural Support - Androscoggin Jacking	Lump Sum

SPECIAL PROVISION

SECTION 524

TEMPORARY STRUCTURAL SUPPORTS

(Temporary Structural Support - Cobbosseecontee Girders)

524.01 Description

The following paragraphs are added:

This work shall also include the jacking and temporary structural support of the existing fascia girders at substructure locations to allow completion of substructure widening.

This work shall also consist of designing, fabricating, erecting, operating, maintaining, and dismantling the jacking systems and temporary structural supports and jacking systems required to perform the work.

All jacking operations shall occur with no bridge deck on the structure

The Contractor shall make provisions to prevent lateral movement of the superstructure and rotation of the stringers during the jacking operations. These provisions shall be submitted to the Resident for approval.

524.02 Materials

The following paragraphs are added:

Materials used for supports shall be structural grade sawn timber or steel or a combination of both, at the Contractor's option, and whether new or used, shall be sound and of adequate cross section for the intended loads. Blocking needed below the temporary supports to accommodate differences in elevation and/or pads required to distribute loads may additionally incorporate plain and reinforced concrete.

All structural steel shall have a minimum yield strength of 36,000 psi.

524.04 Erection and Removal

The following paragraphs are added:

The existing superstructure shall be raised by jacking at each substructure unit. A minimum of two jacking points shall be used at each abutment and pier accordingly. The jacking shall be synchronized so that all portions of the girders are raised by approximately equal amounts simultaneously. A maximum of 1/8 inch differential movement between adjacent girders will be allowed during the jacking operation. A maximum of 3 inches of differential movement will be allowed between adjacent bearing lines during the jacking operation.

The Contractor may support the jacking systems and temporary structural support systems off of the abutment bearing seats, the abutment footings, pier caps, existing girders, or Contractor-furnished blocking systems. Bracing shall be provided to maintain the superstructure in a stable condition during the jacking operations. Alternative methods of removal or bracing may be proposed by the Contractor for review.

Temporary structural support systems shall be designed, fabricated, erected, maintained and dismantled in accordance with Section 524, Temporary Structural Supports.

Drawings and calculations showing the method the Contractor chooses to raise, temporarily support, and brace the superstructure end spans and midspans shall be stamped by a Professional Engineer registered in the State of Maine, and shall be submitted to the Resident for approval.

All fabrication of structural steel shall be done in conformance with the latest AASHTO, American Welding Society and MaineDOT Specifications.

The following Subsection is added:

524.28 Method of Measurement

Temporary Structural Support - Cobbosseecontee Girders, including submittals, jacks and jacking systems, temporary support systems, raising and lowering the superstructure, bracing, survey, excavation and backfill, dunnage, and all other incidentals thereto, shall be measured as one lump sum complete and accepted.

524.29 Basis of Payment

The following items are added:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
524.302 Temporary Structural Support - Cobbosseecontee Girders	Lump Sum

SPECIAL PROVISION

SECTION 524

TEMPORARY STRUCTURAL SUPPORTS

(Temporary Structural Support - Cobbosseecontee Braces)

524.01 Description

The following paragraph is added:

This work shall consist of fabricating, erecting, maintaining and dismantling the temporary girder bracing support system as shown on the Plans to brace the proposed and existing exterior girders during construction.

524.02 Materials

This Subsection is deleted and replaced with the following:

All materials used for construction of the bracing shall be the type and grade shown on the Plans. Alternate materials may be substituted with prior approval of the Resident. All timber shall be new and free from large knots, cracks, and other significant structural defects.

Steel shall conform to ASTM A36 and may be coated or uncoated. Holes in channel to receive anchor rods may be drilled a maximum of 1/8 inch oversize.

524.03 Design

This Subsection is deleted and not replaced.

524.28 Method of Measurement

This Subsection is deleted and replaced with the following:

Temporary Structural Support - Cobbosseecontee Braces satisfactorily fabricated, erected, maintained and dismantled will be measured as one lump sum.

524.29 Basis of Payment

This Subsection is deleted and replaced with the following:

Temporary Structural Support - Cobbosseecontee Braces will be paid for at the Contract lump sum price which price shall be full compensation for all materials, equipment, labor and incidentals necessary for the erection, maintenance, and dismantling of the girder supports in accordance with the Plans and these Specifications.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
524.303	Temporary Structural Support - Cobbosseecontee Braces	Lump Sum

SPECIAL PROVISIONSECTION 524TEMPORARY STRUCTURAL SUPPORTS

(Protective Shielding - Steel Girders)

524.01 Description

The following paragraph is added:

This work shall also consist of furnishing all labor, equipment and materials required to provide protection for the public during demolition and construction. This protection shall include, but not necessarily be limited to, protective shielding of existing structures during demolition work, concrete removal, and installation of temporary deck support over roadway lanes and shoulders on all existing and new bridge structures.

The following Subsections are added:

524.031 Protective Shielding Design

Prior to the start of work, the Contractor shall submit working drawings for review and comment indicating the sizes and dimensions of protective shielding. If the shielding is to be attached to prestressed concrete components the submittal shall be coordinated with the respective precast concrete shop drawings. The proposed methods of protective shielding, including connections and fasteners, shall be in accordance with the following criteria:

The protective shielding shall be designed for safely supporting all construction and dead loads, but not less than 100 pounds per square foot with a load duration of seven (7) days. Protective shielding shall be stiff enough to limit deflection to 1/2 inch under maximum loads and to be tightly sealed at all joints. The protective shielding shall be placed on the tops of the bottom flanges of the steel girders, or between the web or bottom flanges of the concrete I-girders, with edges and laps made tight to protect the turnpike motorists from dust, debris and falling objects.

Special hangers may be required to support shielding on prestressed structural concrete I-girders or prestressed structural concrete slabs. The Contractor will not be permitted to install inserts, shoot fasteners, or drill holes in the concrete I-girders or concrete slabs to support the shielding. The Contractor may propose 3/4 inch or one inch diameter sleeves be installed in the webs of the girders during fabrication for temporary fasteners to pass through. The proposed and approved sleeves shall be coordinated with the girder manufacturer; and shall be filled, and stuck flush, with an epoxy grout after the protective shielding is removed.

524.041 Protective Shielding Erection and Removal

No portion of the protective shielding installed over a roadway shall project below a plane connecting the bottoms of the bottom flanges of the steel stringers or concrete I-girders. During demolition operations, the protective shielding shall be covered with sheet plastic made tight at

edges and laps to prevent water used in the saw cutting operation from falling onto the facilities under the bridge.

The protective shielding on existing and new structures shall extend horizontally three feet beyond the fascia lines and vertically to a point one foot minimum above the top of parapet or railing. The shielding shall also extend 10 feet beyond the edge of pavement of the roadway below, unless otherwise noted on the Plans or as approved by the Resident.

Shielding shall be approved and installed prior to the start of any demolition work and shall remain in position during all demolition work. Shielding shall also be approved and installed prior to the start of any deck forming and shall remain in position during all deck work. The shielding shall be relocated or removed only as approved by the Resident.

Construction sequences may require protective shielding material to be removed, stored and then reinstalled by the Contractor. Any shielding which is damaged during this removal and reinstallation shall be replaced by the Contractor at no additional cost.

524.28 Method of Measurement

The following paragraph is added:

Protective Shielding will be measured by the square yard for shielding designed, installed, removed and disposed or stacked. For purposes of computing the area, only the horizontal plan dimensions will be used.

524.29 Basis of Payment

The following paragraphs are added:

Protective Shielding will be paid for at the Contract bid price per square yard and shall include all design, materials, transportation and stacking, labor (to install, remove and stack as needed), tools and equipment necessary to perform the work as described above or as approved by the Resident. The measurement shall include one sequence of placement, removal, and on-site storage (if applicable for intended reuse) of Protective Shielding. Where bridge and girder construction dictates that Protective Shielding is to be installed in the same location at a later date, then the quantity of Protective Shielding shall be increased accordingly to reflect the total work, and shall be tabulated on the drawings. Therefore, the calculated quantity of Protective Shielding will be the summation of each sequence noted above (placement, removal, and on-site storage). The Contractor shall note that additional timber material may be required to accommodate differing girder spacing or differing overhang dimensions.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
524.40 Protective Shielding - Steel Girders	Square Yard

SPECIAL PROVISION

SECTION 524

TEMPORARY STRUCTURAL SUPPORTS

(Temporary Access for Pier Inspection and Repair)

524.01 Description

The following paragraph is added:

This work includes the design, installation, maintenance, and removal of temporary access platforms or other means of access to facilitate the repair of the existing pier surfaces. The work shall also include providing safe access to the bridge pier shafts and hammerheads for sounding and repair of the existing concrete. The contractor shall provide access to each pier location a minimum of five days prior to commencing the proposed pier repairs so that the Resident may field locate areas of repair.

524.28 Method of Measurement

The following paragraph is added:

Temporary access platforms will be measured for payment as one lump sum per Contract, regardless of the number of access platforms required for the Project, which price shall include full compensation for design, furnishing materials, installation, removal, tools, equipment and labor necessary to construct, maintain and remove the work in accordance with the Plans or as called for in the Contract.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
524.60 Temporary Access Platforms for Pier Inspection and Repair	Lump Sum

SPECIAL PROVISION

SECTION 526

CONCRETE BARRIER

(Temporary Concrete Barrier Type I - Supplied by Authority)

526.01 Description

The following paragraphs are added:

This work shall consist of loading, transporting, setting, resetting, removing, transporting and stacking Temporary Concrete Barrier Type I – Supplied by Authority. The barrier shall have attachments allowing individual sections to be connected into a continuous barrier.

The work also includes supplying connecting pins and furnishing, installing, and mounting and maintaining retro-reflective delineators and barrier markers, per Subsection 526.02 and 526.03.

Concrete barriers supplied by Authority shall be available at the following location(s):

<u>Maintenance Area</u>	<u>Linear Feet of Barrier</u>
York Maintenance Area Mile 10.0 Southbound	1450

Upon substantial completion of work, the Contractor shall remove and transport the barrier back to its maintenance area of origin. All barrier shall be returned, sorted and stacked according to type in locations directed by the project Resident or maintenance area foreman.

526.02 Materials

The following paragraphs are added:

- f. Delineators shall be bi-directional with a minimum effective reflective area of eight square inches as approved by the Resident. The reflectors shall be methyl methacrylate and the housing of acrylonitrile butadiene styrene. Color shall be in accordance with the MUTCD.
- g. Temporary barrier markers shall be "Big Dog" barrier markers manufactured by Custom Products Corporation, or approved equal. Markers shall be bi-directional with a minimum effective reflective area of 96 square inches (48 square inches each side) as approved by the Resident. The reflectors shall meet MUTCD reflectivity requirements and shall be orange in color.

526.021 Acceptance

The Resident shall have the authority to accept or reject all Temporary Concrete Barrier Type I – Supplied by Authority used on the Project that does not meet the requirements of this specification

526.03 Construction Requirements

The following paragraphs are added:

The Contractor shall notify the Resident prior to the scheduled pick-up and delivery of concrete barrier. No barrier shall be removed from or stacked at the Turnpike Maintenance Area without approval of the Resident.

The Contractor shall move and place barrier-utilizing methods that will not damage the barrier. Barrier that is damaged by the Contractor by failing to use proper methods shall be replaced by the Contractor at no additional cost to the Maine Turnpike Authority.

Concrete barrier supplied by the Authority consists of several different styles. Not all barriers may be compatible. The Contractor shall utilize caution when setting barrier to use identical barrier types as adjacent barrier. Non-compatible barrier that cannot be attached together shall be overlapped by a minimum of 10 feet with the blunt end on the non-traffic side of the barrier. This work will not be measured separately for payment, but shall be incidental to the concrete barrier.

Concrete barrier placed at roadway low points shall be shimmed on 1” by 2” by 2’ long wood planks to allow drainage to pass under the barrier. In addition, the Resident may direct the Contractor to shim the concrete barrier at other locations to provide for proper roadway drainage. All labor, material, and equipment necessary to shim the barrier will not be measured separately for payment, but shall be incidental to the Concrete Barrier.

The removal of concrete barrier from adjacent to the travel lane may be conducted without a lane closure if it is accomplished in accordance with the following requirements:

1. Barrier is removed from the trailing end and the workmen and equipment involved in the operation are always behind the barrier. No workmen or equipment shall enter the travel lane.
2. Barrier shall be dragged away from the travel lane to at least a 30-degree angle by the use of a cable.
3. Barrier shall be lifted no more than six inches while within 10 feet of the travel lane.

Retro-Reflective Delineators shall be mounted as follows:

1. One on the traffic side of every barrier used in a taper.
2. One on the traffic side of every other barrier at regularly spaced intervals and locations.
3. Delineators shall be installed on both sides of the barrier if barrier is used to separate opposing traffic.
4. Delineators shall be physically adhered so as to withstand the force of throw from a snow plow.

5. If more than 25% of delineators in any 50 foot section of barrier fall off for any reason, the Contractor will be responsible for reinstalling all the delineators in that run at that their own cost.
6. Contractor is required to submit the installation method for review and approval to the Resident.

Temporary barrier markers shall be mounted as follows:

1. One on top of each barrier.
2. Delineators shall be physically adhered so as to withstand the force of throw from a snow plow.
3. If more than 25% of delineators in any 50 foot section of barrier fall off for any reason, the Contractor will be responsible for reinstalling all the delineators in that run at their own cost.
4. Contractor is required to submit the installation method for review and approval to the Resident.

526.04 Method of Measurement

The following paragraphs are added:

Temporary Concrete Barrier Type I – Supplied by Authority shall be measured for payment by the lump sum.

The loading, transporting, setting, resetting, removing, transporting, sorting and stacking of the barrier, the furnishing, installation and maintenance of the barrier delineators, and furnishing and installing connector pins will not be measured separately for payment, but shall be incidental to the cost of the Barrier. Temporary storage of Concrete Barrier between construction phases, if required, will not be measured separately for payment, but shall be incidental to the cost of the Barrier. All equipment required to load, unload, transport and stack Concrete Barrier shall be supplied by the Contractor.

Any Barrier lost or damaged by the Contractor shall be replaced by the Contractor at no additional cost to the Authority.

526.05 Basis of Payment

The fifth paragraph is deleted and not replaced.

The following paragraphs are added:

Temporary Concrete Barrier Type I – Supplied by Authority will be paid for at the Contract lump sum price, complete in place. Such payment shall be full compensation for loading, transporting, setting, resetting, temporary storage, removing, transporting and stacking at the area designated, furnishing all materials, including retro-reflective delineators and temporary barrier markers, and all other incidentals necessary to complete the work. Temporary Concrete Barrier Type I – Supplied by Authority and all connecting pins shall remain the property of the Authority, and shall be returned to the Turnpike Maintenance Area as designated in Subsection 526.01.

Payment of Concrete Barrier shall be based on a percentage of the work accomplished during that pay period.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
526.306	Temporary Concrete Barrier, Type I – Supplied by Authority	Lump Sum

SPECIAL PROVISION

SECTION 527

ENERGY ABSORBING UNIT

(Energy Absorbing System (CAT) – New)
(Energy Absorbing System (CAT) – Remove and Reset)

527.01 Description

The following sentences are added:

This work consists of installing new and/or removing and resetting existing Crash-cushion Attenuating Terminal (CAT) System as shown on the plans, backfilling post holes, and repairing pavements as required.

527.02 Materials

The energy absorbing system shall be the SYRO® CAT-350 (SS-546) as manufactured by Trinity Industries, Inc. as approved and crash tested by the Federal Highway Administration. The units shall conform to the Federal NCHRP Report 350 Standard of Testing. Existing units shall be removed and reset as noted on the plans.

Reflective sheeting shall meet the requirements of Subsection 719.01, Reflective Sheeting - High Intensity Reflective Sheeting, Type III. Reflective sheeting shall be provided by the Authority.

Any parts and/or components of the Crash-cushion Attenuating Terminal (CAT) that are found to be deficient, damaged, or otherwise in unsatisfactory condition prior to removal shall be replaced by the contractor with parts and components furnished by the Authority.

Any parts and/or components of the Crash-cushion Attenuating Terminal (CAT) that are damaged by the contractor during removal and resetting of the units shall be replaced with new parts and/or components at no cost to the Authority.

527.03 Construction Requirements

The Contractor shall submit a set of installation drawings to the Resident for approval. The system shall be installed in accordance with the manufacturer's recommendation and the installation drawings.

A 12" x 36" reflective adhesive sheeting shall be applied to the nose of the CAT System after fabrication. The color of the reflective sheeting shall be amber (yellow) when installed on the inside shoulder (median). Sheeting shall be provided by the Authority.

527.04 Method of Measurement

Energy Absorbing System (CAT) – New and Energy Absorbing System (CAT) – Remove and Reset will be measured by each unit complete, in place and accepted.

527.05 Basis of Payment

Energy Absorbing System (CAT) – New will be paid for at the Contract unit price, complete in place and accepted. Payment shall be full compensation for furnishing all labor, equipment, materials and incidentals necessary to complete the work.

Energy Absorbing System (CAT) – Remove and Reset will be paid for at the Contract unit price, complete in place and accepted. Payment shall be full compensation for furnishing all labor, equipment, materials and incidentals necessary to complete the work.

Connection of the CAT Systems to the existing median guardrail will not be paid for separately, but shall be incidental to Items 527.301 and/or 527.303 as appropriate.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
527.301	Energy Absorbing System (CAT) – New	Each
527.303	Energy Absorbing System (CAT) – Remove and Reset	Each

SPECIAL PROVISION

SECTION 527

ENERGY ABSORBING UNIT

(Work Zone Crash Cushion)

527.01 Description

The first paragraph is deleted in its entirety and replaced with the following:

The Contractor shall furnish and install work zone crash cushions where shown on the Plans, as specified herein, in Special Provision 652, or as approved by the Resident. Work zone crash cushions are required at each exposed end of temporary concrete barrier or guardrail.

The exposed end of the concrete barrier within 30 feet of the mainline travel lane shall be protected at all times. Barrier shall not be reset until after the work zone crash cushion(s) has been set to protect the exposed end of the barrier.

527.02 Materials

The following paragraph is added:

Only work zone crash cushions meeting the NCHRP Report 350 TL-3 crash test requirements may be used on the turnpike and local roadways with posted speeds of 45 MPH or greater. Work zone crash cushions meeting the NCHRP Report 350 TL-2 crash test requirements may be used on local roadways with posted speeds of 40 MPH or less. The Contractor shall provide the Resident with documentation of the proposed work zone crash cushion's NCHRP Report 350 Crash Test Results prior to installation at the jobsite.

527.03 Construction Requirements

The following is added to the end of the first paragraph:

The design speeds for work zone crash cushions shall be 45 mph for local road and 70 mph for turnpike roadways unless otherwise noted on the Plans.

527.04 Method of Measurement

Work Zone Crash Cushions used to protect exposed ends of guardrail for steel girder erection will not be measured separately for payment, but shall be included under the Maintenance of Traffic for Steel Girder Erection item.

527.05 Basis of Payment

Payment will be made under:

Pay Item

Pay Unit

527.341 Work Zone Crash Cushions – TL-3
527.342 Work Zone Crash Cushions – TL-2

Unit
Unit

SPECIAL PROVISION

SECTION 603

PIPE CULVERTS AND STORM DRAINS

(Reinforced Concrete Pipe)
(Concrete Collar)
(Corrugated Polyethylene Pipe)

603.01 Description

The following paragraphs are added:

This work shall also consist of furnishing and installing Class III or Class V reinforced concrete pipe at the locations as shown on the Plans or as approved by the Resident.

This work also consists of furnishing and installing a concrete collar to join existing concrete pipe to the proposed concrete or Corrugated High Density Polyethylene (HDPE) pipe in accordance with the details as shown on the Plans. The Contractor shall note that the concrete pipe ends may be of different sizes and may not fit snugly together.

This work shall also consist of furnishing and installing various sizes of corrugated HDPE pipe, including a dual wall adaptor fitting by Hancor or an approved equal as shown on the plans. No other pipe types within the Option III alternatives will be accepted.

603.02 Materials

All Corrugated High Density Polyethylene (HDPE) pipe for storm water and drainage systems shall meet the requirements of Subsection 706.06.

603.11 Method of Measurement

The following paragraph is added:

The Concrete Collar shall be measured by each unit installed, complete in place and accepted. This shall be full compensation for furnishing labor and materials to construct a Concrete Collar to connect the existing and proposed pipe ends in a working like manner.

Dual Wall Adapter Fitting shall be included for payment as three additional linear feet of the largest pipe involved.

603.12 Basis of Payment

Concrete Collars will be paid for at the Contract unit price each regardless of the size of the existing and proposed pipes.

Corrugated HDPE pipe will be paid for under the appropriate sized Culvert Pipe Option III pay items

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
603.155	12 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.165	15 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.1653	15 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.175	18 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.1753	18 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.195	24 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.1953	24 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.205	30 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2053	30 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.215	36 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2153	36 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.225	42 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2253	42 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.235	48 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2353	48 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.245	54 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2453	54 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.255	60 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2553	60 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.265	66 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2653	66 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.275	72 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2753	72 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.155	12 Inch Reinforced Concrete Pipe – Class III	Linear Foot
603.28	Concrete Collar	Each

SPECIAL PROVISION

SECTION 604

MANHOLES, INLETS AND CATCH BASINS

604.01 Description

This Subsection is amended by the addition of the following:

The Type II work shall consist of rebuilding catch basins as specified in the Specifications to grade, removing the existing unsound concrete, frame and grate, applying a bead of Elastomeric sealer to the frame seat and reinstalling the existing grate in accordance with these Specifications and in reasonable close conformity with the lines and grades as shown on the Plans.

The Type IV work shall consist of rebuilding catch basins as specified in the Specifications to grade, removing the existing unsound concrete, frame and grate, and reinstalling the existing frame and grate in accordance with these Specifications and in reasonable close conformity with the lines and grades as shown on the Plans.

The work locations are listed on the Drainage Summary sheets of the Plans.

604.02 Materials

The following sentences are added:

Elastomeric sealer shall be Sikaflex 1a as manufactured by Sika or an approved equal.

Class AAA concrete shall conform to Subsection 502.05; except that the minimum cement factor shall be 750 pounds per cubic yard and the coarse aggregate size shall conform to ASTM C33 Grading 7.

The third paragraph should be deleted and replaced with:

Catch Basin Frames and Grates shall be as outlined below and be manufactured by EJ Company of Brockton, Massachusetts or an approved equal and shall meet or exceed the AASHTO M306 Loading Requirements.

Catch Basin Frames shall be manufactured by EJ Company of Brockton, Massachusetts (or an approved equal) with the following product numbers:

5521Z - 8 Inch Frame Product Number 00552111
5546Z - 6 Inch Frame Product Number 00554611
5544Z - 4 Inch Frame Product Number 00554411

Catch Basin Frames shall be 8" frames unless otherwise specified by the plans or approved by the resident.

Catch Basin Grates shall be a square holed grate as manufactured by EJ Company of Brockton, Massachusetts (or an approved equal) with the following product number:

5520M5 Grate Product Number 00552060

If a cascade catch basin grate is specified on the plans then it shall be manufactured by EJ Company of Brockton, Massachusetts (or an approved equal) with the following product numbers depending on the direction of flow:

5520M8 Product Number 00552084 or 5520M8 Product Number 00552085

604.04 Altering, Adjusting, and Rebuilding Catch Basins and Manholes

This Subsection is deleted and replaced with the following:

When adjusting the existing catch basins they shall be dismantled sufficiently to allow reconstruction in accordance with the following requirements and as shown on the Plans:

Any frame or grate damaged by the Contractor's operations shall be replaced by the Contractor at no additional cost to the Authority. Replacement frame and grate shall meet the requirements of Subsection 604.02. Damaged frames and grates shall become the property of the Contractor and shall be removed from Turnpike property.

Rebuild Catch Basin to Grade – Type II

The existing frame and grate shall be removed, stacked and reset. Remove all unsound concrete and anchor rods shall be removed to sound concrete as determined by the Resident. Install four Number 4 dowels, twelve inches in length, in each sidewall, reform catch basin to necessary grade using Class AAA concrete. The existing frame shall be reinstalled to the pavement grade as determined by the Resident.

Prior to installation of the grate, the frame shall be cleaned to accept a bead of elastomeric sealer. Sealer shall be placed in a continuous bead over the horizontal surface in accordance with the manufacturer's recommendation. The existing grate shall be reinstalled and allowed to set for a minimum of 1 ½-hour before receiving traffic loads.

Rebuild Catch Basin to Grade – Type IV

The existing frame and grate shall be removed, stacked and reset. Remove all unsound concrete and anchor rods to sound concrete as determined by the Resident. Install four Number 4 dowels, twelve inches in length, in each sidewall, reform catch basin to necessary grade using Class AAA concrete. Reinstall the existing frame and grate to the finished grade as designated by the Resident and construct a bituminous concrete waterway including regrading (raising) the drainage swale with gravel borrow.

The Contractor shall remove unsound concrete (two inches minimum) from the existing floor slab and replace if directed by the Resident. Existing sumps shall be retained in the basin. Prior to

placement of the concrete, the catch basin floor and walls shall be cleaned of all debris, loose and foreign materials to the satisfaction of the Resident.

604.05 Method of Measurement

The following are added after Subsection e. Grate:

Rebuild Catch Basin to Grade – Type II will be measured for payment by each unit rebuilt, secured and accepted.

Rebuild Catch Basin to Grade – Type IV will be measured for payment by each unit rebuilt, and accepted.

Each unit includes removing and replacing a depth up to 12 inches from the bottom of the frame to the top of sound concrete in the wall. Each six inches of concrete removed and replaced over 12 inches will be measured for payment as one eighth (1/8) of a unit. Depth measurements in excess of the dimensions authorized will not be included.

604.06 Basis of Payment

The following paragraphs are added after the first paragraph:

The accepted quantity of Rebuild Catch Basin to Grade – Type II will be paid for at the Contract unit price each. This price shall be full compensation for removing existing frame and grate, rebuilding the catch basin top to grade, reinstalling the existing frame, cleaning the horizontal surface, applying the elastomeric sealer, reinstalling the existing grate, and all other labor, equipment and materials required to complete the work.

The accepted quantity of Rebuild Catch Basin to Grade – Type IV will be paid for at the Contract unit price each. This price shall be full compensation for removing existing frame and grate, rebuilding the catch basin top to grade, reinstalling the existing frame and grate, and all other labor, equipment and materials required to complete the work.

The second paragraph is deleted and replaced with the following:

Excavation and backfill will not be measured separately for payment, but shall be incidental to the following pay items.

Bituminous concrete waterways shall be paid for under Item 459.06 or 459.061.

Sawing bituminous pavement will not be measured separately for payment, but shall be incidental to the related drainage items.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
604.184	Rebuild Catch Basin to Grade – Type II	Each
604.186	Rebuild Catch Basin to Grade – Type IV	Each

SPECIAL PROVISION

SECTION 604

MANHOLES, INLETS, AND CATCH BASINS

(Secure Catch Basin Grate)

604.01 Description

This work shall consist of removing existing catch basin grates in the existing four foot paved shoulder, or other locations noted on the plans, cleaning existing frames, furnishing and applying elastomeric sealer to frame seats, and furnishing and installing new grates. This work shall be completed prior to opening paved shoulders to traffic.

604.02 Materials

The following sentences are added:

Catch Basin Grates shall be a square holed grate meeting or exceed the AASHTO M306 Loading Requirements and be manufactured by EJ Company of Brockton, Massachusetts (or an approved equal) with the following product number:

5520M5 Grate Product Number 00552060

Elastomeric sealer shall be Sikaflex 1a as manufactured by Sika or an approved equal.

604.03 Construction Requirements

The following paragraphs are added:

After removal of an existing grate, the frame shall be cleaned to accept elastomeric sealer. Sealer shall be placed in a continuous bead over horizontal and vertical surfaces in accordance with the manufacturer's recommendations. Installed grates shall be preloaded and allowed to set for a minimum of 1.5-hours before receiving traffic loads to assure adequate adhesion of the sealer. The old grates shall be transported to the Gardiner Maintenance Area Mile 102 Northbound and stacked at a location designated by the Resident. Old grates shall remain the property of the Authority.

New grates shall remain in place at the completion of construction and shall become the property of the Maine Turnpike Authority.

The Contractor is required to have two additional grates on-site at all times for use as backup devices. Unused grates shall become the property of the Authority and shall be stacked at Gardiner Maintenance Area Mile 102 Northbound.

604.05 Method of Measurement

The following sentence is added:

Secure Catch Basin Grate will be measured for payment by each unit secured and accepted.

604.06 Basis of Payment

The following paragraphs are added:

The accepted quantity of Secure Catch Basin Grate will be paid for at the Contract unit price each. This price shall be full compensation for removing the existing grate, cleaning the horizontal and vertical surfaces, applying the elastomeric sealer, furnishing and installing the new grate, transporting and stacking the old grate, and all other labor, equipment, and materials required to complete the work.

Unused backup grates stacked at Gardiner Maintenance Area will be paid for at the Contract unit price each under the Secure Catch Basin Grate item.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
604.40 Secure Catch Basin Grate	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

31" W-Beam Guardrail – Mid-way Splice (7' Steel Posts,
8" Offset Blocks, Single Faced)

606.01 Description

The section is amended by the addition of the following:

This work shall consist of furnishing and installing guardrail components the required locations in accordance with the Specifications and in reasonably close conformity with the lines and grades shown on the Plans. The types of guardrail are designated as follows:

31" W-Beam Guardrail – Mid-way Splice (7' Steel Posts, 8" Offset Blocks)

606.02 Materials

The section is amended by the addition of the following:

Steel posts shall be 7 feet long as specified in the plans.

The guardrail elements shall be per the Components' List found on Sheet No. 2 of 2 of draft Drawing SGR47 – 31" W-Beam Guardrail with Standard 8" Offset Block in the Task Force 13 Report noted above and/or as noted in the Contract Documents unless noted otherwise.

606.04 Rails

The section is amended by the addition of the following:

Height of top of rail shall be 31" measured from final grade. Height transition from 31" W-Beam, mid-spliced guardrail to existing guardrail shall occur over a 25' length.

606.08 Method of Measurement

The section is amended by the addition of the following:

31" W-Beam Guardrail – Mid-way Splice (7' Steel Posts, 8" Offset Blocks) will be paid for at the contract unit price per linear foot of rail satisfactorily installed and accepted.

606.09 Basis of Payment

The section is amended by the addition of the following:

The accepted quantity of 31” W-Beam Guardrail – Mid-way Splice (7’ Steel Posts, 8” Offset Blocks) will be paid for at the contract unit price per linear foot of rail and shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
606.13 31” W-Beam Guardrail – Mid-way Splice (7’ Steel Posts, 8” Offset Blocks, Single Faced)	Linear Foot

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Bridge Transition- Type III)
(Bridge Transition- Type III, Modified)

606.01 Description

The following sentence is added:

This work shall consist of furnishing and installing Type III Bridge Transitions and Type III, Modified Bridge Transitions at bridge endposts on bridges over the turnpike as shown in the Contract Documents.

The following Subsection is added:

606.071 Guardrail Attachments at Bridges

Bridge transition - Type III, and Bridge Transition - Type III, Modified shall be used at bridge endpost locations as shown on the plans.

606.08 Method of Measurement

The following sentence is added:

Bridge transition - Type III will be measured by each unit of the type specified, installed and accepted.

Bridge Transition- Type III, Modified will be measured by each unit of the type specified, installed and accepted.

606.09 Basis of Payment

The following paragraphs are added:

Bridge Transition - Type III, and Type III, Modified, will be paid for at the Contract unit price each complete in place and shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work consisting of, but not necessarily limited to, the following: furnishing and installing guardrail, modifications to concrete end wall to accept terminal anchor, one terminal connector, precast concrete transition curb, including terminal connector anchorage and all other detailed accessories; furnishing and installing all required posts, rails, offset brackets, back-up plates, nuts, bolts, washers, and all other items necessary to make for a complete installation as shown on the Plans or as approved by the Resident.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.1723	Bridge Transition - Type III	Each
606.1724	Bridge Transition - Type III, Modified	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Terminal End - Anchored End – 31” W-Beam Guardrail)

606.01 Description

The section is amended by the addition of the following:

This work shall consist of furnishing and installing Terminal End – Anchored End – 31” W-Beam Guardrail end treatment in accordance with these Specifications, the AASHTO-AGC-ARBTA Joint Committee Task Force 13 Report: A Guide to Standardized Highway Barrier Hardware, Drawing SEW31 in AASHTO Manual for Assessing Safety Hardware (MASH) approval letter B-256; and in reasonably close conformity with the lines and grades as shown on the Plans or as approved by the Resident.

606.02 Materials

The following sentences are added:

The guardrail elements shall be per the Components’ List found on Sheet No. 2 & 3 of 3 of Drawing SEW31 – Trailing-end Anchorage System in the Task Force 13 Report noted above and/or as noted in the Contract Documents. The component RWM14a shall be modified to a length of 9’-4½” measured from the center of the Midway Splice to the center of the last guardrail post.

606.042 Terminal End - Anchored End

The following sentences are added:

Installation of the Terminal End – Anchored End - 31” W-Beam Guardrail end treatment shall be in strict accordance with these plans and specifications, the AASHTO-AGC-ARBTA Joint Committee Task Force 13 Report and the Details on Sheet No. 1 of 3 of Drawing SEW31 – Trailing-End Anchorage System.

606.08 Method of Measurement

The second paragraph is amended by the addition of: “, Terminal End - Anchored End – 31” W-Beam Guardrail,” after the words “Terminal section,”.

606.09 Basis of Payment

The first paragraph is amended by the addition of: “, Terminal End - Anchored End – 31” W-Beam Guardrail,” after the words “Terminal section,”.

The second paragraph is amended by the addition of: “, Terminal End - Anchored End – 31” W-Beam Guardrail, and” after the words “NCHRP 350 end treatments”.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.1351	Terminal End - Anchored End – 31” W-Beam Guardrail	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Terminal End - Anchored End, Thrie Beam)

606.01 Description

The following sentence is added:

This work shall consist of furnishing and installing Terminal End, Anchored End – Thrie Beam end treatments in accordance with these Specifications, the AASHTO-AGC-ARBTA Joint Committee Task Force 13 Report: A Guide to Standardized Highway Barrier Hardware, dated May 1995; and in reasonably close conformity with the lines and grades as shown on the Plans or as approved by the Resident.

606.02 Materials

The following sentences are added:

The guardrail elements shall be per the Components' List found on Sheet No. 2 of 2 of Drawing SEW02a – Trailing End Terminal – Foundation Tube Option in the Task Force 13 Report noted above and/or as noted in the Contract Documents.

The following Subsection is added:

606.042 Terminal End - Anchored End

Installation of the Terminal End – Anchored End shall be in strict accordance with the AASHTO-AGC-ARBTA Joint Committee Task Force 13 Report and the Details on Sheet No. 1 of 2 of Drawing SEW02a – Trailing End Terminal – Foundation Tube Option.

Height of installation of Terminal End – Anchored End, Thrie Beam units shall be 32.0-inches to the top of rail, transitioning to the standard height of 30-inches over a 25-foot length of Type 3d rail located immediately after the last post of the Thrie Beam Anchored End unit.

The reveal on the soil tube for the Anchored End units shall not exceed 3.5-inches. If site grading is required to achieve the required rail height and soil tube reveal height, then such work will be incidental to the installation of the Anchored End units

606.08 Method of Measurement

The second paragraph is amended by the addition of: “Terminal End - Anchored End,” after the words “NCHRP 350 end treatments,”.

606.09 Basis of Payment

The second paragraph is amended by the addition of: "Terminal End - Anchored End," after the words "NCHRP 350 end treatments,".

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.279	Terminal End - Anchored End, Thrie Beam	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Guardrail – Flared Terminal – 31” W-Beam Guardrail)

606.01 Description

The following sentences are added:

This work shall consist of furnishing and installing a FLEAT (Flared Energy Absorbing Terminal) for use with the 31” W-Beam Guardrail – Mid-way Splice (7’ Steel Posts, 8” Offset Blocks, Single Faced) as manufactured by Road Systems, Inc., 1507 East 4th Street, Big Spring, Texas 79720, (915) 263-2435, and retroreflective adhesive sheeting in accordance with these Specifications and the manufacturer’s installation instructions, and in reasonably close conformity with the lines and grades as shown on the Plans or as approved by the Resident.

606.02 Materials

The following sentence is added:

Guardrail – Flared Terminal – 31” W-Beam Guardrail components shall be comprised of those shown in the manufacturers installation instructions. 8” blocks shall be used.

Reflective sheeting shall meet the requirements of Subsection 719.01, Reflective Sheeting – minimum ASTM Type XI; 3M™ Diamond Grade™ DG³ Reflective Sheeting Series 4000 or approved equal, color WHITE.

The contractor shall request for the impact face object marker, black chevron on yellow background, to be included in the shipped materials when installation is on the left side of roadway.

The following Subsections are added:

606.03 Posts

Wood offset blocks shall be toe-nailed in two locations to the wood post to prevent the blocks from moving.

606.035 Construction Requirements

The Contractor shall submit a set of installation drawings to the Resident for approval. The system shall be installed in accordance with the manufacturer’s recommendation and the installation drawings.

A reflective adhesive sheeting shall be applied to the nose of the FLEAT System after installation. The existing sheeting shall be replaced on FLEAT systems to be removed, modified, and reset. Color – WHITE.

606.041 Reflective Sheeting

The color for the reflective sheeting shall be silver (WHITE) when installed on the outside shoulder and shall be black chevron on yellow background only when installed on the inside shoulder.

606.08 Method of Measurement

The second paragraph is amended by the addition of: “Guardrail – Flared Terminal – 31” W-Beam Guardrail, ” after the words “Terminal section, ”.

Guardrail – Flared Terminal – 31” W-Beam Guardrail will be measured by each unit satisfactorily complete in place and accepted.

606.09 Basis of Payment

The first paragraph is amended by the addition of: “Guardrail – Flared Terminal – 31” W-Beam Guardrail, ” after the words “Terminal section, ”.

The second paragraph is amended by the addition of: “, Guardrail – Flared Terminal – 31” W-Beam Guardrail, and ” after the words “NCHRP 350 end treatments ”.

The retroreflective sheeting will not be measured separately for payment, but shall be incidental to the Guardrail – Flared Terminal – 31” W-Beam Guardrail item.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.791	Guardrail – Flared Terminal – 31” W-Beam Guardrail	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

- (Guardrail – Remove, Modify and Reset, Single Rail)
- (Guardrail – Remove, Modify and Reset, Double Rail)
- (Guardrail - Remove and Stack)
- (Guardrail Adjust – Single Rail)
- (Guardrail Adjust – Double Rail)

606.01 Description

The following paragraphs are added:

This work shall also consist of adjusting the height of the existing single and double rail guardrail in locations where the existing height of rail is not 30 inches. The guardrail shall be adjusted to a height of 30 inches. Existing single and double rail shall also be adjusted for lean.

The guardrail adjustment shall take place at all necessary locations; approximate locations are listed in the schedule of guardrail limits both median and outside shoulder. Exact locations for adjustment shall be determined by the Resident. If, during the course of the work, the contractor finds additional rail to be adjusted, then he shall notify the Resident, and the Resident determine if the rail is to be adjusted.

This work shall also consist of removing, stockpiling and stacking of existing single and double guardrail elements, component parts and hardware suitable for replacement as approved by the Resident. At the completion of the Contract, any unused guardrail elements, posts, component parts and hardware suitable for reuse shall remain the property of the Authority. Any guardrail elements, posts, component parts and hardware unsuitable for reuse shall become property of the Contractor.

Stockpiled materials, suitable for reuse, shall be utilized on Remove, Modify and Reset items prior to new materials being paid for.

Guardrail materials may be temporarily stockpiled on-site and shall become the property of the Contractor if unused.

This work shall consist of removing, disposing of existing guardrail elements, component parts and hardware, as directed by the Resident. All materials shall become the property of the Contractor and shall be removed from the site at the completion of the Project. The Contractor shall provide the Resident with an affidavit stating the final location of all disposed material and that the material was disposed of in accordance with the Maine Department of Environmental Protection Solid Waste Regulations.

606.02 Materials

The following paragraph is added at the end of the subsection:

New non-wood offset blocks conforming to NCHRP 350 Test Level 3 shall be installed on all guardrail being reset. The existing steel offset brackets and backup plates shall become the property of the contractor.

The following Subsection is added:

606.021 General

All existing guardrail to be raised or lowered shall be completed prior to new guardrail or end treatments being attached.

606.036 Adjusting Existing Guardrail

Any materials or galvanizing damaged by the Contractor's operations shall be replaced or touched-up at no additional cost to the Authority.

Guardrail posts shall be raised to a minimum of five inches above final elevation prior to driving post to final elevation; this applies to both raising and lowering rail.

Any given length of guardrail to be adjusted shall be done in such a way that top of rail elevations do not vary drastically between each section of guardrail. Rail height tolerance shall be 30 inches, plus 0 inches, minus 1/2 inch. The 30 inches shall be measured from the edge of pavement to the top of rail beam when within 2 feet of the edge of pavement.

Rail shall be adjusted for lean where needed. All posts shall be plumb after adjusting for lean.

When the rail tapers from one bound to the other the rail shall be adjusted to the correct height on the farthest ends and shall be adjusted towards the center of the median to create a smooth line.

Earth around each adjusted or reset post shall be raked and compacted with a minimum 8 pound hand tamper or an approved device. Holes created due to adjusting or resetting a post shall be filled with a similar surrounding material and compacted.

606.08 Method of Measurement

The following paragraphs are added:

Adjusting of both single and double rail guardrail shall be measured by the linear foot of Guardrail adjusted and accepted.

Raking and compacting the earth around each reset post with a minimum 8 pound hand tamper or an approved device, and infilling and compacting holes created due to resetting posts with a similar surrounding material will not be paid separately, but shall be incidental to the Guardrail - Remove, Modify and Reset Pay or Guardrail - Adjust pay items.

Guardrail Remove and Stack will be measured on a linear foot basis of guardrail satisfactorily removed and stockpiled whether single rail or double rail. Single and double twisted end sections will be measured for payment on a linear foot basis as 25 feet of guardrail removed.

Guardrail removed and not reset or stacked shall be incidental to Contract Items and include all removal, disposal, equipment and labor necessary to satisfactorily complete the work.

Steel posts to replace damaged posts shall come from the stockpile of guardrail components to be disposed of, from this Contract and will not be measured separately for payment. If, in the opinion of the Resident, there are no suitable steel posts in the stockpile then steel posts will be measured for payment.

W-beam rail elements to replace damaged rail elements shall come from the stockpile of guardrail from the Remove and Stack or the guardrail to be disposed of from this Contract and will not be measured separately for payment. If, in the opinion of the Resident, there are no suitable W-beam rail elements in the stockpile then the W-beam rail elements will be measured for payment.

606.09 Basis of Payment

The following paragraphs are added:

Adjusting of single and double rail guardrail will be paid for at the Contract unit price per linear foot and shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work. Guardrail Adjust will not be measured for payment until all compaction has been completed.

The accepted quantity of guardrail removal will be paid for at the Contract unit price bid, which price shall be full compensation for removing, transporting and stacking all guardrail elements, component parts and hardware, equipment, labor and all incidentals necessary to complete the work. No additional payment will be made for double rail.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.3605	Guardrail – Remove, Modify, and Reset Single Rail	Linear Foot
606.3606	Guardrail – Remove, Modify, and Reset Double Rail	Linear Foot
606.369	Guardrail - Remove and Stack	Linear Foot
606.3621	Guardrail Adjust, Single Rail	Linear Foot
606.3622	Guardrail Adjust, Double Rail	Linear Foot

SPECIAL PROVISION

SECTION 607

FENCES

(Snow Drift Fence)

607.01 Description

The following paragraph is added:

The work shall include the installation of snow drift fence on the approach side slopes to the limits shown on the plans.

607.02 Materials

The following paragraph is added:

Snow fence material shall consist of shall be the type and grade shown on the Plans. Alternate materials may be submitted for approval to the Resident. All timber shall be new and free from large knots, cracks, damage, and other significant defects. All accessories such as tie wires, U-bolts, bars, and tension members shall be galvanized.

607.06 Method of Measurement

The following paragraph is added:

Snow Drift Fence will be measured by the linear foot accepted in place.

607.07 Basis of Payment

The accepted quantities of Snow Drift Fence shall be paid for at the contract unit price per foot of Snow Fence. Payment shall be full compensation for furnishing and installing all materials as shown on the plans including labor tools and incidentals required to complete the installation.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
607.4311 Snow Drift Fence	Linear Foot

SPECIAL PROVISION

SECTION 613

EROSION CONTROL BLANKET

613.01 Description

This work shall also include seeding, mulching and watering the median swale and/or longitudinal flow line to the limits and width as shown on the Plans or as directed by the Resident.

613.02 Materials

The following sentences are added:

Seeding shall meet the requirements of Section 618, Seeding, Method Number 2.

Mulch shall meet the requirements of Section 619.

The following Subsection is added:

613.041 Maintenance and Acceptance

See Section 618.10 for maintenance and acceptance of seeding.

613.042 Mulch

All mulch shall be placed after the area has been seeded and prior to the installation of the Erosion Control Blanket.

613.09 Basis of Payment

The following "and mulch" is added after the words "initial seeding" in the second sentence.

SPECIAL PROVISION

SECTION 619

MULCH

(Mulch – Plan Quantity)
(Temporary Mulch)

619.01 Description

The first paragraph is modified by the addition of the following:

“as a temporary or permanent erosion control measure” after the word “mulch”.

Add the following sentence at the end of the first paragraph:

Refer to Section 656 Temporary Soil and Water Pollution Control, for more information on Temporary Mulch.

619.03 General

The first paragraph is deleted and replaced with the following:

Cellulose fiber mulch shall not be used within 200 feet of a wetland or stream. The limits shall be 200 feet up station and down station of the wetland or streams as well as the slopes adjacent to the stream. The application of hay or straw mulch with an approved binder shall be used at these locations to prevent erosion.

The use of cellulose fiber mulch will only be allowed at other areas with the approval of the Resident. The Contractor may be required to demonstrate that the material may be applied in a manner that will prevent erosion and will aid in the establishment of permanent vegetation. The Resident reserves the right to require the use of hay or straw mulch at all locations if he determines that the cellulose mulch is ineffective. Cellulose fiber mulch is not acceptable for winter stabilization.

619.06 Method of Measurement

The following sentence is added:

Temporary Mulch will be paid for by the lump sum.

619.10 Basis of Payment

Temporary Mulch will be paid for at the Contract price per lump sum which shall be full compensation for furnishing and spreading the Temporary Mulch as many times as necessary as determined by the Contractor’s operations and staging. The price shall also include the additional mulch netting and snow removal necessary during the winter months.

Payment will be made under:

Pay Item

Pay Unit

619.1201 Mulch – Plan Quantity
619.1202 Temporary Mulch

Unit
Lump Sum

SPECIAL PROVISION

SECTION 620

GEOTEXTILES

(HDPE Geomembrane)

620.01 Description

The following sentence is added:

This work shall include installation of HDPE geomembrane as shown on the Plans or as approved by the Resident.

620.02 Materials

The following paragraph is added:

HDPE geomembrane shall be Poly-Flex 20 mil High Density Polyethylene (HDPE) as manufactured by Poly-Flex, Inc., 2000 W. Marshall Drive, Grand Prairie, TX 75051, (972) 647-4374, Fax (972) 988-8331, or an approved equal.

620.03 Placement

The following paragraphs are added:

HDPE geomembrane shall be placed within the limits shown on the Plans. A surface slope shall be provided in the underlying leveling sand away from structures and toward the sides of the embankments.

HDPE geomembrane deployment shall proceed only when ambient temperatures are between 32°F to 104°F. Geomembrane shall not be placed during precipitation or moisture of any type (e.g., fog, rain, dew), or in the presence of excessive winds, as determined by the Resident or Geotechnical Consultant. Observation of temperature, humidity, precipitation and wind should be noted to ensure that the weather conditions are acceptable prior to HDPE geomembrane placement.

620.05 Seams

The following paragraphs are added:

Approved seaming processes are hot shoe fusion and extrusion welding. On side slopes, seams shall be oriented in the general direction of maximum slope, (i.e., oriented down, not across the slope). In corners and odd-shaped geometric locations, the number of field seams shall be minimized. Seams shall be aligned with the least possible number of wrinkles and “fishmouths”. If a fishmouth or wrinkle is found, it shall be relieved and cap-stripped.

Geomembrane panels must have a finished minimum overlap of four inches for hot shoe fusion welding and three inches for extrusion welding.

Cleaning solvents may not be used unless the product is approved by the liner manufacturer and geofoam vendor.

Field test seams may be conducted on the liner in accordance with the manufacturer’s recommendations to verify that seaming conditions are satisfactory.

620.09 Method of Measurement

The words, “and HDPE Geomembrane” shall be added after the word “geotextiles” in the first and second sentence of the first paragraph.

620.10 Basis of Payment

The words, “and HDPE Geomembrane” shall be added after the word “geotextiles” in the first and second sentence of the first paragraph.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
620.70	HDPE Geomembrane	Square Yard

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(White or Yellow Pavement Marking Line)

627.01 Description

The following sentences are added:

This work shall consist of furnishing and placing the final pavement markings at locations as shown on the Plans or as directed by the Resident.

The following sentence is added:

This work shall consist of furnishing and placing pavement marking paint and temporary pavement marking paint at locations as shown on the Plans or as directed by the Resident.

627.02 Materials

The following is added before the last paragraph:

The paint for pavement markings shall be 100% acrylic waterbase paint.

627.04 General

The following is added to the third paragraph:

Dotted white lines (DWL) shall consist of alternate 3 foot painted line segments and 9 foot gaps.

Permanent pavement marking paint shall be applied at the end of each work week prior to opening the work area to traffic or as approved by the Resident.

Temporary pavement marking paint and temporary pavement markers shall be applied daily prior to opening the work area to traffic during non-work hours or as approved by the Resident.

627.08 Removing Lines and Markings

The last sentence is deleted and is not replaced.

627.09 Method of Measurement

The second and third sentences in the second paragraph are deleted and replaced with the following:

The measurement of broken white lines, both permanent and temporary and dotted white lines, will include the gaps when painted. Temporary painted pavement marking lines will be measured for payment by the linear foot.

627.10 Basis of Payment

This Subsection is deleted and replaced with the following:

The accepted quantity of white or yellow pavement marking lines will be paid at the Contract price per linear foot. This price shall include all labor and materials to furnish, and install the paint line.

The accepted quantity of broken and dotted white pavement marking lines will be paid at the Contract price per linear foot. This price shall include all labor and materials to furnish and install the paint line.

The accepted quantity of temporary white or yellow pavement marking lines will be paid at the Contract price per linear foot. This price shall include all labor and materials to furnish, install and maintain the paint marking.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
627.712	White or Yellow Pavement Marking Line	Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary 6 Inch Pavement Marking Tape)
(Temporary 6 Inch Black Pavement Marking Tape)

627.01 Description

The following sentence is added:

This work shall also consist of furnishing, placing, maintaining and removing temporary pavement marking tape at locations shown on the Plans or as directed by the Resident.

This work shall also consist of furnishing, placing, maintaining and removing temporary black pavement marking tape at locations shown on the Plans or as directed by the Resident. Temporary 6 Inch Black Pavement Marking Tape shall be used to cover conflicting existing pavement marking paint.

627.02 Materials

The following paragraph is added:

Temporary pavement marking tape shall be Stamark Wet Reflective Removable Pavement Marking Tape Series 710 as manufactured by 3M of St. Paul, Minnesota or an approved equal.

Temporary pavement marking tape shall be Stamark Removable Black Line Mask Tape Series 715 as manufactured by 3M of St. Paul, Minnesota or an approved equal.

627.04 General

The following paragraphs are added:

Work under this item shall be in accordance with the manufacturer's recommendations. A factory representative from 3M shall be present for the first application of all temporary pavement marking tape to insure proper application and product performance.

The pavement markings shall be applied mechanically to clean dry pavement as recommended by the manufacturer and approved by the Resident.

Temporary pavement markings shall consist of applying six inch solid white, six inch broken white, and six inch yellow reflectorized pavement marking tape for traffic maintenance during construction as shown on the Plans or as directed by the Resident.

Temporary pavement marking tape that loses reflectivity, becomes broken, dislodged or missing during the life of the Contract shall be replaced by the Contractor at no additional cost to the Authority.

627.06 Application

The following paragraphs are added:

For application of the tape, when the pavement temperature is below 50°F, heat shall be applied to the pavement surface, if deemed necessary by the factory representative or as directed by the Resident, at no additional cost to the Authority. Proper primer for the temperatures shall be used as directed by the manufacture.

The pavement mark tape shall be rolled over with a vehicle once application is complete and then scored every 20 feet when placed in long runs to prevent full length unraveling.

627.08 Removing Lines and Markings

The following sentence is added:

Removal of temporary pavement marking tape shall be accomplished without the use of heat, solvents, grinding or sandblasting and in such a manner that no damage to the pavement results.

627.09 Method of Measurement

The following paragraph is added:

Temporary Pavement Markings - Tape will be measured for payment by the linear foot. The measurement of broken lines will not include the gaps.

627.10 Basis of Payment

The following paragraphs are added:

Payment for the Temporary Pavement Markings - Tape will be made at the Contract bid price per linear foot, which price shall include furnishing, installing, maintaining and removing the temporary tape and all materials, labor, equipment and incidentals necessary to accomplish the work. Replacement of Temporary Pavement Markings - Tape, as described above, will be incidental and no separate payment will be made.

Payment for the Temporary 6 Inch Black Pavement Marking Tape will be made at the Contract bid price per linear foot installed, which price shall include furnishing, installing, maintaining and removing the temporary tape and all materials, labor, equipment and incidentals necessary to accomplish the work. Replacement of 6 Inch Black Temporary Pavement Marking Tape, as described above, will be incidental and no separate payment will be made.

Payment will be made under:

Pay Item

Pay Unit

627.73	Temporary 6 Inch Pavement Marking Tape
627.731	Temporary 6 Inch Black Pavement Marking Tape

Linear Foot
Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Pavement Marking Tape)

627.01 Description

The following sentence is added:

This work shall consist of furnishing and placing reflective pavement marking tape in conformity with the Plans, as specified herein and as directed by the Resident.

The pavement marking tape shall be installed at all locations.

627.02 Materials

The following sentence is added:

For the Broken White Lane Line (BWLL), Pavement Marking Tape shall be 3M Stamark™ High Performance Tape Series 380AW – High Performance pavement marking tape, color- white, six (6) inch width, as manufactured by 3M of St. Paul, Minnesota.

For the Dotted White Lane Line (DWLL), Pavement Marking Tape shall be 3M Stamark™ High Performance Tape Series 380I ES – High Performance pavement marking tape, color- white, six (6) inch wide and twelve (12) inch wide, as manufactured by 3M of St. Paul, Minnesota.

3M Traffic Safety Systems Division
Mr. Michael D. Allen
Tel: (401) 368-0438
Email: mdallen@mmm.com

627.04 General

The following paragraphs are added:

The tape shall be used as a supplemental broken white lane line. The tape shall be installed between the painted Broken White Lane Line (BWLL) spaced eighty (80) foot center to center as shown on the Plans. The length of the tape shall be three (3) feet.

The tape shall also be used to mark a Dotted White Lane Line (DWLL) and shall be installed on parallel deceleration and acceleration lanes at locations as noted in the Plans. On deceleration lanes, the tape shall be installed from the beginning of the full width deceleration lane and shall extend to the theoretical gore markings. On acceleration lanes, the DWLL shall extend from the theoretical gore markings to a point one-half of the total length of the acceleration lane (including the lane taper length). Layout data is noted on the Plans. Dotted White Lane Line tape

shall be three (3) foot in length and shall be spaced nine (9) feet apart. Spacing from the Solid White Lane Line (SWLL) or the Theoretical Gore Markings shall be nine (9) feet.

627.05 Preparation of Surface

The following paragraph is added:

The Contractor shall mill a groove in the pavement for each tape length to be placed (“in-and-out” pattern). Continuous grooving for installation of the tape shall not be allowed. The groove length shall be the required tape length plus 12 inches on both ends. Tape length spacing shall be as shown on the plans. The groove width for inlaid tape pavement marking shall be the pavement marking width plus 1 inch, with a tolerance of ± ¼ inch. The groove shall have a uniform depth of 150 Mils (±20 Mils). Groove position shall be a minimum of 2 inches from the edge of the pavement marking to the longitudinal pavement joint. The bottom of the groove shall have a smooth, flat finished surface. The use of gang stacked Diamond cutting blades is required for asphalt pavement surfaces. The spacers between blade cuts shall be such that there will be less than a 10 mil rise in the finished groove between the blades.

Grooves shall be clean, dry and free of laitance, oil, dirt, grease, paint or other foreign contaminants. The Contractor shall prevent traffic from traversing the grooves, and re-clean grooves, as necessary, prior to application of the primer and pavement marking tape. Depth plates shall be provided by the contractor to assure that desired groove depth is achieved.

Reference is made to 3M Information Folder 5.18 Grooving Applications, May 2011, “Application Guidelines for Pavement Marking in Grooved Pavement Surfaces.”

627.09 Method of Measurements

The following paragraph is added:

The quantity of Pavement Marking Tape measured for payment will be the linear feet of tape in place and accepted. The measurement will not include the gaps.

627.10 Basis of Payment

The following paragraphs are added:

The accepted quantity of pavement marking tape will be paid for at the Contract unit price per linear foot which price shall include all material, pavement grooving, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
627.94 Pavement Marking Tape	Linear Foot

SPECIAL PROVISION

SECTION 644

GLARE BARRIER

(Glare Screen – Supplied by Authority)

644.1 Description

The following paragraphs are added:

The work shall also consist of transporting, installing, maintaining and removing a glare screen system on temporary concrete barrier at the traffic crossovers at locations as shown on the Plans or as approved by the Resident.

The Authority shall provide the Contractor with 1100 LF of temporary glare screen (10'-9" track with paddles), including necessary anchorage devices, for installation as shown on the Plans. There is an additional 149 single mount glare screens (individual paddles). All glare screens are available at the Crosby Maintenance Facility, Mile 45.8 SB, for pick-up.

644.2 Material

Glare Screen – Supplied by Authority shall be the SAFE-HIT Glare Screen System as manufactured by SAFE-HIT Corporation, 23785 Cabot Blvd., #322, Hayward, California 94545, (312) 467-6750, or equivalent as determined by the Authority. Fasteners shall be 3/8" diameter HILTI Drop-in anchors and 3/8" diameter bolts with washers.

644.3 Installation of the Glare Screen

Final location of glare screen, for each phase, shall be approved by the Resident.

The glare screen shall be fastened to the temporary precast concrete barrier by a method suggested by the manufacturer or Contractor and approved by the Resident. Fasteners shall be provided by the Contractor.

The Contractor shall note that some modification to the approved system may be required to accommodate existing lifting hooks located on the tops of the temporary concrete barriers.

The glare screen shall be removed from the concrete barrier prior to the barrier being removed and stacked and shall remain the property of the Authority upon completion of the Contract. All fasteners shall remain the property of the Authority upon completion of the Contract. The Contractor shall return the glare screen and fasteners to the Maine Turnpike Crosby Maintenance Area Mile 45.8 Southbound, upon Contract completion.

The Contractor shall operate in a manner which prevents damage to the glare screen during installation and removal, and while resetting the concrete barrier. The Contractor shall be responsible for replacement and reinstallation of glare screen damaged during the Contractor's

operations. No additional payment shall be made for replacement and reinstallation of glare screen damaged as a result of the Contractor's operations.

644.4 Method of Measurement

Glare Screen – Supplied by Authority will be measured for payment by the linear foot in place and accepted.

Resetting of Glare Screen will not be measured separately for payment, but shall be incidental to the pay item.

644.5 Basis of Payment

The accepted quantity of Glare Screen – Supplied by Authority will be paid for at the Contract unit price per linear foot, which price shall be full compensation for transporting, installing, maintaining, removing, and resetting the Glare Screen and for all labor, tools, equipment and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
644.10 Glare Screen – Supplied by Authority	Linear Foot

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Specific Project Maintenance of Traffic Requirements)

This Specification describes the specific project maintenance of traffic requirements for this Project.

The following minimum traffic requirements shall be maintained. These requirements may be adjusted based on the traffic volume when authorized by the Authority.

Maine Turnpike Traffic Control Requirements - Androscoggin River Overpass

This Section outlines the minimum requirements that shall be maintained for work on, over, or adjacent to the Maine Turnpike roadway. Operations are allowed as outlined below:

Bridge work within six feet of a travel lane as measured from the painted pavement marking line or traffic control device will require a lane closure. This work includes but is not limited to the following:

- 1. Superstructure jacking
- 2. Substructure repair access

Two lanes of traffic on both the northbound and southbound roadways shall be maintained at all times except when a lane closure is required to undertake project work. Maintenance of traffic and phasing shall follow the contract plans and project limitations of operations. Winter snow removal within closures should be expected and shall be considered incidental to the Contract. Operations are allowed as outlined below:

<u>Temporary Lane Closures</u>	<u>24 hours per day starting at 7:00 p.m. Sunday thru 6:00 p.m. Friday</u>
<u>Temporary Mainline Shoulder Closures</u>	<u>24 hours per day starting at 7:00 p.m. Sunday thru 6:00 p.m. Friday</u>
<u>Long Term Lane Closure</u>	<u>24 hours per day, seven days per week</u>
<u>Long Term Shoulder Closure</u>	<u>24 hours per day, seven days per week</u>
<u>Equipment Moves</u>	<u>During low traffic periods as approved by the Authority</u>

Riverside Drive Traffic Control Requirements

Two lanes of traffic on Riverside Drive shall be maintained at all times with the exception of when the Contractor needs to inspect or repair the post tensioning when a single lane controlled by flaggers is permitted. Single lane closure with flagger shall follow Typical Application 10 in

the Manual on Uniform Traffic Control Devices, latest edition. Construction Signs have been quantified using 36" x 36" dimensions for local roads.

Temporary concrete barrier and work zone crash cushion will be required if the existing guardrail needs to be pulled for access to Pier 1 for repairs. In addition, if the staging is installed behind the existing guardrail but within 3' from the face of guardrail, temporary concrete barrier and work zone crash cushion will be required.

Maine Turnpike Traffic Control Requirements - Cobbosseecontee Stream Overpass

A maintenance of traffic control plan has been developed to facilitate construction. This maintenance of traffic control plan utilizes median crossovers to maintain a single lane of traffic in each direction. Winter snow removal within closures should be expected and shall be considered incidental to the Contract.

There are no lane closure or shoulder closure restrictions at this location. A minimum of one lane in each direction shall remain open at all times.

SPECIAL PROVISIONSECTION 652MAINTENANCE OF TRAFFIC

(Truck Mounted Attenuator)

Section 652 of the Maine Turnpike Authority 2016 Supplemental Specifications is modified as follows:

652.1 Description

The following paragraph is added:

When a pay item for a Truck Mounted Attenuator (TMA) is included in the contract at least one TMA will be required on the project and its use will be required. The truck mounted attenuator should be utilized in lane closures and other construction operations where workers are exposed to traffic and not protected by other positive means. The Contractor shall manage the utilization and operation of the TMA and if at least one is not used as described above then it will be considered a Traffic Control Plan violation and result in a reduction of payment as outlined in Section 652.

652.2.1 Truck Mounted Attenuator

This section is deleted in its entirety and replaced with the following:

The truck mounted attenuator system shall conform to the following requirements:

- Truck and attached attenuator shall conform to the NCHRP Report 350, Test Level 3 criteria.
- A mounted revolving amber light or amber strobe light with 360-degree visibility.
- An arrow light bar fixed to the vehicle.
- The attenuator shall be mounted to a vehicle with a minimum weight of 10,000 lbs.

652.3.7 Operations

This section is deleted in its entirety and replaced with the following:

The Contractor shall manage the operation of the truck mounted attenuator. The truck mounted attenuator should be utilized in lane closures and other construction operations where workers are exposed to traffic and not protected by positive means. The operation of the vehicle shall be in accordance with the Manual of Uniform Traffic Control Devices and the manufacturer's recommendation.

Installation: The chart below identifies the distance from the work zone or hazard where the TMA shall be deployed. If the work zone is within a marked lane closure, the barrier truck distances shall apply and if the work is mobile, then shadow truck distances shall apply. The TMA shall not be located in the buffer zone. When used as a barrier, the barrier

truck shall be parked in low gear with brakes applied and the front wheels turned away from the work zone and the adjacent traffic lane. For placement details, reference the Manual of Uniform Traffic Control Devices (MUTCD).

Weight of Truck	Barrier Truck Distance from Work Zone of Hazard	Shadow Truck Distance from Work Vehicle or Work Zone
10,000 lbs	250 ft	300 ft
15,000 lbs	200 ft	250 ft
>24,000 lbs	150 ft	200 ft

652.7 Method of Measurement

The last paragraph is deleted and replaced with:

Truck mounted attenuator shall be measured for payment by the calendar day for each calendar day that a unit is used on a travel lane or shoulder on the project, as approved by the resident.

652.8.2 Basis of Payment

The last two paragraphs are deleted and replaced with:

The Truck Mounted Attenuator(s) will be paid for at the Contract unit price per calendar day for each TMA used. This price shall include all costs associated with the use of the vehicle. Payment shall include operator, fuel, truck, maintenance, flashing lights, arrow board and all other incidentals necessary to operate the vehicle.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
652.45 Truck Mounted Attenuator	Calendar Day

SPECIAL PROVISIONSECTION 652MAINTENANCE OF TRAFFIC

(Automated Speed Limit Sign)

652.1 Description

This special provision provides for furnishing, operating, and maintaining an Automated Trailer Mounted Radar Speed Limit Sign for project use. When a pay item for an Automated Trailer Mounted Radar Speed Limit Sign is included in the Contract at least one will be required on the project when there is a Work Zone Speed Limit in place. The Contractor shall furnish, operate, and maintain the Automated Trailer Mounted Radar Speed Limit Signs during the project operations.

652.1.1 Instruction and maintenance manuals shall be provided.

652.2 MaterialsAutomated Trailer Mounted Speed Limit Sign

Trailer mounted speed limit signs shall be self-contained units including sign assembly, flashing lights, directional radar to measure speed limits, a regulatory speed limit sign, and power supply specifically constructed to operate as a trailer-mounted sign. The preferred color of the unit shall be “construction orange”.

Signs

Base material for the regulatory speed limit signs shall be weather proof, rigid substrate specifically manufactured for highway signing and meet the retro-reflective sheeting application requirements of the sheeting manufacturer.

Sign text shall consist of the letters, digits and symbols either applied by stick-on or silk screen, to conform to the dimensions and designs indicated in the Contract, MUTCD and/or FHWA Standard Highway Signs. The materials and methods shall be in accordance with standard commercial processes.

“Work Zone” construction signs shall be mounted on the trailer unit above the regulatory speed limit sign. (see Attachment).

Signs and secondary signs shall follow the MUTCD for minimum mounting heights.

Power supply

The power supply shall be either full battery power with solar panel charging (capable of maintaining a charged battery level) and 135 ampere, 12 volt deep cycle batteries, or diesel powered generator with a fuel capacity sufficient for 10 hours of continuous operation.

Flashing Lights

Each unit shall be equipped with two mono-directional flashing lights, placed in accordance with the MUTCD, with amber lenses and reflectors, which are visible through a range of 120 degrees when viewed facing the sign. The lights, either strobe, halogen, or incandescent lamps, shall be visible for a minimum distance of one mile under daylight conditions and shall have a minimum flash rate of 40 flashes per minute. An "On" indicator light shall be mounted on the back of the signs, which is visible for at least 500 feet to provide confirmation that the flashing lights are operating.

Radar

The directional radar shall monitor approaching traffic only. The radar shall be capable of measuring speeds from 5 to 70 MPH at a distance of up to 1500 feet and shall have a high speed cut off threshold.

CONSTRUCTION REQUIREMENTS

652.3.2 Responsibility of the Contractor

The Contractor shall furnish the Automated Trailer Mounted Speed Limit Sign as described in this Special Provision for this project.

All existing speed limit signs, which conflict with the construction zone trailer mounted speed limit signs shall be covered completely when the work zone speed limit is in place.

Automated Trailer Mounted Speed Limit Signs shall only be used when a work zone speed limit is in place. The Contractor shall manage the utilization and operation of the Automated Trailer Mounted Speed Limit Signs and if at least one is not used when work zone speed limits are in place then it will be considered a Traffic Control Plan violation and result in a reduction of payment as outlined in Section 652.

The Resident will record the actual time and location for the signs on a daily basis when the Automated Trailer Mounted Speed Limit Signs are in use.

The Automated Trailer Mounted Radar Speed Limit Sign may be placed as shown on the plans, or may replace the posted regulatory speed limit signs or may be placed at a location within the closed lane that has a reduced speed limit.

Automated Trailer Mounted Speed Limit Signs shall be delineated with retro-reflective temporary traffic control devices while in use and shall also be delineated by affixing a retro-reflective material directly on the trailer.

Upon delivery of the Automated Trailer Mounted Speed Limit Sign and before acceptance by the Authority, the Contractor shall have a representative of the manufacturer review the condition and notify the Resident in writing, of all deficiencies noted.

The Contractor shall arrange to have all necessary repairs performed at no cost to the Authority.

To avoid impairing driver vision, the Contractor shall dim the lighted speed limit readings by 50 percent during nighttime use, and restore full power lighting during daytime operation.

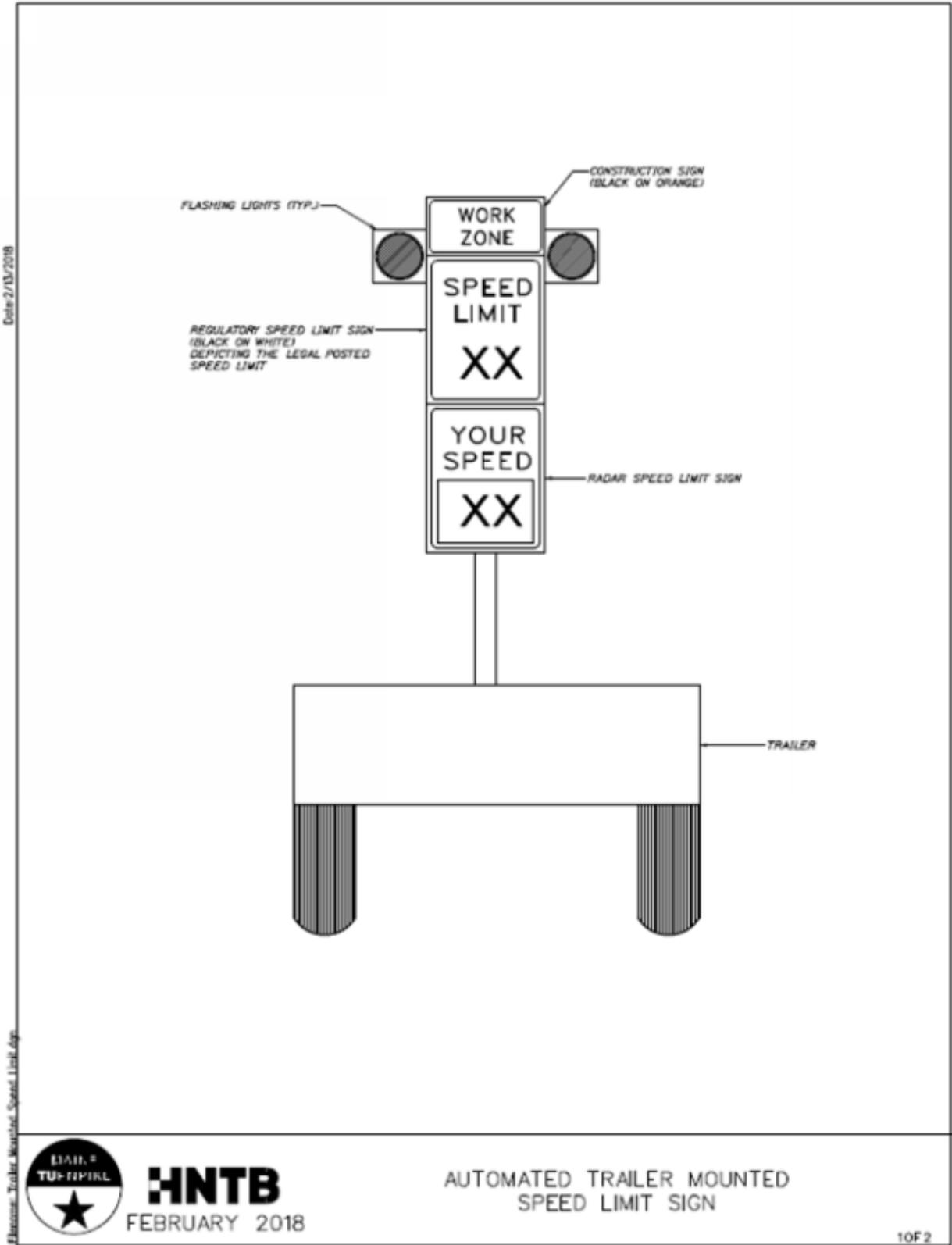
652.7 Method of Measurement

Automated Trailer Mounted Speed Limit Sign shall be measured for payment by the calendar day for each calendar day that the unit is used on a travel lane or shoulder on the project or per each for the continued use for the duration of the project. Payment shall include the Trailer, Radar Speed Limit Sign, flashing beacon amber lights, regulatory speed limit sign, fuel, necessary maintenance, and all checking of Radar Speed Limit Signs by manufacturer and all project moves including the transporting and delivery of the unit.

652.8 Basis of Payment

The Automated Trailer Mounted Speed Limit Sign(s) will be paid for at the Contract unit price per calendar day or per each. This price shall include all costs associated with the use of the Automated Trailer Mounted Speed Limit Sign.

<u>Pay Item</u>	<u>Pay Unit</u>
652.451 Automated Trailer Mounted Speed Limit Sign	Calendar Day
652.452 Automated Trailer Mounted Speed Limit Sign	Each



HNTB
FEBRUARY 2018

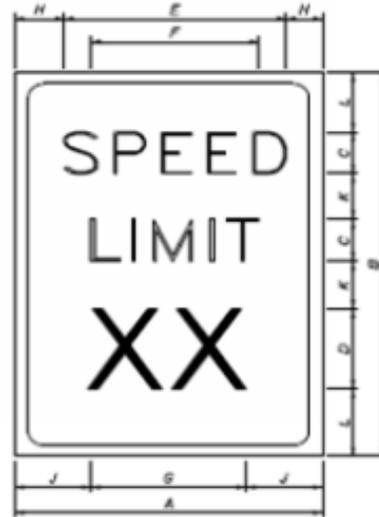
AUTOMATED TRAILER MOUNTED
SPEED LIMIT SIGN

10F2

Date: 2/13/2018

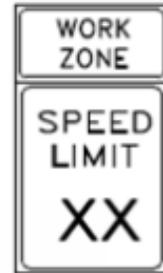


SIGN #1
 1/2" BORDER, 0.75" INDENT,
 BLACK ON ORANGE, BB GRADE PLYWOOD SIGN



SIGN #2
 1/2" BORDER, 0.75" INDENT,
 BLACK ON WHITE, BB GRADE PLYWOOD SIGN

DIMENSIONS (INCHES) / LETTER FONTS												
	A	B	C	D	E	F	G	H	I	J	K	L
*1	48	20	50	10 1/4	10 1/4	14 1/4	15 1/4	4	2	N/A	N/A	N/A
*2	48	60	60	16	30 1/4	29 1/4	29 1/2	4 1/2	9 1/2	9 1/4	8	6



Filename: Trailer Mounted Speed Limit.dgn



HNTB
 FEBRUARY 2018

TRAILER MOUNTED CONSTRUCTION ZONE
 SPEED LIMIT SIGN

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Temporary Portable Rumble Strips)

652.1 Description:

This work consists of furnishing and placing temporary portable rumble strips RoadQuake 2F TPRS or an approved equal.

652.2 Materials

Furnish a temporary portable rumble strip system, which includes a method to transport and move these to on-site locations where they will be used. The Contractor shall submit for approval, literature and all necessary certifications to the Maine Turnpike prior to procurement of the product.

652.3 General

If used, Temporary Portable Rumble Strips may not be practicable in areas where the roadway has more than two travel lanes, where volume windows do not allow for breaks in traffic to set up and monitor and adjust, or during night time lane closures.

Placement:

Provide rumble strips where the plans show or as directed by the Resident as follows:

Prior to placing rumble strips, clean the roadway of sand and other materials, that may cause slippage.

Place one end of the rumble strips 6 inches from the roadway centerline. Extend the strips perpendicular to the direction of travel. Ensure strips lay flat on the roadway surface.

Only one series of rumble strips, placed before the first work zone, is required per direction of travel for multiple work zones spaced 1 mile or less apart. Work zones spaced greater than 1 mile apart require a separate series of rumble strips. Each lane shall use one group of temporary rumble strips.

Bracketed "Rumble Strip Ahead" and "Bump" signs shall be utilized and will be paid for under the respective construction sign pay items.

Maintenance:

Maintain rumble strips as follows:

If rumble strips slide, become out of alignment, or are no longer in the wheel path of approaching vehicles during the work period, thoroughly clean both sides of the rumble strips and reset on a clean roadway.

Repair or replace damaged rumble strips immediately.

652.4 Method of Measurement

The accepted quantity of temporary portable rumble strips shall be measured by the unit complete in place, per lane closure application. A unit shall consist of 1 group of 3 full-lane width of rumble strips. As shown in the plans, a maximum of 3 units may be used at each lane closure. A unit shall be measured for each group of rumble strips, each time they are used for a lane closure.

652.5 Basis of Payment

The accepted quantity of temporary portable rumble strips will be paid for at the contract unit price per unit which shall include the transport device. Payment is full compensation for providing, relocating, maintaining or replacing, and removing temporary portable rumble strips.

If the pay item is not included in the contract quantities, then the Authority does not anticipate the use of this item on the contract. If contractor wishes to utilize temporary portable rumble strips and the item is not in the contract, then the contractor may propose use of them to the Authority for consideration.

<u>Pay Item</u>		<u>Pay Unit</u>
652.46	Temporary Portable Rumble Strip	Unit

SPECIAL PROVISIONSECTION 719SIGNING MATERIALSection 719.01 Reflective Sheeting

This Subsection is deleted in its entirety and replaced with the following:

Retroreflective sheeting for signs shall meet at a minimum the requirements for, ASTM 4956 – Type VII, Type VIII or Type IX, for all signs. All Type 1 Guide Signs shall meet at a minimum the requirements for ASTM 4956 –Type XI sheeting. Use of overlay film that degrades the retroreflectivity of the sign sheeting (i.e. Avery-Dennison overlay film) will be prohibited.

Reflective sheeting, used in sign construction, shall have been manufactured within the six months immediately prior to the fabrication of each sign. Upon delivery at the job site of each shipment of signs, a letter of certification shall be provided that the reflective sheeting conforms to the requirements.

Signs may only be covered using materials and techniques explicitly approved by the sheeting manufacturer for that purpose and shall not alter the sign sheeting warranty.

- For Type 1 Guide Signs, all reflective sheeting shall be color matched on each sign unit.
- All warning signs shall be fluorescent yellow except for Ramp Advisory Speed signs which shall be yellow.
- All Construction Series signs that use orange backgrounds shall be fluorescent orange.
- All Pedestrian Signs shall be fluorescent yellow-green.
- EZ-PASS Purple shall conform to the FHWA Purple color block.

719.02 Demountable High Intensity Reflectorized Letters, Numerals, Symbols, and Borders

This Subsection, including the title, is deleted in its entirety and replaced with the following:

719.02 Direct Applied Reflectorized Letters, Numerals, Symbols, and Borders

Direct applied letters, numerals, symbols and borders shall consist of cut out sheeting shall meet at a minimum the requirements for ASTM 4956 – Type VII, Type VIII or Type IX sheeting.

All Type 1 Guide Signs shall meet at a minimum the requirements for ASTM 4956 –Type XI sheeting.

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART III – APPENDICES

APPENDIX A
ANDROSCOGGIN RIVER OVERPASS LEAD PAINT TEST

January 3, 2013

Mr. Clayton Hoak
HNTB Corp.
340 County Rd
Suite 6C
Westbrook, ME 04092

RE: Katahdin Lab Number: SF8934
Project ID: MTA Bridges Event 12/12
Project Manager: Ms. Shelly Brown
Sample Receipt Date(s): December 14, 2012

Dear Mr. Hoak:

Please find enclosed the following information:

- * Report of Analysis (Analytical and/or Field)
- * Chain of Custody (COC)
- * Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

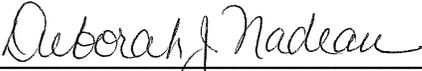
Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to <http://www.katahdinlab.com/cert.html> for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,
KATAHDIN ANALYTICAL SERVICES



Authorized Signature

01/03/2013

Date

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS
(Refer to BOD Qualifiers Page for BOD footnotes)

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as “U” MDL have a 50% rate for false negatives compared to those results reported as “U” PQL/LOQ or “U” LOD, where the rate of false negatives is <1%.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

I-7 The laboratory’s Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

MCL Maximum Contaminant Level

NL No limit

NFL No Free Liquid Present

FLP Free Liquid Present

NOD No Odor Detected

TON Threshold Odor Number

H_ Please note that the regulatory holding time for _____ is “analyze immediately”. Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 pH
H2 DO
H3 sulfite
H4 residual chlorine

T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.



REPORT OF ANALYTICAL RESULTS

Client: Clayton Hoak
 HNTB Corp.
 340 County Rd
 Suite 6C
 Westbrook, ME 04092

Lab Sample ID: SF8934-004
Report Date: 1/4/2013
PO No.:
Project: MTA Bridges Event 12/12

Sample Description	Matrix	Filtered	Date Sampled	Date Received
MM 79.8 GRAB MAIN SB	AQ	No(Total)	12/14/2012	12/14/2012

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
ARSENIC, TCLP	U 0.04	mg/L	0.04	1	0.008	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1
BARIUM, TCLP	2.57	mg/L	0.025	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	
CADMIUM, TCLP	U 0.0250	mg/L	0.0250	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1
CHROMIUM, TCLP	U 0.0500	mg/L	0.0500	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1
LEAD, TCLP	U 0.02	mg/L	0.02	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1
MERCURY, TCLP	U 0.20	ug/L	0.20	1	0.2	SW846 7470	12/28/12	EAM	SW846 7470	12/27/12	EAM	FL27HGW1	
SELENIUM, TCLP	U 0.050	mg/L	0.050	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1
SILVER, TCLP	U 0.0500	mg/L	0.0500	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1

1 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.



REPORT OF ANALYTICAL RESULTS

Client: Clayton Hoak
 HNTB Corp.
 340 County Rd
 Suite 6C
 Westbrook, ME 04092

Lab Sample ID: SF8934-005
Report Date: 1/4/2013
PO No.:
Project: MTA Bridges Event 12/12

Sample Description	Matrix	Filtered	Date Sampled	Date Received
MM 79.8 MAIN NB	AQ	No(Total)	12/14/2012	12/14/2012

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
ARSENIC, TCLP	U 0.04	mg/L	0.04	1	0.008	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1
BARIUM, TCLP	0.675	mg/L	0.025	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	
CADMIUM, TCLP	U 0.0250	mg/L	0.0250	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1
CHROMIUM, TCLP	0.0830	mg/L	0.0500	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	
LEAD, TCLP	117.	mg/L	0.1	5	0.005	SW846 6010	1/2/13	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	
MERCURY, TCLP	U 0.20	ug/L	0.20	1	0.2	SW846 7470	12/28/12	EAM	SW846 7470	12/27/12	EAM	FL27HGW1	
SELENIUM, TCLP	U 0.050	mg/L	0.050	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1
SILVER, TCLP	U 0.0500	mg/L	0.0500	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1

1 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.



REPORT OF ANALYTICAL RESULTS

Client: Clayton Hoak
 HNTB Corp.
 340 County Rd
 Suite 6C
 Westbrook, ME 04092

Lab Sample ID: SF8934-006
Report Date: 1/4/2013
PO No.:
Project: MTA Bridges Event 12/12

Sample Description	Matrix	Filtered	Date Sampled	Date Received									
MM 79.8 RDWAY BM NB	AQ	No(Total)	12/14/2012	12/14/2012									
Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
ARSENIC, TCLP	U 0.04	mg/L	0.04	1	0.008	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1
BARIUM, TCLP	0.0645	mg/L	0.025	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	
CADMIUM, TCLP	U 0.0250	mg/L	0.0250	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1
CHROMIUM, TCLP	0.322	mg/L	0.0500	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	
LEAD, TCLP	108.	mg/L	0.1	5	0.005	SW846 6010	1/2/13	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	
MERCURY, TCLP	U 0.20	ug/L	0.20	1	0.2	SW846 7470	12/28/12	EAM	SW846 7470	12/27/12	EAM	FL27HGW1	
SELENIUM, TCLP	U 0.050	mg/L	0.050	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1
SILVER, TCLP	U 0.0500	mg/L	0.0500	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/27/12	EAM	FL27ICW1	1

1 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

Client: HNTB	KAS PM: SMP	Sampled By: WF
Project: MTA Bridges	KIMS Entry By: GN	Delivered By: WF
KAS Work Order#: SF 8934	KIMS Review By: [Signature]	Received By: GN
SDG #:	Cooler: <u>1</u> of <u>1</u>	Date/Time Rec.: 1605 12/14/12

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		✓			
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.				✓	Temp (°C):
Samples received at <6 °C w/o freezing?				✓	Note: Not required for metals analysis.
Ice packs or ice present?				✓	The lack of ice or ice packs (i.e. no attempt to begin cooling process) may not meet certain regulatory requirements and may invalidate certain data.
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals analysis.
6. Volatiles free of headspace: Aqueous: No bubble larger than a pea Soil/Sediment: Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2 Sulfide – >9 Cyanide – pH >12				✓	
				✓	
				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments

Login Detail Report

 Jan. 04, 2013
 09:26 AM

Login Number: SF8934

 Account: HNTBCO001
 HNTB Corp.

Project:

Primary Report Address:

 Clayton Hoak
 HNTB Corp.
 340 County Rd
 Suite 6C
 Westbrook, ME 04092
 CHOAK@HNTB.com

Primary Invoice Address:

 Accounts Payable
 HNTB Corp.
 340 County Rd
 Suite 6-C
 Westbrook, ME 04092

Report CC Addresses:
Invoice CC Addresses:
Quote/Incoming:
Login Information

 ANALYSIS INSTRUCTIONS :
 CHECK NO. :
 CLIENT PO# :
 CLIENT PROJECT MANAGE :
 CONTRACT :
 COOLER TEMPERATURE : n/a
 DELIVERY SERVICES : Client
 EDD FORMAT :
 LOGIN INITIALS : GN
 PM : SMB
 PROJECT NAME : MTA Bridges Event 12/12
 QC LEVEL : I
 REGULATORY LIST :
 REPORT INSTRUCTIONS : email pdf and invoice Clayton, no HC
 SDG ID :
 SDG STATUS :

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	Due Date	Verbal Due Date	Mailed
SF8934-1	MM 33.0 GRAB SOUTH	13-DEC-12 13:40	14-DEC-12	27-DEC-12		03-JAN-13
Sample Comments:						
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Unit Price</i>	
Aqueous	S SAMPLING				\$ 75.00	
Solid	P TCLP-METALS		8oz Glass		\$ 130.00	
SW1311-EXT	SW3010-PREP	TCLP-ARSENIC	TCLP-BARIUM			
TCLP-CADMIUM	TCLP-CHROMIUM	TCLP-LEAD	TCLP-MERCURY			
TCLP-SELENIUM	TCLP-SILVER					
SF8934-2	MM 33.0 GRAB NORTH	13-DEC-12 13:30	14-DEC-12	27-DEC-12		03-JAN-13
Sample Comments:						
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Unit Price</i>	
Aqueous	S SAMPLING				\$ 75.00	
Solid	P TCLP-METALS		8oz Glass		\$ 130.00	
SW1311-EXT	SW3010-PREP	TCLP-ARSENIC	TCLP-BARIUM			
TCLP-CADMIUM	TCLP-CHROMIUM	TCLP-LEAD	TCLP-MERCURY			
TCLP-SELENIUM	TCLP-SILVER					
SF8934-3	MM 56.6 GRAB	13-DEC-12 14:45	14-DEC-12	27-DEC-12		03-JAN-13
Sample Comments:						
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Unit Price</i>	
Aqueous	S SAMPLING				\$ 75.00	
Solid	P TCLP-METALS		8oz Glass		\$ 130.00	
SW1311-EXT	SW3010-PREP	TCLP-ARSENIC	TCLP-BARIUM			
TCLP-CADMIUM	TCLP-CHROMIUM	TCLP-LEAD	TCLP-MERCURY			
TCLP-SELENIUM	TCLP-SILVER					

Login Number: SF8934

Quote/Incoming:

Account: HNTBCO001

HNTB Corp.

Project:

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Due Date	Verbal Due Date	Mailed
SF8934-4	MM 79.8 MAIN SB	14-DEC-12 13:25	14-DEC-12		27-DEC-12		03-JAN-13
Sample Comments:							
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Unit Price</i>	
Aqueous	S SAMPLING					\$ 75.00	
Solid	P TCLP-METALS		8oz Glass			\$ 130.00	
SW1311-EXT	SW3010-PREP	TCLP-ARSENIC	TCLP-BARIUM				
TCLP-CADMIUM	TCLP-CHROMIUM	TCLP-LEAD	TCLP-MERCURY				
TCLP-SELENIUM	TCLP-SILVER						
SF8934-5	MM 79.8 MAIN NB	14-DEC-12 12:50	14-DEC-12		27-DEC-12		03-JAN-13
Sample Comments:							
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Unit Price</i>	
Aqueous	S SAMPLING					\$ 75.00	
Solid	P TCLP-METALS		8oz Glass			\$ 130.00	
SW1311-EXT	SW3010-PREP	TCLP-ARSENIC	TCLP-BARIUM				
TCLP-CADMIUM	TCLP-CHROMIUM	TCLP-LEAD	TCLP-MERCURY				
TCLP-SELENIUM	TCLP-SILVER						
SF8934-6	MM 79.8 RDWAY BM NB	14-DEC-12 13:00	14-DEC-12		27-DEC-12		03-JAN-13
Sample Comments:							
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Unit Price</i>	
Aqueous	S SAMPLING					\$ 75.00	
Solid	P TCLP-METALS		8oz Glass			\$ 130.00	
SW1311-EXT	SW3010-PREP	TCLP-ARSENIC	TCLP-BARIUM				
TCLP-CADMIUM	TCLP-CHROMIUM	TCLP-LEAD	TCLP-MERCURY				
TCLP-SELENIUM	TCLP-SILVER						
SF8934-7	MM 91.0 GRAB	14-DEC-12 14:00	14-DEC-12		27-DEC-12		03-JAN-13
Sample Comments:							
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Unit Price</i>	
Aqueous	S SAMPLING					\$ 75.00	
Solid	P TCLP-METALS		8oz Glass			\$ 130.00	
SW1311-EXT	SW3010-PREP	TCLP-ARSENIC	TCLP-BARIUM				
TCLP-CADMIUM	TCLP-CHROMIUM	TCLP-LEAD	TCLP-MERCURY				
TCLP-SELENIUM	TCLP-SILVER						

Total Samples: 7
Total Analyses: 14
Total Price: \$ 1,435.00



REPORT OF ANALYTICAL RESULTS

Client: Clayton Hoak
 HNTB Corp.
 340 County Rd
 Suite 6C
 Westbrook, ME 04092

Lab Sample ID: SF9074-001
Report Date: 1/4/2013
PO No.:
Project: MTA Bridges Event 12/12

Sample Description	Matrix	Filtered	Date Sampled	Date Received									
MM 79.8 GRAB NB MED	AQ	No(Total)	12/20/2012	12/20/2012									
Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
ARSENIC, TCLP	U 0.04	mg/L	0.04	1	0.008	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	1
BARIUM, TCLP	2.65	mg/L	0.025	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	
CADMIUM, TCLP	U 0.0250	mg/L	0.0250	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	1
CHROMIUM, TCLP	U 0.0500	mg/L	0.0500	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	1
LEAD, TCLP	U 0.02	mg/L	0.02	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	1
MERCURY, TCLP	U 0.20	ug/L	0.20	1	0.2	SW846 7470	1/2/13	NAT	SW846 7470	12/28/12	HHM	FL28HGW1	
SELENIUM, TCLP	U 0.050	mg/L	0.050	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	1
SILVER, TCLP	U 0.0500	mg/L	0.0500	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	1

1 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.



REPORT OF ANALYTICAL RESULTS

Client: Clayton Hoak
 HNTB Corp.
 340 County Rd
 Suite 6C
 Westbrook, ME 04092

Lab Sample ID: SF9074-002
Report Date: 1/4/2013
PO No.:
Project: MTA Bridges Event 12/12

Sample Description	Matrix	Filtered	Date Sampled	Date Received									
MM 79.8 GRAB SB MED	AQ	No(Total)	12/20/2012	12/20/2012									
Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
ARSENIC, TCLP	U 0.04	mg/L	0.04	1	0.008	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	1
BARIUM, TCLP	2.02	mg/L	0.025	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	
CADMIUM, TCLP	U 0.0250	mg/L	0.0250	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	1
CHROMIUM, TCLP	U 0.0500	mg/L	0.0500	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	1
LEAD, TCLP	0.02	mg/L	0.02	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	
MERCURY, TCLP	U 0.20	ug/L	0.20	1	0.2	SW846 7470	1/2/13	NAT	SW846 7470	12/28/12	HHM	FL28HGW1	
SELENIUM, TCLP	U 0.050	mg/L	0.050	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	1
SILVER, TCLP	U 0.0500	mg/L	0.0500	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HHM	FL28ICW1	1

1 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.



REPORT OF ANALYTICAL RESULTS

Client: Clayton Hoak
 HNTB Corp.
 340 County Rd
 Suite 6C
 Westbrook, ME 04092

Lab Sample ID: SF9074-003
Report Date: 1/4/2013
PO No.:
Project: MTA Bridges Event 12/12

Sample Description	Matrix	Filtered	Date Sampled	Date Received									
MM 79.8 GRAB SB RDW	AQ	No(Total)	12/20/2012	12/20/2012									
Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
ARSENIC, TCLP	U 0.04	mg/L	0.04	1	0.008	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HMM	FL28ICW1	1
BARIUM, TCLP	0.132	mg/L	0.025	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HMM	FL28ICW1	
CADMIUM, TCLP	U 0.0250	mg/L	0.0250	1	0.005	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HMM	FL28ICW1	1
CHROMIUM, TCLP	0.248	mg/L	0.0500	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HMM	FL28ICW1	
LEAD, TCLP	151.	mg/L	0.1	5	0.005	SW846 6010	1/2/13	EAM	SW846 3010	12/28/12	HMM	FL28ICW1	
MERCURY, TCLP	U 0.20	ug/L	0.20	1	0.2	SW846 7470	1/2/13	NAT	SW846 7470	12/28/12	HMM	FL28HGW1	
SELENIUM, TCLP	U 0.050	mg/L	0.050	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HMM	FL28ICW1	1
SILVER, TCLP	U 0.0500	mg/L	0.0500	1	0.01	SW846 6010	12/28/12	EAM	SW846 3010	12/28/12	HMM	FL28ICW1	1

1 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.



Katahdin Analytical Services

Login Detail Report

Jan. 04, 2013

09:26 AM

Login Number: SF9074

Account: HNTBCO001
HNTB Corp.

Project:

Primary Report Address:

Clayton Hoak
HNTB Corp.
340 County Rd
Suite 6C
Westbrook, ME 04092
CHOAK@HNTB.com

Primary Invoice Address:

Accounts Payable
HNTB Corp.
340 County Rd
Suite 6-C
Westbrook, ME 04092

Report CC Addresses:

Invoice CC Addresses:

Quote/Incoming:

Login Information

ANALYSIS INSTRUCTIONS :
CHECK NO. :
CLIENT PO# :
CLIENT PROJECT MANAGE :
CONTRACT :
COOLER TEMPERATURE : n/a
DELIVERY SERVICES : KAS
EDD FORMAT :
LOGIN INITIALS : GN
PM : SMB
PROJECT NAME : MTA Bridges Event 12/12
QC LEVEL : I
REGULATORY LIST :
REPORT INSTRUCTIONS : email pdf and invoice Clayton, no HC
SDG ID :
SDG STATUS :

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	Due PR Date	Verbal Due Date	Mailed
SF9074-1	MM 79.8 GRAB NB MED	20-DEC-12 16:09	20-DEC-12	02-JAN-13		03-JAN-13
Sample Comments:						
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Unit Price</i>	
Aqueous	S SAMPLING				\$ 75.00	
Solid	P TCLP-METALS		8oz Glass		\$ 130.00	
SW1311-EXT	SW3010-PREP	TCLP-ARSENIC	TCLP-BARIUM			
TCLP-CADMIUM	TCLP-CHROMIUM	TCLP-LEAD	TCLP-MERCURY			
TCLP-SELENIUM	TCLP-SILVER					
SF9074-2	MM 79.8 GRAB SB MED	20-DEC-12 16:10	20-DEC-12	02-JAN-13		03-JAN-13
Sample Comments:						
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Unit Price</i>	
Aqueous	S SAMPLING				\$ 75.00	
Solid	P TCLP-METALS		8oz Glass		\$ 130.00	
SW1311-EXT	SW3010-PREP	TCLP-ARSENIC	TCLP-BARIUM			
TCLP-CADMIUM	TCLP-CHROMIUM	TCLP-LEAD	TCLP-MERCURY			
TCLP-SELENIUM	TCLP-SILVER					
SF9074-3	MM 79.8 GRAB SB RDW	20-DEC-12 16:20	20-DEC-12	02-JAN-13		03-JAN-13
Sample Comments:						
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Unit Price</i>	
Aqueous	S SAMPLING				\$ 75.00	
Solid	P TCLP-METALS		8oz Glass		\$ 130.00	
SW1311-EXT	SW3010-PREP	TCLP-ARSENIC	TCLP-BARIUM			
TCLP-CADMIUM	TCLP-CHROMIUM	TCLP-LEAD	TCLP-MERCURY			
TCLP-SELENIUM	TCLP-SILVER					

Total Samples: 3

Total Analyses: 6

Total Price: \$ 615.00

January 29, 2013

Mr. Clayton Hoak
HNTB Corp.
340 County Rd
Suite 6C
Westbrook, ME 04092

RE: Katahdin Lab Number: SG0420
Project ID: MTA Bridges 1/18/13
Project Manager: Ms. Shelly Brown
Sample Receipt Date(s): January 18, 2013

Dear Mr. Hoak:

Please find enclosed the following information:

- * Report of Analysis (Analytical and/or Field)
- * Chain of Custody (COC)
- * Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to <http://www.katahdinlab.com/cert.html> for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,
KATAHDIN ANALYTICAL SERVICES



Authorized Signature

01/29/2013

Date

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	Spiked sample recovery not within control limits.
*	Duplicate sample analysis not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	<p>The analyte was not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.</p> <p>Note: All results reported as “U” MDL have a 50% rate for false negatives compared to those results reported as “U” PQL/LOQ or “U” LOD, where the rate of false negatives is <1%.</p>
J	The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ) (previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).



REPORT OF ANALYTICAL RESULTS

Client: Clayton Hoak
 HNTB Corp.
 340 County Rd
 Suite 6C
 Westbrook, ME 04092

Lab Sample ID: SG0420-001
Report Date: 1/28/2013
PO No.:
Project: MTA Bridges 1/18/13

Sample Description	Matrix	Filtered	Date Sampled	Date Received
MM79.8 NB- G2 GRAB	AQ	No(Total)	01/18/2013	01/18/2013

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
ARSENIC, TCLP	U 0.04	mg/L	0.04	1	0.008	SW846 6010	1/24/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1
BARIUM, TCLP	0.308	mg/L	0.12	5	0.005	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	
CADMIUM, TCLP	U 0.125	mg/L	0.125	5	0.005	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1
CHROMIUM, TCLP	0.312	mg/L	0.250	5	0.01	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	
LEAD, TCLP	182.	mg/L	0.1	5	0.005	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	
MERCURY, TCLP	U 0.20	ug/L	0.20	1	0.2	SW846 7470	1/24/13	NAT	SW846 7470	1/23/13	NAT	GA23HGW2	
SELENIUM, TCLP	U 0.25	mg/L	0.25	5	0.01	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1
SILVER, TCLP	U 0.250	mg/L	0.250	5	0.01	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1

1 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.



REPORT OF ANALYTICAL RESULTS

Client: Clayton Hoak
 HNTB Corp.
 340 County Rd
 Suite 6C
 Westbrook, ME 04092

Lab Sample ID: SG0420-002
Report Date: 1/28/2013
PO No.:
Project: MTA Bridges 1/18/13

Sample Description	Matrix	Filtered	Date Sampled	Date Received
MM79.8 SB- G5 GRAB	AQ	No(Total)	01/18/2013	01/18/2013

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
ARSENIC, TCLP	U 0.04	mg/L	0.04	1	0.008	SW846 6010	1/24/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1
BARIUM, TCLP	0.355	mg/L	0.12	5	0.005	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	
CADMIUM, TCLP	U 0.125	mg/L	0.125	5	0.005	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1
CHROMIUM, TCLP	0.422	mg/L	0.250	5	0.01	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	
LEAD, TCLP	111.	mg/L	0.1	5	0.005	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	
MERCURY, TCLP	U 0.20	ug/L	0.20	1	0.2	SW846 7470	1/24/13	NAT	SW846 7470	1/23/13	NAT	GA23HGW2	
SELENIUM, TCLP	U 0.25	mg/L	0.25	5	0.01	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1
SILVER, TCLP	U 0.250	mg/L	0.250	5	0.01	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1

1 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.



REPORT OF ANALYTICAL RESULTS

Client: Clayton Hoak
 HNTB Corp.
 340 County Rd
 Suite 6C
 Westbrook, ME 04092

Lab Sample ID: SG0420-003
Report Date: 1/28/2013
PO No.:
Project: MTA Bridges 1/18/13

Sample Description	Matrix	Filtered	Date Sampled	Date Received									
MM79.8 SB- G6 GRAB	AQ	No(Total)	01/18/2013	01/18/2013									
Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
ARSENIC, TCLP	U 0.04	mg/L	0.04	1	0.008	SW846 6010	1/24/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1
BARIUM, TCLP	1.56	mg/L	0.12	5	0.005	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	
CADMIUM, TCLP	U 0.125	mg/L	0.125	5	0.005	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1
CHROMIUM, TCLP	U 0.250	mg/L	0.250	5	0.01	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1
LEAD, TCLP	68.2	mg/L	0.1	5	0.005	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	
MERCURY, TCLP	U 0.20	ug/L	0.20	1	0.2	SW846 7470	1/24/13	NAT	SW846 7470	1/23/13	NAT	GA23HGW2	
SELENIUM, TCLP	U 0.25	mg/L	0.25	5	0.01	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1
SILVER, TCLP	U 0.250	mg/L	0.250	5	0.01	SW846 6010	1/23/13	EAM	SW846 3010	1/23/13	NAT	GA23ICW1	1

1 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

Client: HNTB	KAS PM: SMB	Sampled By: NA, WE
Project:	KIMS Entry By: DM	Delivered By: WE
KAS Work Order#: SG 0420	KIMS Review By: GO	Received By: DM
SDG #:	Cooler: 1 of 1	Date/Time Rec.: 1430 1/18/13

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?				✓	
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.				✓	Temp (°C): N/A
Samples received at <6 °C w/o freezing?				✓	Note: Not required for metals analysis.
Ice packs or ice present?				✓	The lack of ice or ice packs (i.e. no attempt to begin cooling process) may not meet certain regulatory requirements and may invalidate certain data.
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals analysis.
6. Volatiles free of headspace: Aqueous: No bubble larger than a pea Soil/Sediment: Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2 Sulfide - >9 Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments

Jan. 18, 2013

02:49 PM

Login Number: SG0420

Quote/Incoming:

Account:HNTBCO001

NoWeb

HNTB Corp.

Login Information:

 ANALYSIS INSTRUCTIONS :
 CHECK NO. :
 CLIENT PO# :
 CLIENT PROJECT MANAGE :
 CONTRACT :
 COOLER TEMPERATURE : n/a
 DELIVERY SERVICES : KAS
 EDD FORMAT :
 LOGIN INITIALS : DM
 PM : SMB
 PROJECT NAME : MTA Bridges 1/18/13
 QC LEVEL : I
 REGULATORY LIST :
 REPORT INSTRUCTIONS : email pdf and invoice Clayton, no HC
 SDG ID :
 SDG STATUS :

Project:

Primary Report Address:

 Clayton Hoak
 HNTB Corp.
 340 County Rd
 Suite 6C
 Westbrook,ME 04092

Primary Invoice Address:

 Accounts Payable
 HNTB Corp.
 340 County Rd
 Suite 6-C
 Westbrook,ME 04092

Report CC Addresses:
Invoice CC Addresses:

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SG0420-1	MM79.8 NB- G2 GRAB	18-JAN-13 10:23	18-JAN-13			31-JAN-13	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Comments</i>	
Aqueous	S SAMPLING						
Solid	P TCLP-METALS		Boz Glass				
SW1311-EXT	SW3010-PREP		TCLP-ARSENIC				
TCLP-BARIUM	TCLP-CADMIUM		TCLP-CHROMIUM				
TCLP-LEAD	TCLP-MERCURY		TCLP-SELENIUM				
TCLP-SILVER							
SG0420-2	MM79.8 SB- G5 GRAB	18-JAN-13 10:48	18-JAN-13			31-JAN-13	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Comments</i>	
Aqueous	S SAMPLING						
Solid	P TCLP-METALS		Boz Glass				
SW1311-EXT	SW3010-PREP		TCLP-ARSENIC				
TCLP-BARIUM	TCLP-CADMIUM		TCLP-CHROMIUM				
TCLP-LEAD	TCLP-MERCURY		TCLP-SELENIUM				
TCLP-SILVER							
SG0420-3	MM79.8 SB- G6 GRAB	18-JAN-13 11:10	18-JAN-13			31-JAN-13	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Comments</i>	
Aqueous	S SAMPLING						
Solid	P TCLP-METALS		Boz Glass				
SW1311-EXT	SW3010-PREP		TCLP-ARSENIC				
TCLP-BARIUM	TCLP-CADMIUM		TCLP-CHROMIUM				
TCLP-LEAD	TCLP-MERCURY		TCLP-SELENIUM				
TCLP-SILVER							

Total Samples: 3
Total Analyses: 6

APPENDIX B
MAINEDEP ENVIRONMENTAL PERMITS

Maine Turnpike Authority

2360 Congress Street
Portland, Maine 04102

Daniel E. Wathen, Augusta, Chairman
Robert D. Stone, Auburn, Vice Chairman
Michael J. Cianchette, Cumberland
John E. Dority, Augusta
Ann R. Robinson, Portland
Thomas J. Zuke, Saco
Karen S. Doyle, Chief Financial Officer MaineDOT, Ex-Officio

Peter Mills, Executive Director
Douglas Davidson, Chief Financial Officer & Treasurer
Peter S. Merfeld, P.E., Chief Operations Officer
Jonathan Arey, Secretary & General Counsel

February 13, 2018

Maine Department of Environmental Protection
17 State House Station
Augusta, Maine 04333

To Whom It May Concern:

Enclosed is a Permit by Rule application for the Androscoggin River Bridge at milemarker 78.9 on the Maine Turnpike. I have also enclosed a check for the processing fee for the application.

If you have any questions, please do not hesitate to contact me at kvanooyen@maineturnpike.com or at 207-482-8113.

Thank you,



Kristi Van Ooyen, P.E.
Engineering Program Manager
Maine Turnpike Authority



TELEPHONE (207) 871-7771

Turnpike Travel Conditions 1-800-675-7453
www.maineturnpike.com

FACSIMILE (207) 871-7739



DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMIT BY RULE NOTIFICATION FORM
 (For use with DEP Regulation, Natural Resources Protection Act- Permit by Rule Standards, Chapter 305)
 PLEASE TYPE OR PRINT IN BLACK INK ONLY

APPLICANT INFORMATION (Owner)		AGENT INFORMATION (If Applying on Behalf of Owner)	
Name:	Maine Turnpike Authority	Name:	Sara Zografos
Mailing Address:	2360 Congress St	Mailing Address:	
Town:	Portland	Town:	
State and Zip Code:	Maine 04102	State and Zip Code:	
Daytime Phone #:	207-871-7771	Daytime Phone #:	
Email Address:	szografos@maineturnpike.com	Email Address:	

PROJECT INFORMATION							
Part of a larger project? (check one):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	After the Fact? (check one):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Project involves work below mean low water? (check one):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Name of waterbody:	Androscoggin River
Project Town:	Auburn/Lewiston	Project Location (Address):	MM 78.9	Map & Lot Number:			
Brief Project Description:	Concrete pier substructure repair activities including chipping and patching deteriorated concrete and the repair of cracked concrete using epoxy injection methods both above and below the ordinary high water (OHW) line						
Brief Directions to Site:	The Androscoggin River Bridge carries the mainline of the turnpike over the river.						

PERMIT BY RULE (PBR) SECTIONS (Check at least one): I am filing notice of my intent to carry out work which meets the requirements for Permit By Rule (PBR) under DEP Rules, Chapter 305. I and my agents, if any, have read and will comply with all of the standards in the Sections checked below.

- | | | |
|---|---|--|
| <input type="checkbox"/> Sec. (2) Act. Adj. to Protected Natural Res. | <input type="checkbox"/> Sec. (10) Stream Crossing | <input type="checkbox"/> Sec. (17) Transfers/Permit Extension |
| <input type="checkbox"/> Sec. (3) Intake Pipes | <input checked="" type="checkbox"/> Sec. (11) State Transportation Facil. | <input type="checkbox"/> Sec. (18) Maintenance Dredging |
| <input type="checkbox"/> Sec. (4) Replacement of Structures | <input type="checkbox"/> Sec. (12) Restoration of Natural Areas | <input type="checkbox"/> Sec. (19) Activities in/on/over significant vernal pool habitat |
| <input type="checkbox"/> Sec. (5) REPEALED | <input type="checkbox"/> Sec. (13) F&W Creation/Enhance/Water Quality Improvement | <input type="checkbox"/> Sec. (20) Activities located in/on/over high or moderate value inland waterfowl & wading bird habitat or shorebird feeding & roosting areas |
| <input type="checkbox"/> Sec. (6) Movement of Rocks or Vegetation | <input type="checkbox"/> Sec. (14) REPEALED | |
| <input type="checkbox"/> Sec. (7) Outfall Pipes | <input type="checkbox"/> Sec. (15) Public Boat Ramps | |
| <input type="checkbox"/> Sec. (8) Shoreline stabilization | <input type="checkbox"/> Sec. (16) Coastal Sand Dune Projects | |
| <input type="checkbox"/> Sec. (9) Utility Crossing | | |

NOTE: Municipal permits *may* also be required. Contact your local code enforcement office for more information. Federal permits may be required for stream crossings and for projects involving wetland fill. Contact the Army Corps of Engineers at the Maine Project Office for more information.

NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS

- Attach** all required submissions for the PBR Section(s) checked above. The required submissions for each PBR Section are outlined in Chapter 305 and may differ depending on the Section you are submitting under.
- Attach** a check for the correct fee made payable to: "Treasurer, State of Maine". The current fee for NRPA PBR Notifications can be found at the Department's website: <http://www.maine.gov/dep/feesched.pdf>
- Attach** a location map that clearly identifies the site (U.S.G.S. topo map, Maine Atlas & Gazetteer, or similar).
- Attach Proof of Legal Name** if applicant is a corporation, LLC, or other legal entity. Provide a copy of Secretary of State's registration information (available at <http://icrs.informe.org/nei-sos-icrs/ICRS?MainPage=x>) Individuals and municipalities are not required to provide any proof of identity.

I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules.

I also understand that this PBR becomes effective 14 calendar days after receipt by the Department *unless the Department approves or denies the PBR prior to that date.*

By signing this Notification Form, I represent that the project meets all applicability requirements and standards in the rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.

Signature of Agent or Applicant:		Date:	2-12-18
----------------------------------	---	-------	---------

Keep a copy as a record of permit. Send the form with attachments via certified mail or hand deliver to the Maine Dept. of Environmental Protection at the appropriate regional office listed below. The DEP will send a copy to the Town Office as evidence of the DEP's receipt of notification. No further authorization by DEP will be issued after receipt of notice. Permits are valid for two years. **Work carried out in violation of any standard is subject to enforcement action.**

AUGUSTA DEP
 17 STATE HOUSE STATION
 AUGUSTA, ME 04333-0017
 (207)287-7688

PORTLAND DEP
 312 CANCO ROAD
 PORTLAND, ME 04103
 (207)822-6300

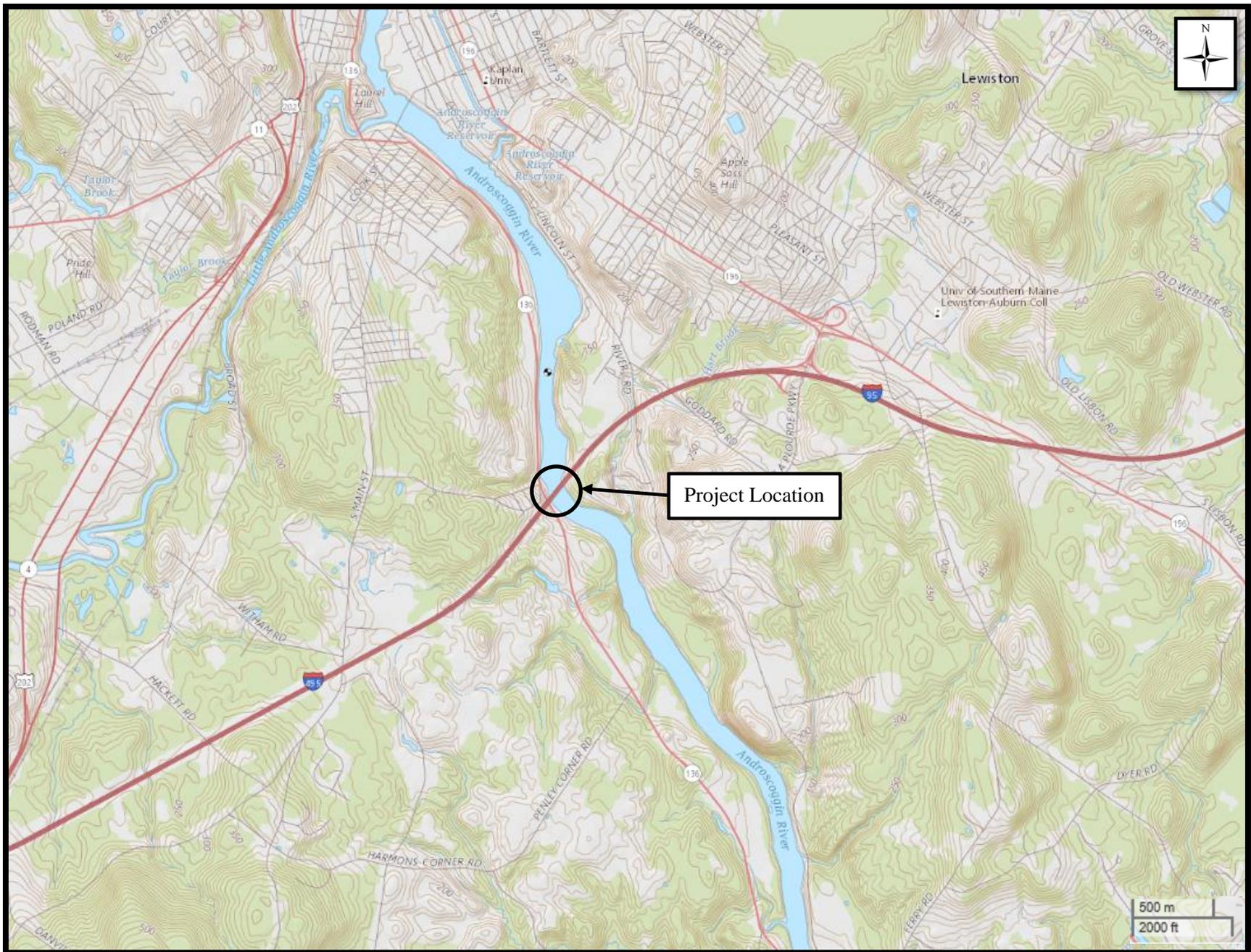
BANGOR DEP
 106 HOGAN ROAD
 BANGOR, ME 04401
 (207)941-4570

PRESQUE ISLE DEP
 1235 CENTRAL DRIVE
 PRESQUE ISLE, ME 04769
 (207)764-0477

OFFICE USE ONLY	Ck.#	Date	Staff	Staff	
PBR #	FP		Acc. Date	Def. Date	After Photos

Location Map

Figure 1: Site Location & Topography



Androscoggin River Bridge Repairs (Northbound & Southbound) B - 5
I-95 over Androscoggin River (Mile Marker 78.9)

Project Summary Memo

Introduction

This memorandum serves to advise the Maine Department of Environmental Protection of the Maine Turnpike Authority's proposed repair work at the Androscoggin River bridge structures in Auburn and Lewiston, Maine and the Authority's understanding that the proposed activities are maintenance and not subject to permitting under the Natural Resources Protection Act (NRPA). Regulatory authority for wetlands and waters at the project site includes Title 38 MRSA, Chapter 3, §§ 480-A to 480-Z.

Project Description

The project entails concrete pier substructure repair activities including chipping and patching deteriorated concrete and the repair of cracked concrete using epoxy injection methods both above and below the ordinary high water (OHW) line. The work is likely to be conducted using a snooper truck from the bridge deck, from hanging staging, or from small skiffs or barges. The repairs below the ordinary high water are proposed to be conducted without the use of fixed cofferdams.

Additional work will include the removal of woody debris that has accumulated at one pier location.

The proposed repairs require work in water and within the banks of the river, which are jurisdictional areas subject to permits by the Maine Department of Environmental Protection and US Army Corps of Engineers permit programs. The river to the OHW mark and any wetland areas extending beyond the OHW would also be subject to permitting by the two agencies.

Based upon the proposed work involving concrete repair to protect the existing structure ("Existing crossing"), including chipping concrete and epoxy injection below the OHW, and minimal excavation of the sediments adjacent to the piers for exposing cracks for repair, the activity is considered maintenance and not subject to permitting.

Regulatory Context and Maintenance Exemptions

According to Title 38 MRSA, Chapter 3, §§ 480-A to 480-Z A permit is required when an "activity" will be:

- Located in, on or over any protected natural resource, or
- Located adjacent to (A) a coastal wetland, great pond, river, stream or brook or significant wildlife habitat contained within a freshwater wetland, or (B) certain freshwater wetlands.

An "activity" is (A) dredging, bulldozing, removing or displacing soil, sand, vegetation or other materials; (B) draining or otherwise dewatering; (C) filling, including adding sand or other material to a sand dune; or (D) any construction, repair or alteration of any permanent structure.

However, certain exemptions apply as some activities are not subject to permitting. Specifically, as cited from the Maine Revised Statutes:

Title 38: WATERS AND NAVIGATION, Chapter 3: PROTECTION AND IMPROVEMENT OF WATERS

Subchapter 1: ENVIRONMENTAL PROTECTION BOARD

Article 5-A: NATURAL RESOURCES PROTECTION ACT HEADING: PL 1987, C. 809, §2 (NEW); 2007, C. 290, §14

§480-Q. Activities for which a permit is not required

A permit is not required for the following activities if the activity takes place solely in the area specified below: [1987, c. 809, §2 (NEW).]

2-D. Existing crossings. A permit is not required for the repair and maintenance of an existing crossing or for the replacement of an existing crossing, including ancillary crossing installation activities such as excavation and filling, in any protected natural resource area, as long as:

A. Erosion control measures are taken to prevent sedimentation of the water; [2011, c. 205, §3 (NEW).]

B. The crossing does not block passage for fish in the protected natural resource area; and [2011, c. 205, §3 (NEW).]

C. For replacement crossings of a river, stream or brook:

(1) The replacement crossing is designed, installed and maintained to match the natural stream grade to avoid drops or perching; and

(2) As site conditions allow, crossing structures that are not open bottomed are embedded in the stream bottom a minimum of one foot or at least 25% of the culvert or other structure's diameter, whichever is greater, except that a crossing structure does not have to be embedded more than 2 feet. [2011, c. 205, §3 (NEW).]

For purposes of this subsection, "repair and maintenance" includes but is not limited to the riprapping of side slopes or culvert ends; removing debris and blockages within the crossing structure and at its inlet and outlet; and installing or replacing culvert ends if less than 50% of the crossing structure is being replaced. [2011, c. 205, §3 (NEW).]

Conclusion

Based upon the nature and extent of proposed work, the Authority views the proposed repair activities as maintenance actions not subject to permit filing as described in §480-Q. The Authority does not plan to submit any NRPA permit notifications to the DEP. However, the Authority proposes to follow the relevant best management practices and general environmental protection

conditions of the Maine DEP Chapter 305 permit by rule #11 State transportation facilities and the US Army Corps State of Maine General Permit standard conditions.



Figure 1 General Elevation, Northbound Bridge looking South.



Figure 2 View of Pier Concrete Deficiencies.

**Maine Turnpike Authority
Cobbosseecontee Stream Bridges Rehabilitation Project**

**Maine Department of Environmental Protection
Natural Resources Protection Act, Chapter 305, Permit by Rule Notification**



**Mile Marker 99.2
West Gardiner and Litchfield, Maine**

MAY 17, 2018

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DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMIT BY RULE NOTIFICATION FORM
 (For use with DEP Regulation, Natural Resources Protection Act- Permit by Rule Standards, Chapter 305)
 PLEASE TYPE OR PRINT IN **BLACK INK ONLY**

APPLICANT INFORMATION (Owner)		AGENT INFORMATION (If Applying on Behalf of Owner)	
Name:	Maine Turnpike Authority Ralph Norwood, IV	Name:	
Mailing Address:	2360 Congress Street	Mailing Address:	
Town:	Portland	Town:	
State and Zip Code:	ME 04102	State and Zip Code:	
Daytime Phone #:	(207) 482-8348	Daytime Phone #:	
Email Address:	RNorwood@mainturnpike.com	Email Address:	

PROJECT INFORMATION						
Part of a larger project? (check one):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	After the Fact? (check one):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Project involves work below mean low water? (check one):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Name of waterbody: Cobbosseecontee Stream
Project Town:	West Gardiner/Litchfield	Project Location (Address):	I-95 Cobbosseecontee Bridge Crossings	Map & Lot Number:	Litchfield R09, Lots 33, 34, 35, 36A, 36D	
Brief Project Description:	SEE ATTACHED: Work to address structural and geometric deficiencies in the existing north and southbound bridge crossings (begin November 2018 and continue non-stop through November 2020)					
Brief Directions to Site:	I-95, Mile Marker 99.2, MTA bridges No. 0547 Northbound and No. 1500 Southbound.					

PERMIT BY RULE (PBR) SECTIONS (Check at least one): I am filing notice of my intent to carry out work which meets the requirements for Permit By Rule (PBR) under DEP Rules, Chapter 305. **I and my agents, if any, have read and will comply with all of the standards in the Sections checked below.**

- | | | |
|---|---|---|
| <input type="checkbox"/> Sec. (2) Act. Adj. to Protected Natural Res. | <input checked="" type="checkbox"/> Sec. (10) Stream Crossing | <input type="checkbox"/> Sec. (17) Transfers/Permit Extension |
| <input type="checkbox"/> Sec. (3) Intake Pipes | <input checked="" type="checkbox"/> Sec. (11) State Transportation Facil. | <input type="checkbox"/> Sec. (18) Maintenance Dredging |
| <input type="checkbox"/> Sec. (4) Replacement of Structures | <input type="checkbox"/> Sec. (12) Restoration of Natural Areas | <input type="checkbox"/> Sec. (19) Activities in/on/over significant vernal pool habitat |
| <input type="checkbox"/> Sec. (5) REPEALED | <input type="checkbox"/> Sec. (13) F&W Creation/Enhance/Water Quality Improvement | <input checked="" type="checkbox"/> Sec. (20) Activities located in/on/over high or moderate value inland waterfowl & wading bird habitat or shorebird feeding & roosting areas |
| <input type="checkbox"/> Sec. (6) Movement of Rocks or Vegetation | <input type="checkbox"/> Sec. (14) REPEALED | |
| <input type="checkbox"/> Sec. (7) Outfall Pipes | <input type="checkbox"/> Sec. (15) Public Boat Ramps | |
| <input type="checkbox"/> Sec. (8) Shoreline stabilization | <input type="checkbox"/> Sec. (16) Coastal Sand Dune Projects | |
| <input type="checkbox"/> Sec. (9) Utility Crossing | | |

NOTE: Municipal permits may also be required. Contact your local code enforcement office for more information. Federal permits may be required for stream crossings and for projects involving wetland fill. Contact the Army Corps of Engineers at the Maine Project Office for more information.

NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS

- Attach** all required submissions for the PBR Section(s) checked above. The required submissions for each PBR Section are outlined in Chapter 305 and may differ depending on the Section you are submitting under.
- Attach** a check for the correct fee made payable to: "Treasurer, State of Maine". The current fee for NRPA PBR Notifications can be found at the Department's website: <http://www.maine.gov/dep/feesched.pdf>
- Attach** a location map that clearly identifies the site (U.S.G.S. topo map, Maine Atlas & Gazetteer, or similar).
- Attach Proof of Legal Name** if applicant is a corporation, LLC, or other legal entity. Provide a copy of Secretary of State's registration information (available at <http://icrs.informe.org/nei-sos-icrs/ICRS?MainPage=x>) Individuals and municipalities are not required to provide any proof of identity.

I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules.

I also understand that this PBR becomes effective 14 calendar days after receipt by the Department *unless the Department approves or denies the PBR prior to that date.*

By signing this Notification Form, I represent that the project meets all applicability requirements and standards in the rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.

Signature of Agent or Applicant:		Date:	5-4-18
----------------------------------	--	-------	--------

Keep a copy as a record of permit. Send the form with attachments via certified mail or hand deliver to the Maine Dept. of Environmental Protection at the appropriate regional office listed below. The DEP will send a copy to the Town Office as evidence of the DEP's receipt of notification. No further authorization by DEP will be issued after receipt of notice. Permits are valid for two years. **Work carried out in violation of any standard is subject to enforcement action.**

AUGUSTA DEP
17 STATE HOUSE STATION
AUGUSTA, ME 04333-0017
(207)287-7688

PORTLAND DEP
312 CANCO ROAD
PORTLAND, ME 04103
(207)822-6300

BANGOR DEP
106 HOGAN ROAD
BANGOR, ME 04401
(207)941-4570

PRESQUE ISLE DEP
1235 CENTRAL DRIVE
PRESQUE ISLE, ME 04769
(207)764-0477

OFFICE USE ONLY	Ck.#	Date	Staff	Staff	
PBR #	FP		Acc. Date	Def. Date	After Photos

REQUEST FOR APPROVAL OF ACTIVITY (DIF&W)

This form is for use in obtaining approval from the **Department of Inland Fisheries and Wildlife (DIF&W)** for the timing/location of certain projects in accordance with Chapter 305 Permit by Rule Standards.

To be filled out by applicant: (Instructions are on the back of this form)

1. **Applicant's name:** Maine Turnpike Authority, Ralph Norwood, IV
Address: 2360 Congress Street
Portland, ME 04102
telephone: (207) 482-8348 RNorwood@maineturnpike.com

2. I plan to perform the following activity (please check the appropriate box):
- Sec. 9 Utility crossings** (if performed between Oct. 2 and July 14)
 - Sec. 10 Stream crossings** (if performed between Oct. 2 and July 14)
 - Sec. 15 Public boat ramps** (any location)
 - Sec. 16 Activities in coastal sand dunes** (moving sand between April 1 and September 1)
 - Sec. 20 Activities in existing developed areas located in/on/over high or moderate value inland waterfowl & wading bird habitat or shorebird nesting, feeding and staging areas if:**
 - cutting or removing vegetation in a shorebird roosting area
 - an activity in any shorebird area is performed between July 15 and September 15
 - a new activity in a moderate value inland waterfowl and wading bird habitat is performed between April 15 and July 31

3. Brief description of project: [please include the name of the stream or waterbody, if known]
SEE ATTACHED

4. I plan to perform this activity between the dates of November 2018 and November 2020.
(start date) (end date)

5. I have included a map showing the location of my project.
 ***[Please note that if no location map is provided, no approval will be granted by DIF&W]**

6. Send completed form to the appropriate regional office of the Department of Inland Fisheries and Wildlife. A map of the regions and the regional office addresses has been attached to this form.

For agency use only:

The Department has reviewed the proposed timing of the activity identified above and:

- approves of the project's timing/location as proposed.
- requires that the project's timing be changed to occur between _____ and _____
(end date) (start date)
- requires that the project's location be changed as shown on the plan (Section 20 Activity Only)

J. H. [Signature] Env. Review Coordinator 5/17/18
 DIF&W representative Position Date

SUPPLEMENTAL INFORMATION

Project Description

Introduction

The Applicant, Maine Turnpike Authority (MTA), is proposing the Cobbosseecontee Stream Bridges Rehabilitation Project (Project) located in West Gardiner and Litchfield, Maine (Attachment 1: Project Location Map). The proposed Project involves work to address structural and geometric deficiencies of the existing northbound and southbound bridge crossings over Cobbosseecontee Stream. Built in 1956, the existing mainline bridges (northbound Bridge Number 0547 and southbound Bridge Number 1500) are two-lane, four-span continuous bridges with an overall length of 210 feet and an out-to-out deck width of 34 feet. Numerous repairs have been made to the bridge structures between 1983 and 2017, and a thorough structural evaluation was completed in 2017. Although the bridge superstructure and substructures are in overall good condition, the bridge decks are deteriorating as evidenced by heavy spalls and cracking at multiple locations. Conditions are poor and if not refurbished, will eventually pose a significant safety hazard and may require significant maintenance efforts. Additionally, the bridges are narrower than the approach roadway which poses a potential safety risk to travelers.

To address these concerns, specific components of the Project are proposed that include replacement of bridge decks, widening of the bridge by a maximum of five feet to match the existing approach roadways, maintaining hydraulic clearance over the stream, and adjusting the vertical grade of the structure to improve drainage. Impact areas of the primary work components are shown in Attachment 2: Design Plans and Project Impacts. The majority of work involving ground disturbance will take place within existing disturbed areas along turnpike road embankments and bridge abutments and piers, and includes: regrading side slopes along turnpike travel lanes; installation of a temporary work trestle and cofferdams within Cobbosseecontee Stream; culvert end repairs at an unnamed ephemeral drainage to Cobbosseecontee Stream; abutment and pier excavation; pier and deck demolition; pile driving; installation of concrete forms; superstructure installation; paving; and, placement of protective rip-rap armoring within and along the shoreline of Cobbosseecontee Stream and at culvert ends.

Bridge rehabilitation is necessary to extend the service life of the structure and eliminate identified maintenance issues and safety hazards to public transportation. The only project alternative was the “no action” alternative, which would not meet the project purpose and need, and was therefore eliminated.

Avoidance and Minimization

The Project is being designed and will be conducted in accordance with the standards set forth in Maine Department of Environmental Protection (MDEP) Chapter 305: Permit by Rule for Stream Crossings, State Transportation Facility activities, and activities located in, on or over high or moderate value inland waterfowl and wading bird habitat, or shorebird nesting, feeding, and staging areas to minimize environmental impacts from the Project. Impacts were further avoided by minimizing the Project footprint to the greatest extent possible per safety and design specifications (see Attachment 2: Design Plans and Project Impacts). Side slopes of 2:1 and guardrails were used along the turnpike, instead of a more gradual slope with a wider base, to minimize impacts to wetlands located along the toe of slope. Rip-rap armoring was limited to the lowest amount needed to properly protect the bridge substructures and shorelines and placed within

existing disturbed areas where possible. Temporary workspace areas and trestle locations within Cobbosseecontee Stream were minimized to the greatest extent practical. Girder spacing was optimized, and the bridge deck overhang maximized, to reduce the amount of necessary dredging and excavation for substructure modifications.

Identified Environmental Concerns

A formal wetland and stream delineation, assessment of the site for potential significant wildlife habitat such as vernal pools, and an environmental data review, were performed by NewEarth Ecological Associates, LLC in 2017 to identify potential protected resources in the Project area. Much of the proposed work will take place on the existing bridge superstructure and involve no new ground disturbance. However, adjustments to the substructure and adjacent roadway will be necessary to accommodate the wider deck and to improve erosion protection of the structures and stream shoreline and will involve some temporary and permanent environmental impacts; some of which will occur within protected resources.

Through a desktop and onsite review of environmental conditions, careful design planning, and collaboration with environmental agencies, the Project was designed to minimize the impact to environmental resources and is expected to result in the following (see Attachment 2: Design Plans and Project Impacts):

Stormwater Impacts

40,500 square feet (sq ft) [0.93 acre] of disturbance (9,000 sq ft [0.21 acre] of which is new impervious surface). This is covered under the June 2017 MDEP/Maine Department of Transportation/MTA Stormwater Memorandum of Agreement.

Wetland Impacts

2,163 sq ft (0.05 acre) of total wetland impact (263 sq ft [0.01 acre] permanent; 1,900 sq ft [0.04 acre] temporary), consisting of wetlands along the previously armored shoreline of Cobbosseecontee Stream, at the culvert in and outflow of an unnamed ephemeral drainage to Cobbosseecontee Stream, and along the turnpike road embankment toe of slope.

- 1,243 sq ft [0.03 acre] of the above wetland impacts (50 sq ft [less than 0.01 acre] permanent; 1,193sq ft [0.03 acre] temporary) occur within inland waterfowl and wading bird habitat (IWWH).

Stream Impacts

220 linear feet of impact along the shoreline of Cobbosseecontee Stream which includes:

- 11,820 sq ft [0.27 acre] of impact (6,670 sq ft [0.15 acre] permanent; 5,150 sq ft [0.12 acre] temporary) below the ordinary high-water line of Cobbosseecontee Stream.
- 1,185 cubic yards of silty clay and till dredge material removal and upland disposal.
- Work within Federal Emergency Management Agency (FEMA) base floodplain area.

Nearly all of the wetland and in-stream disturbances are being performed to improve the condition of existing poorly functioning armoring in order to meet current safety and design standards. Work would take place within the limits of the existing bridge footprint (i.e., existing modified embankments, previously armored or rip-rapped area) where the existing armoring is of limited function due to degradation and/or limited placement during original construction. Most of the areas to be impacted are highly disturbed and devoid of vegetation (see Attachment 4: Photographs).

Temporary impacts are associated with areas needed by contractors for equipment staging and laydown, as well as installation of temporary work platforms within Cobbosseecontee Stream. These areas will be restored to a condition equal to, or better than, their existing condition, functions and values will be the same, and measures will be taken to minimize secondary impacts such as erosion and siltation.

No slope or in-stream channel modifications are proposed within Cobbosseecontee Stream and floodplain areas, and as detailed in the attached memorandum, there will be no effect on floodplain elevations from the proposed action. Additionally, all work will be performed in compliance with applicable federal, state and local floodplain management ordinances and standards.

All proposed work will take place within the existing MTA right-of way (see Attachment 2: Design Plans and Project Impacts). Vegetation removal is minor and will not include trees. Coordination with federal and state natural resource agencies and tribes has taken place and did not reveal any known Section 4(f) properties/properties of special significance, hazardous materials, aquifers or public water supplies, additional Significant Wildlife Habitat (SWH) protected under Maine's Natural Resource Protection Act (NRPA), tribal interests, or cultural resources of historic importance within the proposed Project site (see Attachment 5: Agency Coordination).

Construction Timing

It is anticipated that the construction contract would be awarded in September 2018. Construction activities would begin in November 2018 and would continue non-stop through November 2020; with work on the southbound bridge occurring primarily in 2018-2019 and work on the northbound bridge primarily from 2019-2020. Work within Cobbosseecontee Stream and within IWWH is expected to take place outside of recommended work timing windows and will require a waiver for work timing.

As outlined below, work performed as part of abutment widening (items #2 and #7) will result in minor impacts (0.01 acre permanent; 0.03 acre temporary) to IWWH and is expected to begin in 2018 and continue in some areas through March 2020. Work beginning in April 2019 through July 2019 (items # 3 through 5) and beginning in April 2020 through July 2020 (items # 9 through 11), would involve activities below the mean high-water level of Cobbosseecontee Stream. It should be noted these dates are approximate and the Contractor will ultimately be responsible for developing their desired workflow while adhering to the projects designated environmental work windows.

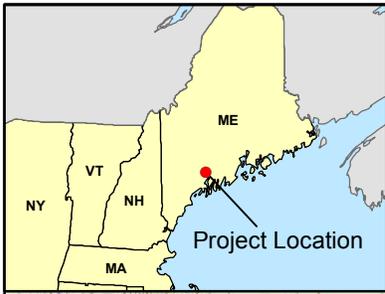
1. Close SB bridge to traffic – November 2018
2. SB Bridge: Perform abutment widening, approach construction, bridge demolition – November 2018 to March 2019

3. SB In-stream trestle and coffer dam install – April 2019
4. SB Bridge: In-water work begins for pier modifications – April 2019 (ends at the end of summer)
5. SB In-stream trestle and coffer dam removal – July 2019
6. SB Bridge: Bridge deck is constructed – July 2019 to November 2019
7. Switch traffic to SB bridge, close NB bridge to traffic – December 2019
8. NB Bridge: Perform abutment widening, approach construction, bridge demolition – January 2020 to March 2020
9. NB In-stream trestle and coffer dam install – April 2020
10. NB Bridge: In-water work begins for pier modifications – April 2020 (ends at the end of summer)
11. NB In-stream trestle and coffer dam removal – July 2020
12. NB Bridge: Bridge deck is constructed – July 2020 to November 2020
13. Project complete December 2020

This schedule assumes approvals are granted for in-water work and work within IWWH and is based on the approximate construction schedule presented above. Construction would take several more years and extend delays for the traveling public if the timing of work within in-water and IWWH are not approved.

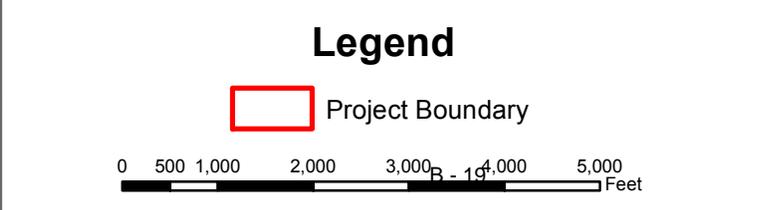
ATTACHMENT 1

Project Location



Prepared For: **HNTB**

Prepared By:  **NewEarth**
ECOLOGICAL CONSULTING, LLC



Site Location and Topography

Maine Turnpike Authority
Cobbesseecontee Stream
Bridge Rehabilitation Project
Gardiner & Litchfield, Maine

Source: United States Geological Survey, 2014. Date: 12/13/2017

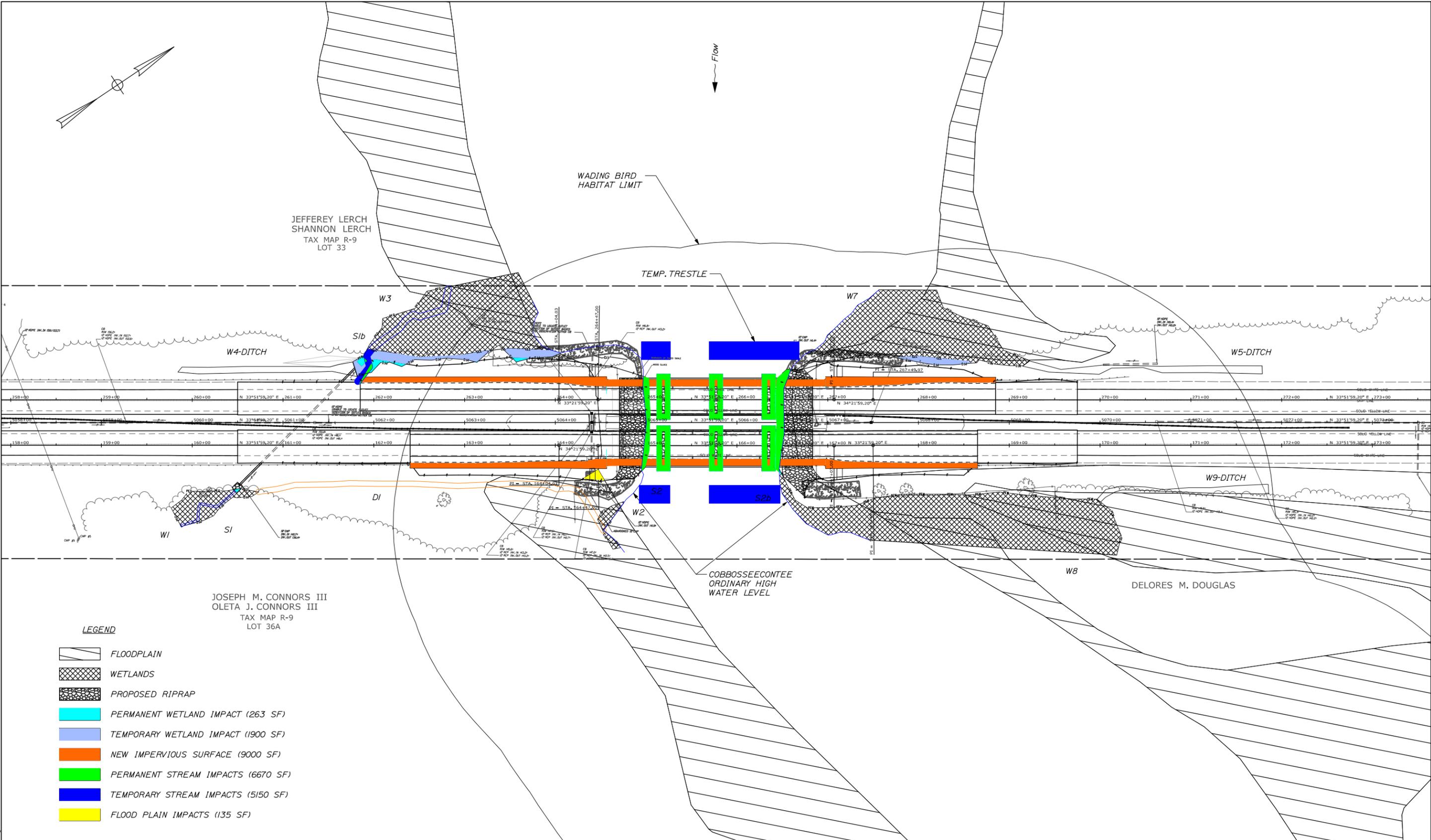
ATTACHMENT 2

Design Plans, Cross-sections and Environmental Impacts

As shown on the attached design plans and cross-sections, the primary activities for the Cobbosseecontee Bridge Rehabilitation Project include:

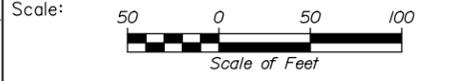
- Improving the vertical profile of the bridges by picking the bridges up approximately 1'. The profile change will require reconstructing approximately 750' of approach roadway, such as regrading side-slopes.
- Replacing and widening the bridge concrete decks by approximately 5' to match the existing approach roadway. The bridge widening will require adding one new steel girder to the bridge and elongating the existing substructure.
- Repairing the existing substructure concrete (piers and abutments).
- Replacing the bridge bearings and joints.
- Adding/replacing the rip-rap in front of abutments along the side slopes and at pier ends for scour counter measures.
- Repairing an existing culvert in the north approach (replacing deteriorated culvert end and placing rip-rap pad at end).

Date: 5/1/2018



LEGEND

- FLOODPLAIN
- WETLANDS
- PROPOSED RIPRAP
- PERMANENT WETLAND IMPACT (263 SF)
- TEMPORARY WETLAND IMPACT (1900 SF)
- NEW IMPERVIOUS SURFACE (9000 SF)
- PERMANENT STREAM IMPACTS (6670 SF)
- TEMPORARY STREAM IMPACTS (5150 SF)
- FLOOD PLAIN IMPACTS (135 SF)



No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	EDD	04\18	Checked	CDH	04\18
Drawn	EDD	04\18	In Charge of	RAL	04\18

HNTB CORPORATION
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

B - 2

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

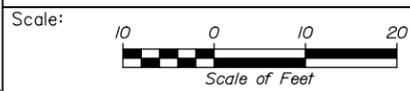
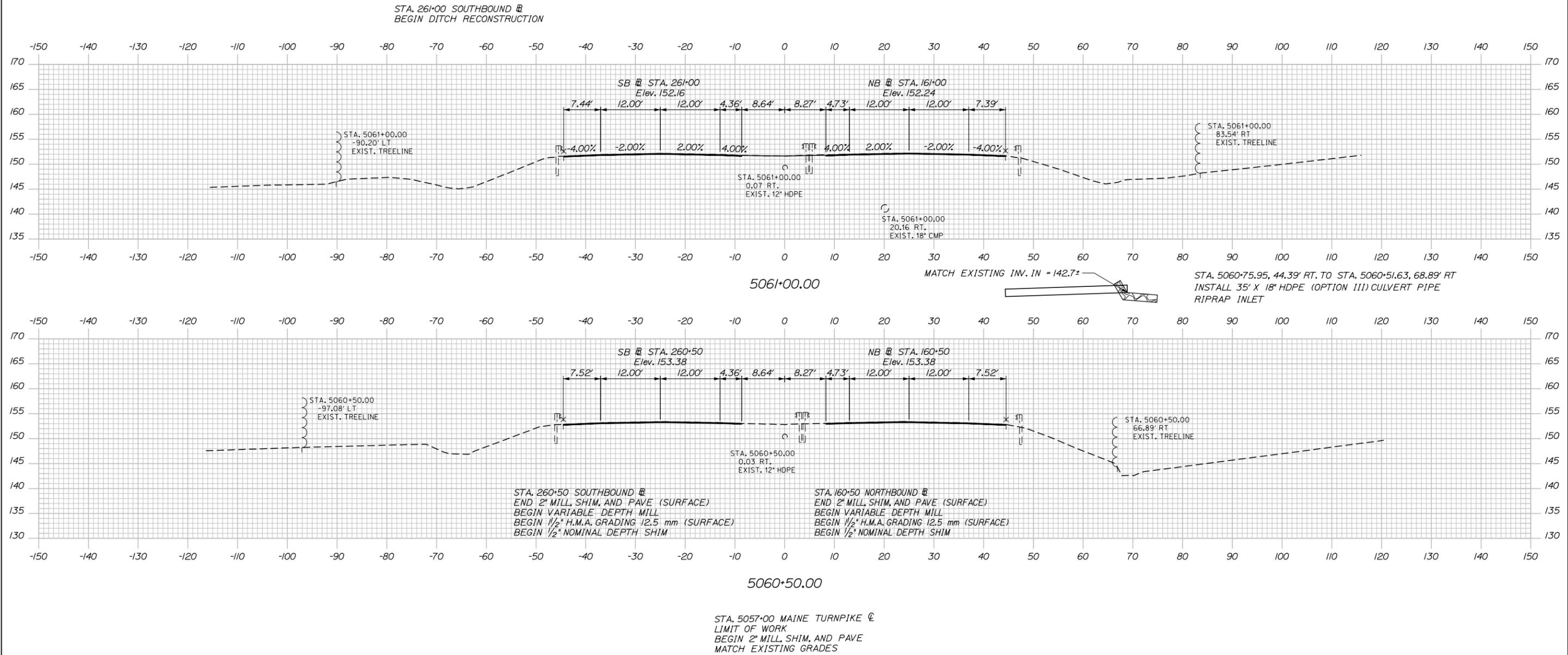
BRIDGE REHABILITATION
 COBBOSSEECONTEE STREAM OVERPASS
 ENVIRONMENTAL IMPACTS PLAN

SHEET NUMBER: GP-01
 1 OF 1

CONTRACT: 2018.15

Filename: 001_WetlandGraphic.dgn

Date: 4/12/2018



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CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

No.	Revision	By	Date

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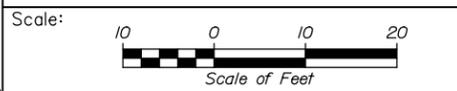
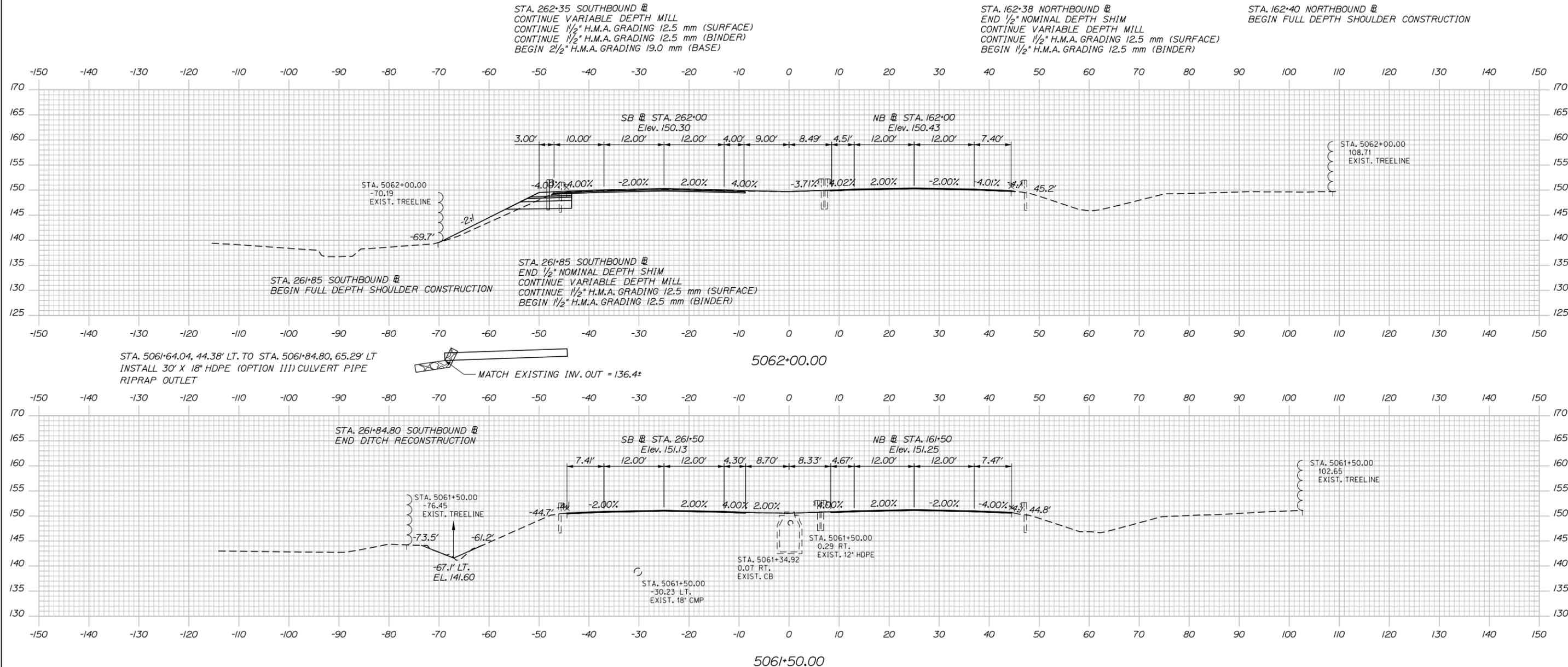
BRIDGE REHABILITATION
COBBOSSÉECONTEE STREAM OVERPASS

CROSS SECTIONS
STA. 5060+50 TO STA. 5061+00

SHEET NUMBER: XS-01
18 OF 78

CONTRACT: 2018.15

Date: 4/12/2018



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No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

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THE GOLD STAR MEMORIAL HIGHWAY

B - 25 MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REHABILITATION
 COBBOSSEECONTEE STREAM OVERPASS

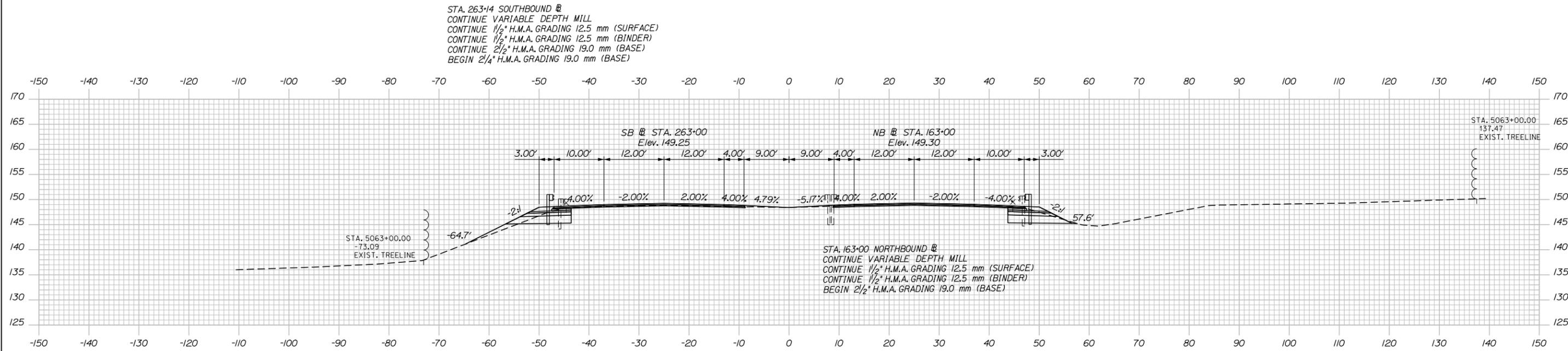
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 STA. 5061+50 TO STA. 5062+00

SHEET NUMBER: XS-02
 19 OF 78

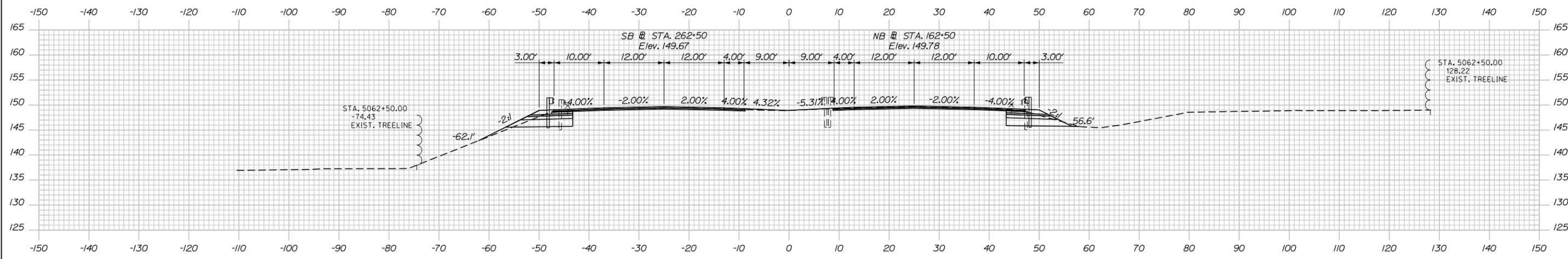
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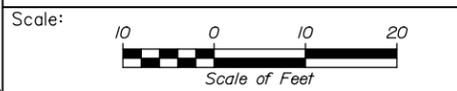
Date: 4/12/2018



5063+00.00



5062+50.00



Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

No.	Revision	By	Date

	By	Date		By	Date
Designed	EDD	04\18	Checked	CDH	04\18
Drawn	SLS	04\18	In Charge of	RAL	04\18

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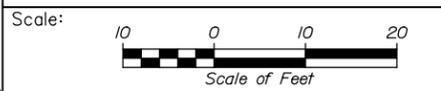
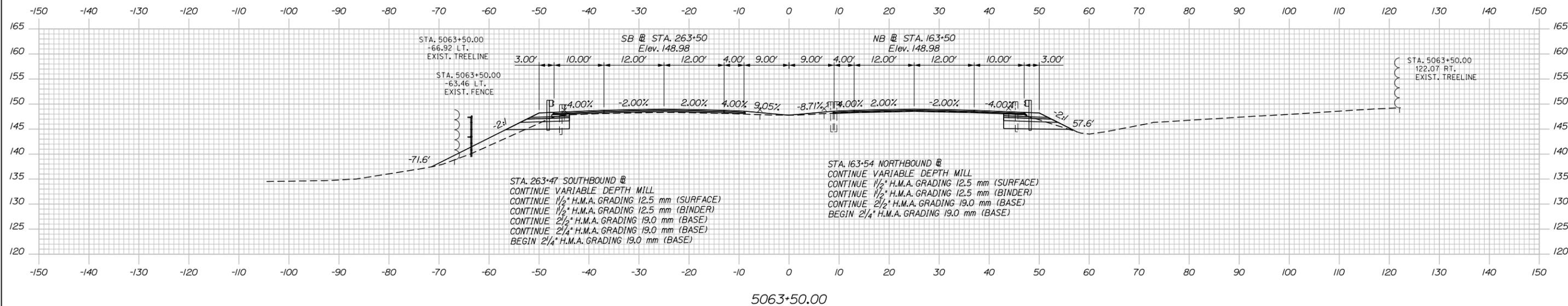
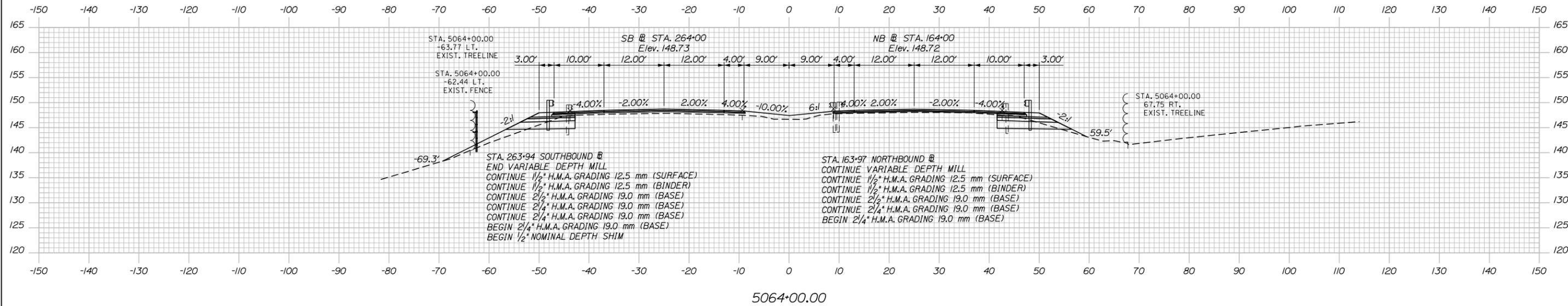
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 COBBOSSECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5062+50 TO STA. 5063+00

SHEET NUMBER: XS-03
 CONTRACT: 2018.15
 20 OF 78

Filename: Xsect.dgn

Date: 4/12/2018



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CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

No.	Revision	By	Date

	By	Date		By	Date
Designed	EDD	04\18	Checked	CDH	04\18
Drawn	SLS	04\18	In Charge of	RAL	04\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

B-25 MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REHABILITATION
COBBOSEECONTEE STREAM OVERPASS

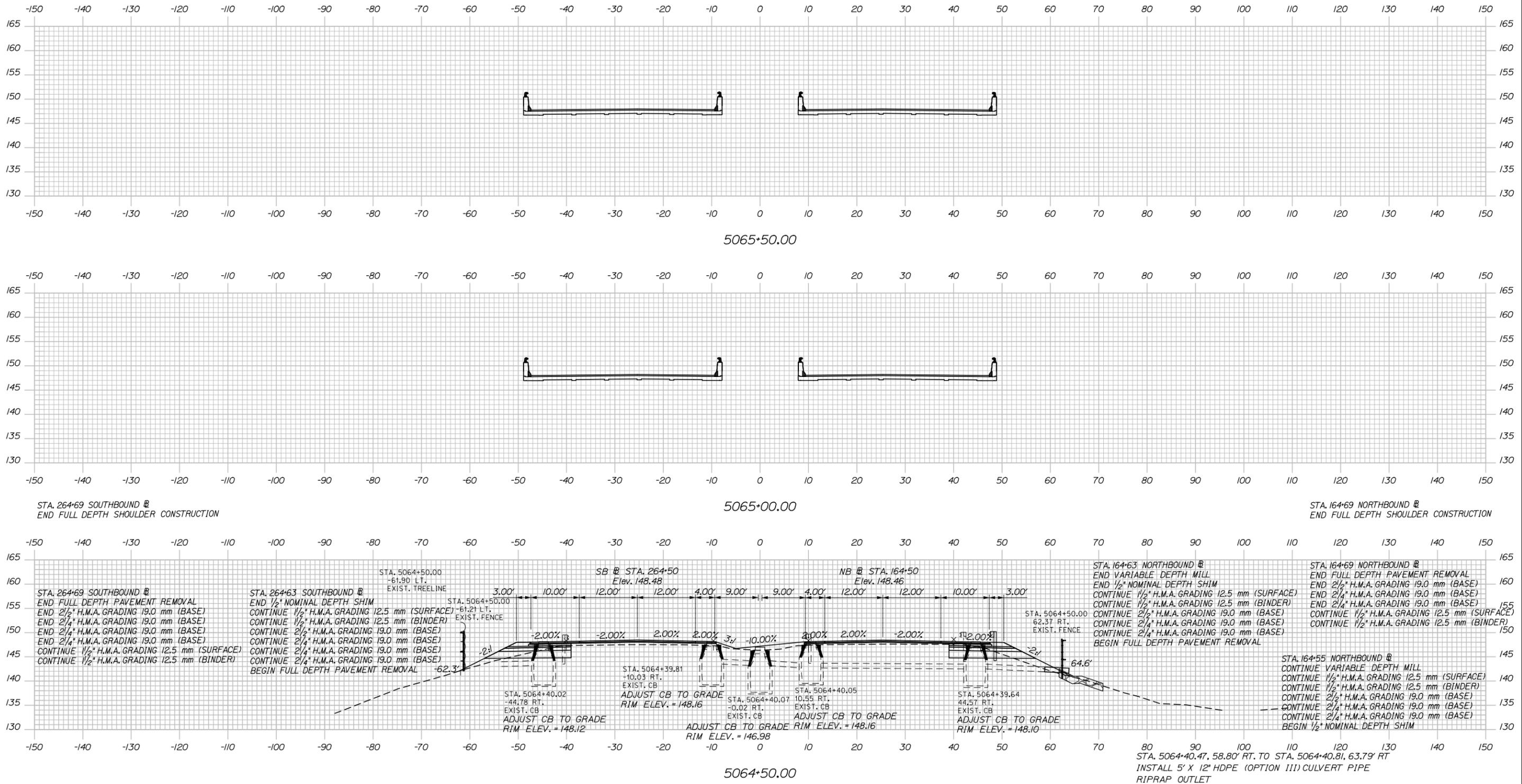
CROSS SECTIONS
STA. 5063+50 TO STA. 5064+00

SHEET NUMBER: XS-04
21 OF 78

CONTRACT: 2018.15

Filename: Xsect.dgn

Date: 4/12/2018



Scale: Scale of Feet

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	EDD	04\18	Checked	CDH	04\18
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

B - 26 MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REHABILITATION
 COBBOSSECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5064+50 TO STA. 5065+50

SHEET NUMBER: XS-05
 CONTRACT: 2018.15
 22 OF 78

Filename: Xsect.dgn

Date: 4/12/2018

STA. 266+91 SOUTHBOUND
 END FULL DEPTH PAVEMENT REMOVAL
 END 2 1/4" H.M.A. GRADING 19.0 mm (BASE)
 END 2 1/4" H.M.A. GRADING 19.0 mm (BASE)
 CONTINUE 1 1/2" H.M.A. GRADING 12.5 mm (SURFACE)
 CONTINUE 1 1/2" H.M.A. GRADING 12.5 mm (BINDER)
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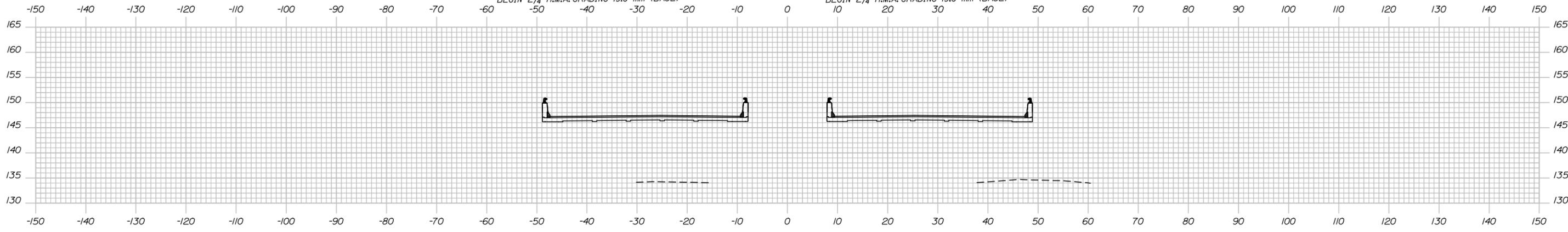
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STA. 266+85 SOUTHBOUND
 BEGIN FULL DEPTH SHOULDER CONSTRUCTION

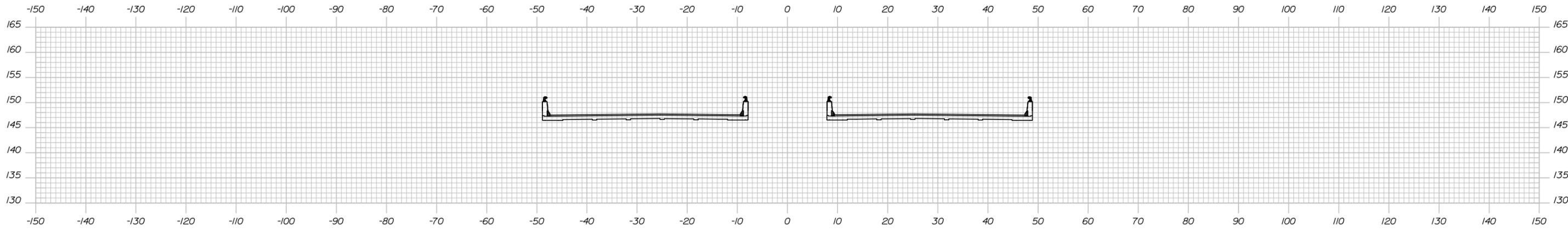
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 BEGIN 2 1/4" H.M.A. GRADING 19.0 mm (BASE)

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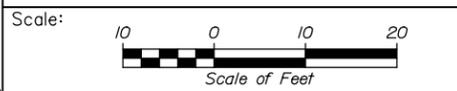
STA. 166+85 NORTHBOUND
 BEGIN FULL DEPTH SHOULDER CONSTRUCTION



5066+50.00



5066+00.00



Designed by:

HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date	Checked	By	Date
Designed	EDD	04\18	Checked	CDH	04\18
Drawn	SLS	04\18	In Charge of	RAL	04\18

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**THE GOLD STAR
 MEMORIAL HIGHWAY**

BRIDGE REHABILITATION
 COBBOSSECONTEE STREAM OVERPASS

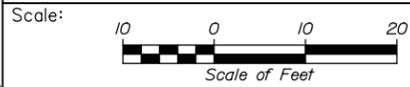
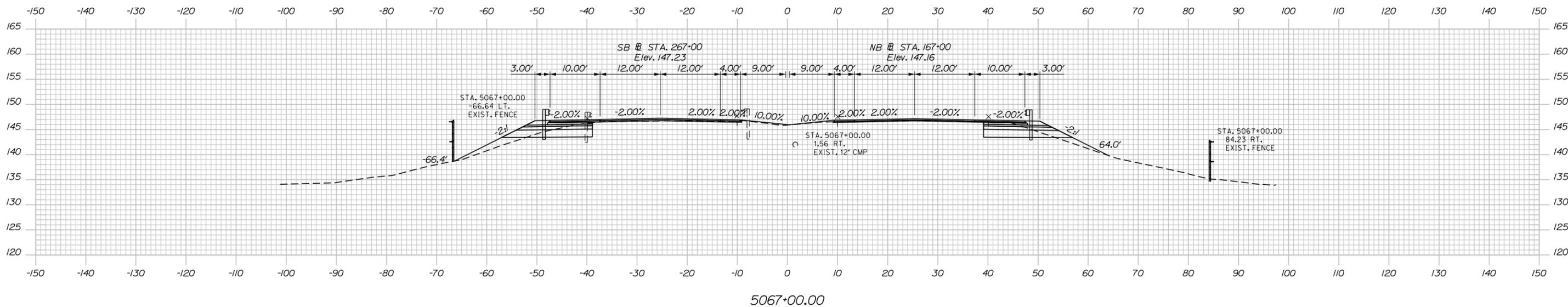
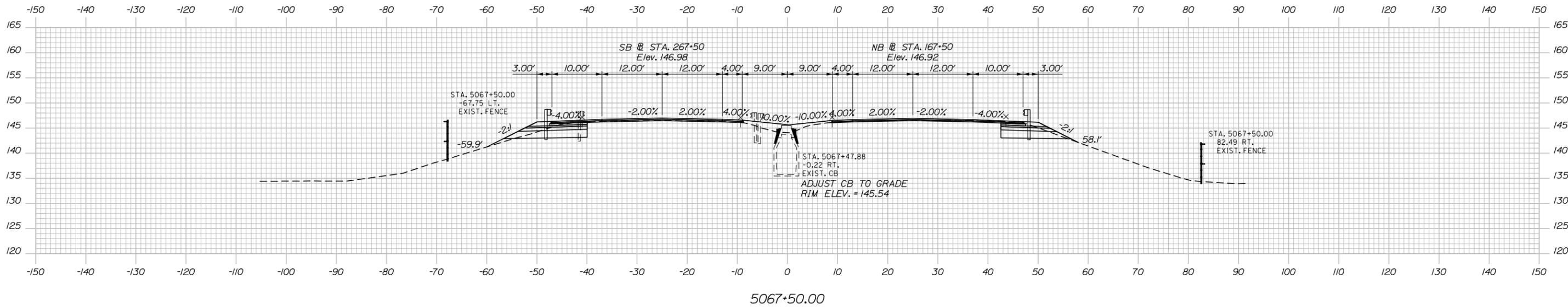
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SHEET NUMBER: XS-06

Filename: Xsect.dgn

Date: 4/12/2018

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 END 2 1/2" H.M.A. GRADING 19.0 mm (BASE)
 CONTINUE VARIABLE DEPTH MILL
 CONTINUE 1 1/2" H.M.A. GRADING 12.5 mm (SURFACE)
 CONTINUE 1 1/2" H.M.A. GRADING 12.5 mm (BINDER)



Designed by:



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THE GOLD STAR
 MEMORIAL HIGHWAY

BRIDGE REHABILITATION
 COBBOSSECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5067+00 TO STA. 5067+50

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.					
	By	Date		By	Date
Designed	EDD	04\18	Checked	CDH	04\18
Drawn	SLS	04\18	In Charge of	RAL	04\18

B - 28 MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

CONTRACT: 2018.15

SHEET NUMBER: XS-07

24 OF 78

Filename: Xsect.dgn

Date: 4/12/2018

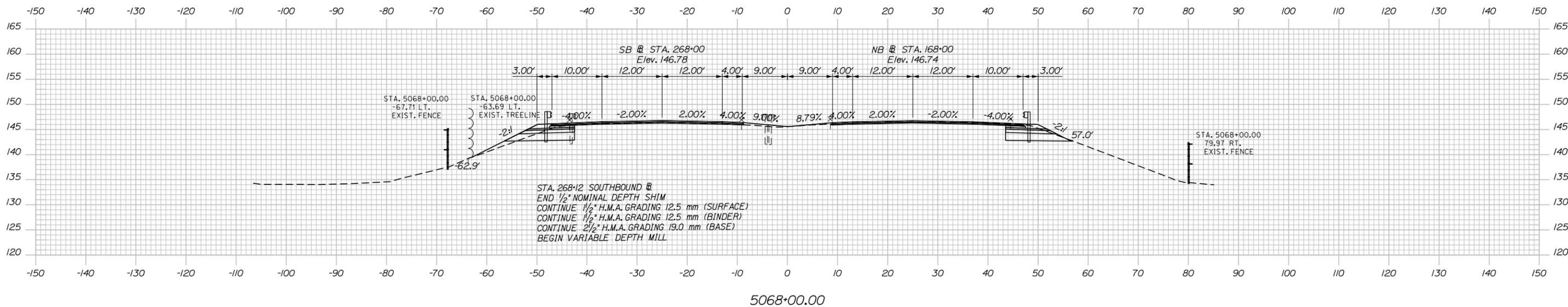
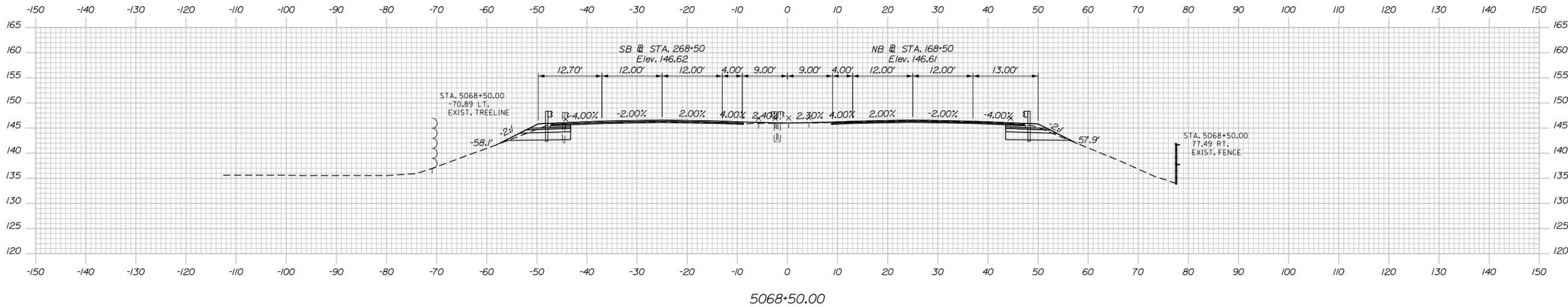
STA. 268+86 SOUTHBOUND
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 CONTINUE 1/2" H.M.A. GRADING 12.5 mm (SURFACE)
 BEGIN 1/2" NOMINAL DEPTH SHIM

STA. 268+85 SOUTHBOUND
 END FULL DEPTH SHOULDER CONSTRUCTION

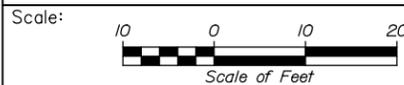
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 CONTINUE 1/2" H.M.A. GRADING 12.5 mm (BINDER)

STA. 168+65 NORTHBOUND
 END 1/2" H.M.A. GRADING 12.5 mm (BINDER)
 CONTINUE VARIABLE DEPTH MILL
 CONTINUE 1/2" H.M.A. GRADING 12.5 mm (SURFACE)
 BEGIN 1/2" NOMINAL DEPTH SHIM

STA. 168+85 NORTHBOUND
 END FULL DEPTH SHOULDER CONSTRUCTION



STA. 268+12 SOUTHBOUND
 END 1/2" NOMINAL DEPTH SHIM
 CONTINUE 1/2" H.M.A. GRADING 12.5 mm (SURFACE)
 CONTINUE 1/2" H.M.A. GRADING 12.5 mm (BINDER)
 CONTINUE 2 1/2" H.M.A. GRADING 19.0 mm (BASE)
 BEGIN VARIABLE DEPTH MILL



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THE GOLD STAR
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BRIDGE REHABILITATION
 COBBOSEECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5068+00 TO STA. 5068+50

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.					
	By	Date		By	Date
	EDD	04\18		CDH	04\18
	Drawn	SLS	04\18	In Charge of	RAL
					04\18

B - 29

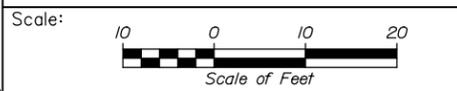
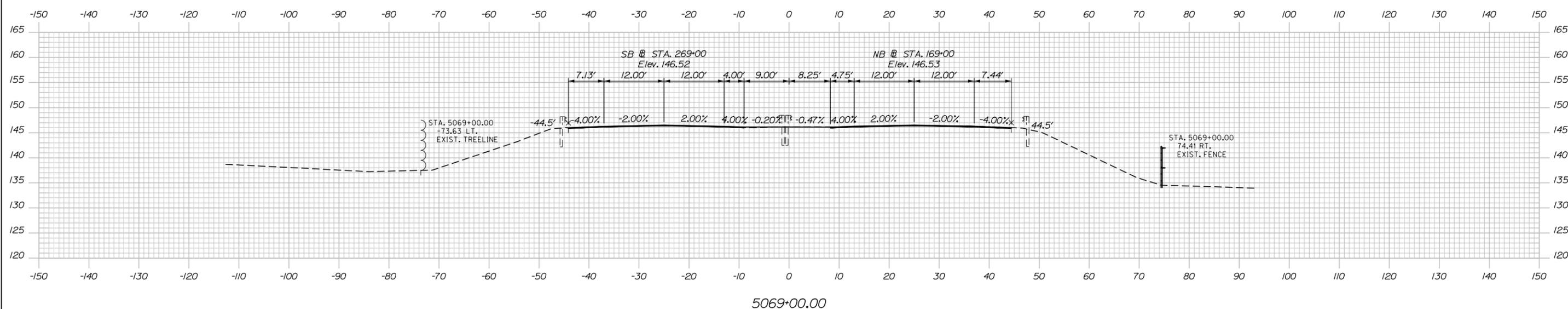
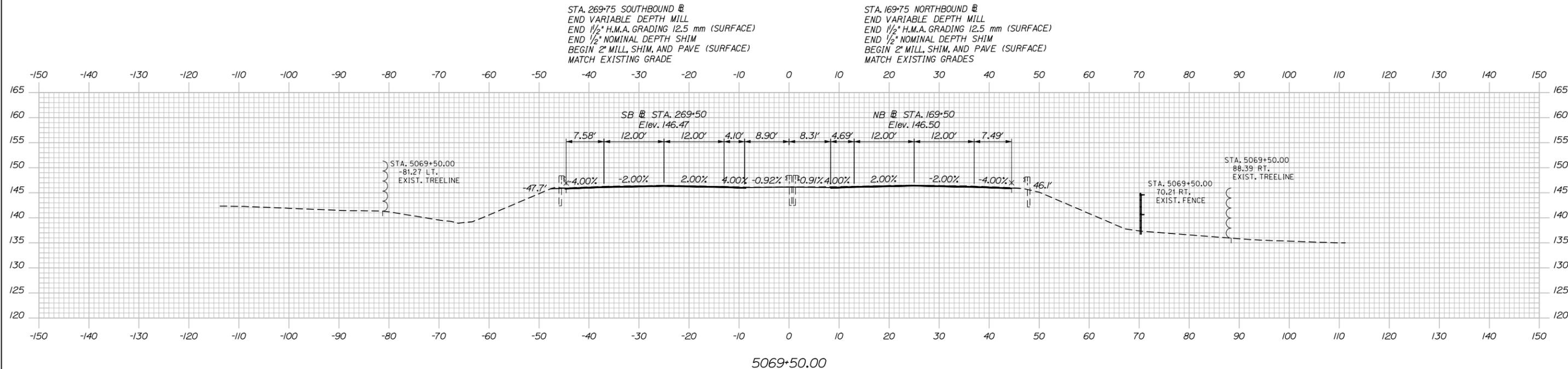
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

CONTRACT: 2018.15

SHEET NUMBER: XS-08

25 OF 78

Date: 4/12/2018



Designed by:

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No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

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**THE GOLD STAR
 MEMORIAL HIGHWAY**

B-30 MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

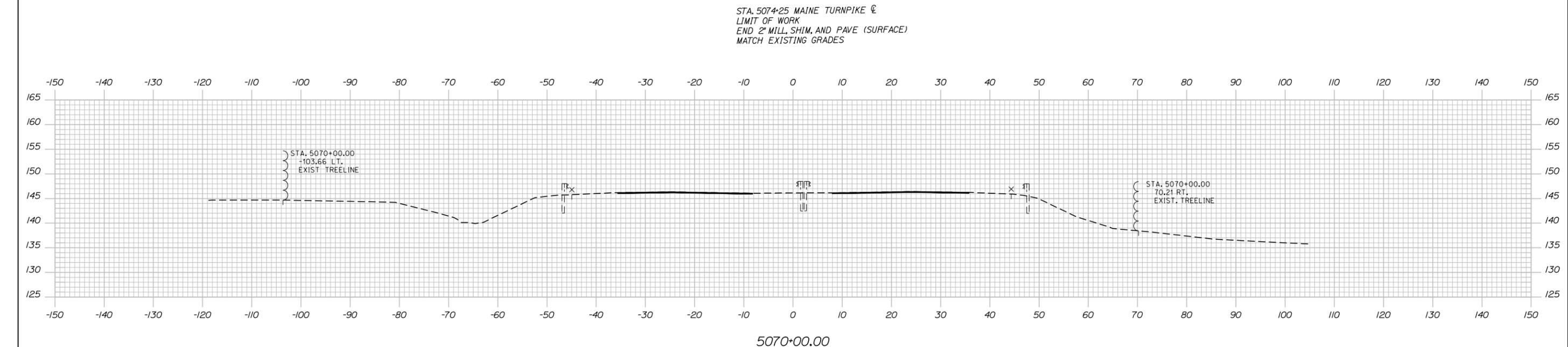
BRIDGE REHABILITATION
 COBBOSSECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5069+00 TO STA. 5069+50

SHEET NUMBER: XS-09
 CONTRACT: 2018.15
 26 OF 78

Filename: Xsect.dgn

Date: 4/12/2018



Scale: Scale of Feet

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date	Checked	By	Date
Designed	EDD	04\18	Checked	CDH	04\18
Drawn	SLS	04\18	In Charge of	RAL	04\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

B - 3

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REHABILITATION
COBBOSSECONTEE STREAM OVERPASS

CROSS SECTIONS
STA. 5070+00 TO STA. 5070+00

SHEET NUMBER: XS-10
27 OF 78

CONTRACT: 2018.15

Filename: Xsect.dgn

ATTACHMENT 3

Erosion and Sediment Control

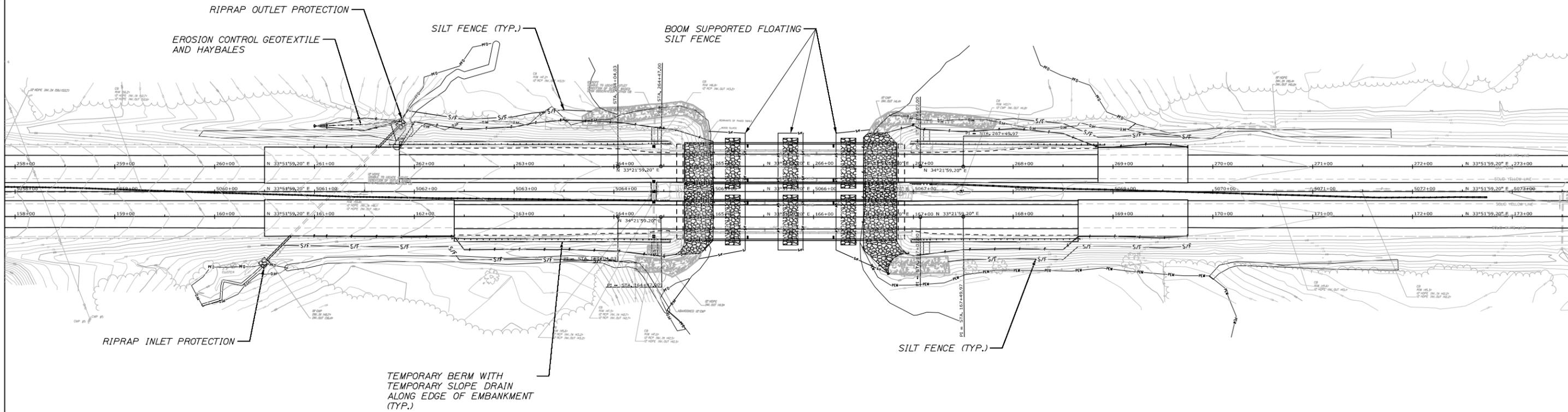
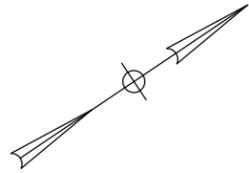
Per MTA's memorandum of agreement (MOA), MTA agrees to comply with the Stormwater Management and Erosion Control Standards outlined in the MOA to achieve stormwater quality and quantity controls reasonably consistent with the standards identified per MEDEP Chapter 500 Stormwater Management Rules. As identified in the attached Erosion and Sediment Control Plan (ESCP) and specifications, measures will be taken to prevent unreasonable erosion of soil or sediment beyond the site or into a protected natural resource, such as a river, stream, brook, lake, pond, or wetland and will ensure appropriate stormwater standards are met.

The attached ESCP and specifications will be provided to contractors to establish the minimum acceptable requirements which must be met before any ground-disturbing Project activities may begin. The plan identifies the temporary physical, structural, and managerial practices that will be used to prevent soil erosion and prevent or reduce the potential for sediment movement and discharge into protected natural resources and follows the recommendations and guidelines of MDEP's 2016 Erosion and Sediment Control Best Management Practices (BMP) Manual.

The pier modifications will be accomplished using cofferdams. The cofferdams will most likely be constructed with steel sheet pile walls driven to bedrock. Once installed the Contractor will pour tremi-seal concrete into the cofferdam enclosure, pushing the stream water out. After a proper seal is achieved the excess water will be pumped out and a dry working area will be provided for the duration of pier construction. The cofferdam dewatering process will occur at the beginning of the in-water work window, with the cofferdams staying in-place up until the last few days of the in-water work window. Boom supported turbidity curtains will be used throughout the process to control sediment

Additionally, while the attached ESCP and specifications provide the minimal acceptable practices, the selected contractor will be required to submit a contractor-prepared *Soil Erosion and Water Pollution Control Plan (SEWPCP)* prior to construction for MTA approval. The plan must provide specifications and details for the installation and implementation of cofferdams, dewatering, and soil erosion and sedimentation control measures per MDEP's BMP's and the attached ESCP's, while allowing flexibility to apply the most appropriate measures based on site-specific conditions, the construction sequence, timing and weather. MTA personnel and their representatives will ensure that the procedures contained in the contractor-prepared ESCP are followed by regularly inspecting all work and requiring corrective action when necessary.

Date: 4/12/2018



Filename: 001_ErosionControlPlan.dgn



No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	EDD	04\18	Checked	CDH	04\18
Drawn	EDD	04\18	In Charge of	RAL	04\18

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THE GOLD STAR MEMORIAL HIGHWAY

B - 35 MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REHABILITATION
 COBBOSSECONTEE STREAM OVERPASS
 EROSION CONTROL PLAN

SHEET NUMBER: GP-01
 CONTRACT: 2018.15
 1 OF 1

SUPPLEMENTAL SPECIFICATION

SECTION 656

TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

Section 656 of the Standard Specifications is deleted in its entirety and replaced with the following:

656.01 Description

This work shall consist of providing temporary erosion and water pollution control during construction in accordance with these Specifications, standard details, Best Management Practices, or as otherwise directed.

The Contractor shall certify in writing to the Resident that an On-Site Responsible Party (OSRP) has been trained and is knowledgeable in erosion and sediment control (ECS) through the MaineDEP's Non-Point Source Training Center, or an equivalent program, or is licensed in the State of Maine as a Professional Engineer, Landscape Architect or Soil Scientist. Proof of certification for the OSRP, and any other Contractor employees charged with conducting ESC inspections, must be submitted to the Authority's Environmental Coordinator prior to starting work.

The Project will be performed in accordance with the MaineDOT Best Management Practices (BMP) latest issue. The Contractor shall fully comply with all erosion and sedimentation control requirements outlined in the BMP's or contained herein. Non-compliance with these requirements as determined by the Resident shall result in a financial penalty of \$1,000 per day, per violation. Any fines assessed to the Maine Turnpike Authority as a result of the Contractor's non-compliance shall be paid by the Contractor. If the Contractor fails to pay, the cost of the fine will be deducted from monies due, or which may become due, to the Contractor under this Contract.

In the event of conflict between these Specifications and other erosion and pollution control laws, rules or regulations of other Federal, State and local agencies, the more restrictive law, rules or regulations shall apply.

The standards as described below shall be met on the Project:

Water Pollution Control Requirements

(a) General

1. The Contractor must comply with the applicable Federal, State and local laws and regulations relating to prevention and abatement of water pollution.
2. Except as allowed by an approved permit or otherwise authorized by the Authority in writing, pollutants containing construction debris including excavated material, aggregate, residue from cleaning, sandblasting or painting, cement mixtures,

chemicals, fuels, lubricants, bitumens, raw sewage, wood chips, and other debris shall not be discharged into water bodies, wetlands or natural or manmade channels leading thereto and such materials shall not be located alongside water bodies, wetlands, or such channels such that it will be washed away by high water runoff. Furthermore, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in the areas of the site draining to an infiltration area, unless these portions of the site (where storage and handling of these materials) are isolated using dikes, berms, sumps and other forms of secondary containment that prevent discharge to groundwater.

3. Temporary winter stabilization must be used between November 1st and April 15th or outside of said time period if the ground is frozen or snow covered. Temporary winter stabilization involves, at a minimum, covering all disturbed soils and seeded ground that is not Acceptable Work with an approved method. Use of these methods for over-winter temporary erosion control will be paid for under the appropriate Erosion Control items included in the Contract.
4. Construction operations in water bodies or wetlands shall be restricted to the construction limits shown on the Plans and to those areas that must be entered for the construction of temporary or permanent structures, except as allowed by approved permit or otherwise authorized by the Authority in writing. Mechanized equipment shall not be operated in water bodies or wetlands except as allowed by approved permit or otherwise authorized by the Authority in writing.
5. Upon completion of the work, water bodies or wetlands shall be promptly cleared of all falsework, piling, debris or other obstructions caused by the construction operations, except as allowed by approved permit or otherwise authorized by the Authority in writing.

(b) Earthwork

If earthwork disturbance is part of the Project scope:

1. Erosion control blanket shall be installed in the bottom of all ditches except where a stone lining is planned. Seed shall be applied prior to the placement of the blanket.
2. Permanent slope stabilization measures shall be applied within one (1) week of the last soil disturbance. Newly seeded or sodded areas must be protected from vehicle traffic, excessive pedestrian traffic, and concentrated runoff until the vegetation is well-established. If necessary, areas must be reworked and restabilized if germination is sparse, plant coverage is spotty, or topsoil erosion is evident.
3. Dust control items, other than those under Standard Specification Section 637, Dust Control, if applicable, shall be included in the plan.

Construction Requirements

1. All temporary erosion control devices shall be in place and approved by the Resident prior to any operations resulting in disturbed area. Prior to construction, the Contractor shall properly install sediment barriers (e.g., silt fence) at the edge of any downgradient disturbed area and adjacent to any drainage channels within the disturbed area
2. The Contractor is responsible for all temporary drainage and erosion control measures. The Contractor shall review his construction operations and staging to determine if additional erosion control measures are required. The Resident may also request additional erosion control measures. The cost for all erosion control devices necessary, due solely to the Contractor's construction operations and not shown on the Plans, shall be borne solely by the Contractor.
3. Inspections shall be conducted (1) at least once a week as well as before and after a storm event and prior to completing permanent stabilization measures; and (2) by a person knowledgeable of erosion and stormwater control, including the standards and conditions in the permit if applicable.
4. The Contractor shall maintain all measures in effective operating condition until areas are permanently stabilized. If BMPs need to be modified (i.e., corrective action, additional BMPs installed, etc.), implementation must be completed within seven (7) calendar days and prior to any storm event.
5. Temporary erosion control measures shall be maintained until the site is permanently stabilized with vegetation or other permanent control measures.
6. The Contractor will immediately take appropriate measures to prevent erosion or sedimentation from occurring or to correct any existing problems regardless of the time of year.
7. During periods of approved suspension, the Contractor shall inspect and maintain temporary and permanent erosion and sedimentation controls.
8. Work in wetlands is prohibited except to the minimum extent necessary for completion of the work as detailed on the Plans. Excavated and other material shall not be stockpiled in wetlands. Haybales, silt fence or other suitable barriers shall be used, where necessary, to prevent sedimentation from eroding materials.
9. Disturbance of natural resources beyond the construction limits shown on the Plans is not allowed.
10. Existing ditches shall be maintained until the new ditches are stabilized. Stone check dams shall be placed in existing ditches prior to construction as to prevent the release of sedimentation. Stone check dams shall be installed at the outlets of all existing and proposed ditches adjacent to all stream and wetlands.
11. For proposed ditches, stabilize the outlet first and build from the bottom up. Only excavate what can be stabilized or protected by the end of the work day.
12. Before permitting permanent channels to carry water, they shall be stabilized. This may require the installation of temporary erosion control BMP's or temporarily diverting flows.
13. All cross culvert outlets shall be armored before the end of the work day.
14. The Contractor's operation may require the placement of temporary pipes and fill over a ditch line to provide access to the work area. The Resident shall approve the size of

- the pipe. The placement and removal of the temporary access shall not be measured for payment and shall be incidental to the Excavation item.
15. Bare earth slopes shall be roughened to dissipate sheet flow. This shall be accomplished by “tracking” the slope perpendicular to the centerline. This work will not be measured separately for payment, but shall be incidental to the Excavation item.
 16. Uncured concrete shall not be placed directly into the water body. Concrete may be placed in forms and shall cure at least one (1) week prior to form removal. No washing of tools, forms, etc. shall occur in or adjacent to the water body or wetland.
 17. The Contractor shall contain all demolition debris (including debris from wearing surface removal, sawcut slurry, dust, etc.) and shall not allow it to discharge to any resource. Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source. The Contractor shall dispose of debris in accordance with Maine Solid Waste Law, Title 38 M.R.S.A., Section 1301 et. seq.
 18. No wheeled or tracked equipment shall be operated in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may NOT cross streams.
 19. The Contractor shall not remove rocks from below the normal high water line of any wetland, great pond, river, stream or brook, except to the extent necessary for completion of the work and as allowed by environmental permits.

Spill Prevention Control and Countermeasure (SPCC) Plan

Any areas where petroleum products, oils or non-petroleum hazardous materials are handled or stored will require a Spill Prevention Control and Countermeasure (SPCC) Plan. These materials may not be stored or handled in areas of the site draining to an infiltration area. The Plan will be submitted to the Resident before construction begins. In addition to petroleum products and hazardous materials, controls must be used to prevent additional pollutants (i.e., fertilizers, pesticides, salt/brine, litter, construction demolition debris, etc.) from being discharged from materials on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation. The Plan shall provide the following information at a minimum:

1. The name and emergency response numbers (telephone number, cellular phone and pager numbers, if applicable) of the Contractor’s representative responsible for spill prevention and response;
2. Description of handling or storage location noting setbacks from water bodies where relevant. Significant sand and gravel aquifers and other sensitive resources, including infiltration areas, must be avoided wherever possible;
3. Description of storage and containment facilities, such as dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater or surface water;

4. Description of equipment and/or materials used to prevent discharges (including sorbent materials);
5. Preventative measures to minimize the possibility of a spill; and,
6. Contingency plan if spill should occur.

The approved plan must be posted at the Project site. All personnel working in the area are required to read and be familiar with the plan.

There shall be no separate payment for preparation of a SPCC Plan acceptable to the Resident and preparation shall be incidental to the work.

Notification of Authority of Hazardous Material Spills

In addition to MaineDEP reporting requirements for spills greater than five (5) gallons, the Contractor shall notify the on-site Resident Inspector. The on-site Resident Inspector shall notify the Maine Turnpike Radio Room at 207-871-7701. When the on-site Resident Inspector is not available, the Contractor shall notify the Maine Turnpike Radio Room directly at 207-871-7701.

In addition to MaineDEP reporting requirements for all spills where any stream or water body is threatened, the Contractor shall notify the on-site Resident Inspector. The on-site Resident Inspector shall notify the Maine Turnpike Radio Room at 207-871-7701. When the on-site Resident Inspector is not available, the Contractor shall notify the Maine Turnpike Radio Room directly at 207-871-7701.

These notification procedures shall be incorporated into the Spill Prevention Control and Countermeasure (SPCC) Plan.

Responsibility for Control and Cleanup of Hazardous Material Spills

The Contractor shall be responsible to control spills and properly cleanup, containerize, and dispose of petroleum and/or other hazardous material waste that results from the actions and/or equipment of the Contractor or his employees, subcontractors and suppliers. Chemicals, exposed to stormwater must be prevented from becoming a pollutant source.

The Contractor shall also be responsible for all direct and indirect costs associated with the control of spills and proper cleanup, containerization, and disposal of petroleum and/or other hazardous material waste that results from the actions and/or equipment of the Contractor or his employees, subcontractors and suppliers.

656.02 Temporary Erosion and Sedimentation Control Devices - Materials

The Contractor shall install and maintain all temporary erosion and sedimentation control materials in accordance with the manufacturer's recommendations or the latest BMP's.

1. Baled hay shall be bales at approximately 14 by 18 by 30 inches, or an equivalent, securely tied to form a firm bale.
2. Flexible drainage pipe shall consist of collapsible neoprene pipe, a minimum of 12 inches in diameter or equal.
3. Silt Fence
 - (a) Posts - Either hardwood posts or steel posts shall be used. Hardwood posts shall be straight, at least 18 inches longer than the height of the silt fence and at least one inch by one inch.

Staples shall be of No. 9 wire.

Steel posts shall be at least 18 inches longer than the height of the silt fence and have the means provided for fastening wire to the fence.

- (b) Wire Support Fence - If required, wire support fence shall be at least two inches higher than the height of the silt fence. Horizontal and vertical wires shall be spaced no more than six inches apart. The top and bottom wires shall be at least 10 gauge; all other wires at least 12 gauge.
- (c) Fabric - The woven geotextile fabric and components shall be made from polypropylene, polyester, polyamide or other chemically stable material and be resistant to ultraviolet radiation degradation for at least 12 months of installation. Silt retention capacity shall be no less than 75 percent. The fabric shall have a Mullen burst test of no less than 260 pounds per square inch with a maximum average sieve opening size of No. 20 to No. 60. Roll width of the fabric shall be no less than six inches wider than the height of the fence, except fabric for boom supported floating silt fence which shall be no less than two feet wider than the design width.
- (d) Flotation Devices – Boom supported floating silt fence shall consist of suitable, flexible plastic or synthetic rubber barrier supported on the top (or floated on the top using six inch “minimum” Styrofoam logs) and sides, and weighted or anchored on the bottom to form a continuous vertical barrier to contain within the designated area(s), silt and clay-size particles suspended or carried by water. The flotation boom and weighing devices for boom supported floating silt fence shall be sufficient to hold the fence in an approximately vertical position.

656.03 Temporary Erosion and Sedimentation Control Devices - General

Temporary Erosion Checks - Temporary erosion checks shall be constructed in ditches and at other locations designated. Checks shall be in accordance with the Standard Detail unless otherwise directed.

Baled hay shall be used in other areas as necessary to inhibit soil erosion.

During winter construction, November 1st through April 15th, all areas being constructed within 75 feet of a protected natural resource shall be protected with a double row of silt fence.

Sediment deposits behind haybales and silt fence shall be removed when the depth of sediment reaches 50 percent of the erosion control device height.

The Contractor is also required to have on-site, at all times, 25 percent additional Contract quantities of silt fence for use as backup devices.

656.04 Temporary Erosion and Sedimentation Control Devices – Construction Requirements

1. Erosion Control Filter Berm

The Contractor may opt to furnish and install an erosion control filter berm in lieu of silt fence. The erosion control filter berm shall be a water permeable windrow of a composted bark mix to remove suspended soil particles from water moving off the site. Erosion control filter berm shall be considered an erosion control device. The material and specific application shall be submitted to the Resident for approval.

The erosion control berm shall be placed uncompacted, in a windrow in locations approved by the Resident. The cross section of the berm shall be four feet wide at the base and 1-1/2 feet high at the center. The erosion control filter berm shall be removed when no longer required, as determined by the Resident, and shall be distributed over an adjacent area.

2. Temporary Berms

When designated, temporary barriers shall be constructed along the edge of the embankment. The barriers shall be of embankment earth material, gravel or sand as available and shaped approximately as shown in the Standard Details. The barriers shall be compacted with the wheels of construction equipment. When placed on pavement, the berms shall be constructed of asphalt grindings or other non-erodible soil material as approved by the Resident, and shaped as shown in the Standard Details.

At designated intervals, temporary slope drains shall be constructed with a crescent shaped barrier placed at each slope drain to direct the water into the inlet pipe.

3. Temporary Slope Drains

Collapsible pipe with corrugated metal pipe inlet shall be placed down the embankment slopes at designated locations and in accordance with the Best Management Practices. At the outlet end of the drain, dumped stone shall be placed to prevent scoring unless otherwise directed.

4. Silt Fence

The silt fence shall be installed downhill of disturbed slopes as shown on the Plans or as approved. The Contractor shall have the option to provide a reinforced filter fabric or an un-reinforced filter fabric attached to a wire fence.

The fence posts shall be spaced as specified by the Resident, however, not to exceed a maximum of eight feet [2.5 m] apart when either type of silt fence is used and be driven a minimum of 18 inches [450 mm] into the ground.

The geotextile fabric shall be secured to the post or fence by suitable staples, tie wire or hog rings in such a manner as to prevent tearing and sagging of the fabric. The bottom flap of the geotextile fabric shall be entrenched into the ground a minimum depth of six inches [150 mm] to prevent water from flowing under the fence. The geotextile shall be spliced together only at support posts with a minimum six inches [150 mm] overlap and secure post connection which prevents leakage of silt. The top of the geotextile shall be installed with a reinforced top end section.

The Contractor shall maintain the silt fence in a functional condition at all times. All deficiencies shall be immediately corrected by the Contractor. The Contractor shall make a daily inspection of silt fences in areas where construction activity causes drainage runoff, to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, additional silt fences shall be installed as approved or otherwise directed.

Sediment deposits shall be removed when sediments reach 50 percent of the height of the device. All sediment deposits remaining in place after the device is no longer required shall be graded to conform to the existing ground, seeded and mulched immediately.

Geotextile fabric which has decomposed or has become ineffective and is still needed shall be replaced with material equal to the original design.

5. Boom Supported Floating Silt Fence

Prior to starting any work within the river, the Contractor shall furnish and install a boom supported floating silt fence to completely surround the work area as shown on the Plans or as approved by the Resident. The boom supported floating silt fence shall remain in place a minimum of 48-hours after the completion of the work. The Contractor shall then remove the boom supported floating silt fence from the river.

The silt fence fabric shall be securely attached to the flotation boom with a continuous weight placed the entire length of the fence to maintain the fence in a vertical submerged position from the surface of the water to the design depth.

Anchor's shall be placed at the ends of the fence, and intermediate locations if

necessary, to hold the fence securely in place.

6. Temporary Mulch

Temporary stabilization with mulch or other non-erodible cover is required on all exposed soils that will not be worked for more than 7 days. Areas within 75 feet of a wetland or waterbody shall be stabilized within 48 hours of the initial disturbance of the soil or prior to any storm event, whichever comes first.

The Contractor is responsible for applying temporary mulch as necessary, in accordance with the latest edition of the BMP's, to minimize soil erosion prior to the application of the final slope treatment.

Temporary mulch applied during the winter months of November 1st through April 15th shall be applied at twice the standard temporary stabilization rate or 150 lbs. per 1,000 square feet or three tons/acre. Mulch shall not be spread on top of snow and shall be anchored with mulch netting on slopes steeper than eight percent unless erosion control blankets or erosion control mix is being used on the slopes.

The Contractor shall review his construction operations and staging to determine how much temporary mulching is required.

656.05 Temporary Erosion and Sedimentation Control Devices - Maintenance

The erosion control devices will be cleaned, repaired or replaced as necessary. All deficiencies shall be corrected immediately by the Contractor.

656.06 Temporary Erosion and Sedimentation Control Devices - Removing and Disposing

When disturbed areas have been permanently stabilized, temporary erosion control devices, including stone check dams, shall be removed. However, erosion control mix filter berms may be spread out, seeded and left to decompose. Areas disturbed during the removal of the erosion control devices shall be repaired and properly stabilized.

When removed, such devices may be reused in other locations provided they are in good condition and suitable to perform the erosion control for which they are intended. Reused devices, if approved, will be measured for payment.

656.07 Erosion Control Compliance Officer

The Contractor shall designate an Erosion Control Compliance Officer (CECCO) on this Project who shall be a "DEP Certified Contractor" or have had equivalent training approved by the Authority. The Contractor shall provide the Resident with the name of the CECCO and any phone numbers or pager numbers that can be used to contact the person in case of emergency.

Before commencing any work that could disturb soils or impact water quality, the CECCO must field review the Project with the Resident's ECCO (RECCO).

656.08 Inspection and Recordkeeping

The CECCO shall accompany the RECCO in the inspection of all erosion control devices. An inspection log shall be maintained by the Resident for the duration of the Project. The log will include daily on-site precipitation and air temperature as well as the performance, failure and/or any corrective action for all erosion and sedimentation controls in place. The log will be updated at least weekly and after all significant storm runoff or flood events. The log shall be signed by the RECCO and the CECCO after each inspection.

Failure to comply with the erosion and sedimentation control requirements herein or as directed by the RECCO within 24-hours after the violation is noted in the inspection log, will result in the \$1,000 per day per violation penalty until the violation is corrected to the satisfaction of the Resident.

656.09 Method of Measurement

Baled hay will be measured for payment by the number of bales or bags satisfactorily placed.

Temporary berms and temporary slope drains will be measured for payment by the linear foot measured parallel with the flow line including the pipe inlet.

Temporary silt fence will be measured by the linear foot along the gradient of the fence, end post to end post.

Boom supported floating silt fence will be measured by the linear foot.

Erosion control filter berm shall be measured by the linear foot.

The quantity of additional haybales and silt fence material required herein will be measured for payment only when and if they are actually put to use as additional measures on the Project as approved by the Resident. Haybales and silt fence material used for maintenance or replacement of existing devices will not be measured for payment.

The removal of silt and other material from behind the erosion control devices will not be measured separately for payment, but shall be incidental to the Erosion Control items.

Temporary Mulch – See Section 619 Mulch.

656.10 Basis of Payment

The accepted quantity of baled hay or sandbags will be paid for at the Contract unit price each for each bale or bag which price shall be full compensation for furnishing and placing the bales or sandbags, for furnishing and driving the stakes for baled hay, for maintaining the bales, stakes or

sandbags, and for the removing and disposing of the bales, stakes or sandbags when no longer needed.

The accepted quantity of temporary berms will be paid for at the Contract unit price per linear foot of berm which price shall be full compensation for furnishing, placing and compacting material, for maintaining and for removing the berm when no longer needed.

There will be no separate payment for excavation in the construction of temporary erosion control items under this Section and all necessary excavation shall be incidental to the work.

The accepted quantity of dumped stone will be paid for at the Contract unit price per cubic yard which price shall be full compensation for furnishing the stone, transporting, placing and shaping. Payment for removal or for covering will be made under Item 629.05, Hand Labor, and the appropriate Equipment Rental items.

The accepted quantity of temporary silt fence and boom supported floating silt fence will be paid for at the Contract unit price per linear foot complete in place. Payment shall be full compensation for furnishing, installing, maintaining, anchoring, replacing deteriorated geotextile and clogged geotextile when required and for removing and disposing of the fence when no longer needed.

The accepted quantity of erosion control filter berm will be paid for at the Contract unit price per linear foot under Item 656.632, 30 Inch Temporary Silt Fence, which price shall be full compensation for furnishing, placing, maintaining, and removing the erosion control filter berm.

Cost of seeding and mulching the area after removal of the temporary silt fence will be paid for at the Contract unit prices for Item 618, Seeding, and Item 619, Mulch.

Temporary Mulch – See Section 619 Mulch.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
656.50	Baled Hay, in place	Each
656.60	Temporary Berms	Linear Foot
656.62	Temporary Slope Drains	Linear Foot
656.632	30 inch Temporary Silt Fence	Linear Foot
656.64	Boom Supported Floating Silt Fence	Linear Foot

ATTACHMENT 4

Photographs

Cobbosseecontee Stream Bridge Rehabilitation Project



Cobbosseecontee Stream South Shoreline Facing West



Cobbosseecontee Stream South Shoreline Facing East



Cobbosseecontee Stream North Shoreline Facing West



Cobbosseecontee Stream North Shoreline Facing East



Cobbosseecontee Stream Northbound Bridge Substructure



Cobbosseecontee Stream Southbound Bridge Substructure

Cobbosseecontee Stream Bridge Rehabilitation Project



Wetland W1/Ephemeral Stream S1



Wetland W3/Ephemeral Stream S1B



Wetland W3 at I-95 Embankment Toe of Slope



Wetland W7 at I-95 Embankment Toe of Slope

ATTACHMENT 5

Agency Coordination

Natural and cultural resource agencies and tribes were contacted to request a review of the Project to identify concerns relating to resources within each agency/tribal area of interest or oversight. Based on the attached input received, and the avoidance/minimization measures taken, the Project is not expected to cause significant impacts to protected natural or cultural resources or floodplains.

Agency/Tribe	Individual Contacted	Contact Type and Summary of Response Received
US Fish and Wildlife Service (IPAC)		<p>Online Review. Identified northern long-eared bat and Atlantic salmon as potential federally-listed species in the Project area.</p> <p>No habitat for these species would be affected by the Project as currently designed.</p>
Maine Department of Transportation	Eric Hamm – MAP Coordinator	<p>Email. Indicated Project does not require review through Maine Atlantic Salmon Programmatic Consultation (MAP). Currently, there is not access for Atlantic salmon above the downstream dams. There is also no stocking programs above the dams. Therefore, projects up there will not have no effect on ATS. The drainage is also not mapped as ATS critical habitat. Therefore, there is no effect on critical habitat.</p>
Maine Department of Inland Fisheries and Wildlife	John Perry	<p>Email/Letter. Indicated that additional coordination with MDIFW should take place regarding impacts to IWWH; but expressed no other concerns.</p> <p>A request for Project review and waiver of in-stream work and IWWH timing windows was submitted to MDIFW in May 2018.</p> <p>Impacts to IWWH were avoided/minimized to 1,193 sq ft (0.03 acre) of temporary impact and 50 sq ft (< 0.01 acre) of permanent impact.</p>
Maine Natural Heritage	Kristen Puryear	<p>Email/Letter. No concerns expressed.</p>
Maine Historic Preservation	Kirk Mohney	<p>Letter. No concerns expressed.</p>
Aroostook Band of Micmacs	Edward Peter-Paul	<p>Email/Letter. No response received.</p>
Houlton Band of Maliseet	Susan Young	<p>Email/Letter. No concerns expressed.</p>

Agency/Tribe	Individual Contacted	Summary of Response Received
Passamaquoddy Tribe of Indians (Pleasant Point and Indian Township Reservations)	Donald Soctomah	Email/Letter sent to both entities. No concerns expressed.
Penobscot Nation	Chris Sockalexis	Email/Letter. No concerns expressed.
Federal Emergency Management Agency	David Robbins	Email. Indicated applicable sections of Executive Order (EO) 11988 must be followed and recommended follow up with Sue Baker.
National Flood Insurance Program	Sue Baker	Email. Indicated applicable sections of EO 11988 must be followed, proof that Project would not cause any change in flood elevation must be provided by certified engineer, recommended follow up with town officials.
Town of Litchfield	Steve Ochamnski	Telephone. If EO 11988 is followed, no additional coordination or local permits are required.
Town of West Gardiner	Casey Peacock	Telephone. If EO 11988 is followed, no additional coordination or local permits are required. Requested a copy of the submitted permit application.



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Maine Ecological Services Field Office

P. O. Box A

East Orland, ME 04431

Phone: (207) 469-7300 Fax: (207) 902-1588

<http://www.fws.gov/mainefieldoffice/index.html>

In Reply Refer To:

March 28, 2018

Consultation Code: 05E1ME00-2018-SLI-0540

Event Code: 05E1ME00-2018-E-01125

Project Name: Cobbosseecontee Stream Bridge Rehabilitation Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies the threatened, endangered, candidate, and proposed species and designated or proposed critical habitat that may occur within the boundary of your proposed project or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC Web site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the Endangered Species Consultation Handbook at: <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

This species list also identifies candidate species under review for listing and those species that the Service considers species of concern. Candidate species have no protection under the Act but are included for consideration because they could be listed prior to completion of your project. Species of concern are those taxa whose conservation status is of concern to the Service (i.e., species previously known as Category 2 candidates), but for which further information is needed.

If a proposed project may affect only candidate species or species of concern, you are not required to prepare a Biological Assessment or biological evaluation or to consult with the Service. However, the Service recommends minimizing effects to these species to prevent future conflicts. Therefore, if early evaluation indicates that a project will affect a candidate species or species of concern, you may wish to request technical assistance from this office to identify appropriate minimization measures.

Please be aware that bald and golden eagles are not protected under the Endangered Species Act but are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). Projects affecting these species may require development of an eagle conservation plan: http://www.fws.gov/windenergy/eagle_guidance.html Information on the location of bald eagle nests in Maine can be found on the Maine Field Office Web site: <http://www.fws.gov/mainefieldoffice/Project%20review4.html>

Additionally, wind energy projects should follow the wind energy guidelines: <http://www.fws.gov/windenergy/> for minimizing impacts to migratory birds and bats. Projects may require development of an avian and bat protection plan.

Migratory birds are also a Service trust resource. Under the Migratory Bird Treaty Act, construction activities in grassland, wetland, stream, woodland, and other habitats that would result in the take of migratory birds, eggs, young, or active nests should be avoided. Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g.,

cellular, digital television, radio, and emergency broadcast) can be found at:
<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm> and at:
<http://www.towerkill.com>; and at:
<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Maine Ecological Services Field Office

P. O. Box A

East Orland, ME 04431

(207) 469-7300

Project Summary

Consultation Code: 05E1ME00-2018-SLI-0540

Event Code: 05E1ME00-2018-E-01125

Project Name: Cobbosseecontee Stream Bridge Rehabilitation Project

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: The primary components of the project involve bridge deck replacement and widening, as well as reconstruction work on existing abutments, elongation of piers to accommodate the wider bridge deck, and installation of rip-rap to replace the previous scour protection which is no longer functioning correctly. In-stream work on piers, abutments and shoreline areas is anticipated between June and November over a two year period. A total of 3.02 acres of disturbance is anticipated (most of which involves replacement of the bridge deck). Cofferdams will be used for in-stream work. Removal and upland disposal of 32,000 cubic feet (1,185 cubic yards) of dredge material will be required.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/44.17898352204372N69.86047104217423W>



Counties: Kennebec, ME

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Fishes

NAME	STATUS
Atlantic Salmon <i>Salmo salar</i> Population: Gulf of Maine DPS There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2097	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Stacie Grove

From: Norwood IV, Ralph C. <RNorwood@maineturnpike.com>
Sent: Monday, March 26, 2018 3:44 PM
To: Kevin Brayley (kbrayley@HNTB.com); Craig Morin <cmorin@HNTB.com> (cmorin@HNTB.com); Stacie Grove
Cc: Van Ooyen, Kristi
Subject: FW: MTA - Salmon Habitat

Please see the e-mail from Eric Ham below. In addition I sent an email to ACOE which I will forward.

From: Ham, Eric <Eric.Ham@maine.gov>
Sent: Monday, March 26, 2018 9:28 AM
To: Norwood IV, Ralph C. <RNorwood@maineturnpike.com>
Subject: RE: MTA - Salmon Habitat

Ralph,

I think I missed a call from you this morning. Sorry about that.

I would be more than happy to take a look at your project with you, but I think it will be pretty easy.

Any projects located in the Cobbosseecontee Stream drainage above the most downstream dam in Gardiner typically are not processed through the MAP.

Currently, there is not access for Atlantic salmon above the down stream dams. There is also no stocking programs above the dams. Therefore, projects up there will not have no effect on ATS. The drainage is also not mapped as ATS critical habitat. Therefore, there is no effect on critical habitat.

When permitting the project, the ACOE can likely make a 'no effect' determination for the project. Nothing further for ATS should be needed.

If you would like to talk a bit more about this, please give me another call and hopefully I will be available. I should be for the rest of the day!

From: Norwood IV, Ralph C. [<mailto:RNorwood@maineturnpike.com>]
Sent: Monday, March 26, 2018 8:59 AM
To: Ham, Eric <Eric.Ham@maine.gov>
Subject: MTA - Salmon Habitat

Hi Eric – We are working on the design of a bridge rehabilitation project where the turnpike goes over Cobbosseecontee Stream. The project will widening the bridge slightly which will require in water work to widening the existing bridge piers. Since this project is in the mapped salmon dps it appears we will need to use the MAP. Can we set up a time with you to review this project with you and discuss how we proceed with the MAP process?

Thank you,

Ralph C Norwood IV, P.E., PTOE

Project Manager
Maine Turnpike Authority
2360 Congress Street
Portland, ME 04102

(207)482-8348

Fax: (207)879-5567

rnorwood@maineturnpike.com



PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

CHANDLER E. WOODCOCK
COMMISSIONER

February 9, 2018

Kevin Braylee
HNTB Corporation
340 County Road, Suite 6C
Westbrook, ME 04092

RE: Information Request - MTA I-95 bridge, Litchfield/West Gardiner

Dear Kevin:

Per your request received January 30, 2018, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and fisheries habitat concerns within the vicinity of the *MTA I-95 bridge Project* in Litchfield/West Gardiner.

Our information indicates no locations of Endangered, Threatened, or Special Concern species within the project area that would be affected by your project. Additionally, our Department has not mapped any Essential Habitats that would be directly affected by your project.

Significant Wildlife Habitat

Inland Waterfowl and Wading Bird Habitats

This project intersects with an Inland Waterfowl and Wading Bird Habitats (IWWHs), which are considered Significant Wildlife Habitat under Maine’s Natural Resources Protection Act. These habitats provide important breeding, feeding, migration, staging, and wintering habitat for waterfowl and wading bird species. High and moderate value IWWHs within the study area includes both the wetland complex and a 250-foot upland zone. As your project develops, we recommend you contact MDIFW Region B wildlife staff (207-547-5319) to discuss methods to minimize impacts to this wildlife resource.

Fisheries Habitat

Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fish and fisheries habitat. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that

Letter to Kevin Braylee
Comments RE: West Gardiner, MTA I-95 bridge
February 9, 2018

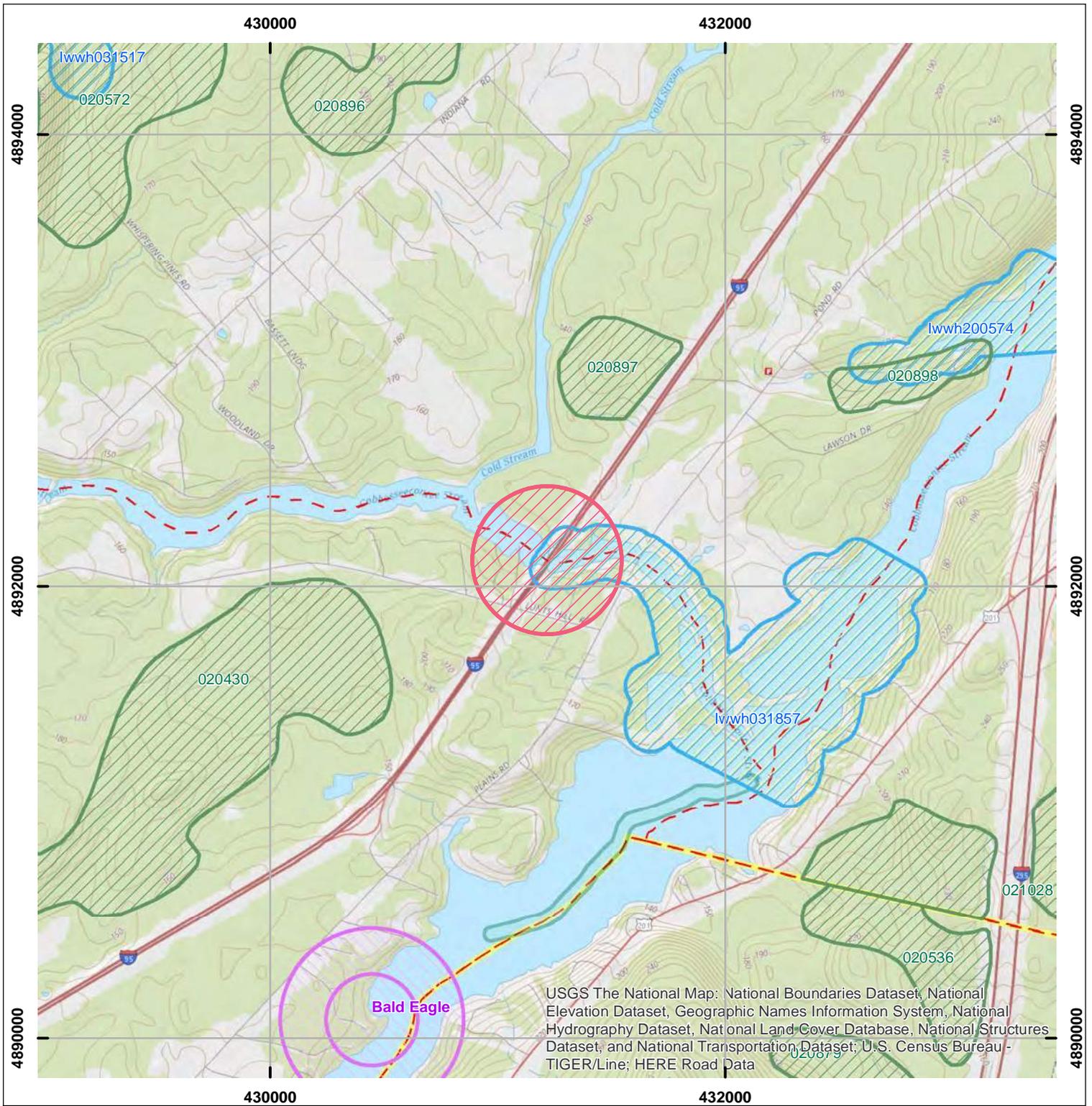
may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

A handwritten signature in blue ink, appearing to read "John Perry". The signature is fluid and cursive, with the first name "John" being more prominent than the last name "Perry".

John Perry
Environmental Review Coordinator



USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

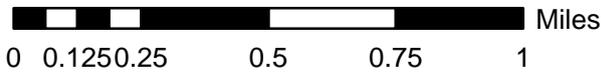


Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: **raremussels** (Version 1)



Maine Department of Inland Fisheries and Wildlife



Projection: UTM, NAD83, Zone 19N

Date: 2/2/2018

- ProjectPolys
- ProjectSearchAreas
- Deer Winter Area
- Inland Waterfowl/Wading Bird
- ETSc Environmental Review Polygons
- Special Concern-occupied habitats(100ft buffer)





STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY

93 STATE HOUSE STATION

AUGUSTA, MAINE 04333

PAUL R. LePAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

January 31, 2018

Kevin Brayley
HNTB Corporation
340 County Road, Suite 6C
Westbrook, ME 04092

Via email: kbrayley@hntb.com

Re: Rare and exemplary botanical features in proximity to: Cobbosseecontee Bridge Rehabilitation, Interstate 95, West Gardiner-Litchfield, Maine

Dear Mr. Brayley:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request received January 29, 2018 for information on the presence of rare or unique botanical features documented from the vicinity of the project in West Gardiner and Litchfield, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM



PHONE: (207) 287-8044
FAX: (207) 287-8040
WWW.MAINE.GOV/DACF/MNAP

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$150.00 for two hours of our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,



Kristen Puryear | Ecologist | Maine Natural Areas Program
207-287-8043 | kristen.puryear@maine.gov

**Rare and Exemplary Botanical Features within 4 miles of
Project: Cobbosseecontee Stream Bridge Rehabilitation, Interstate 95, West
Gardiner-Litchfield, Maine**

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
American Ginseng						
	E	S3	G3G4	1989	33	Hardwood to mixed forest (forest, upland)
	E	S3	G3G4	1912-07	17	Hardwood to mixed forest (forest, upland)
Columbia Water-meal						
	SC	S2	G5	2007-08-14	5	Open water (non-forested, wetland)
Water Stargrass						
	SC	S3	G5	2002-09-12	11	Open water (non-forested, wetland)

STATE RARITY RANKS

- S1** Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- S2** Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- S3** Rare in Maine (20-100 occurrences).
- S4** Apparently secure in Maine.
- S5** Demonstrably secure in Maine.
- SU** Under consideration for assigning rarity status; more information needed on threats or distribution.
- SNR** Not yet ranked.
- SNA** Rank not applicable.
- S#?** Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: **State Rarity Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

- G1** Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.
- G2** Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- G3** Globally rare (20-100 occurrences).
- G4** Apparently secure globally.
- G5** Demonstrably secure globally.
- GNR** Not yet ranked.

Note: **Global Ranks** are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered and Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

- E** ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.
- T** THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

- SC** SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.
- PE** Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

Visit our website for more information on rare, threatened, and endangered species!
<http://www.maine.gov/dacf/mnap>

ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size:** Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition:** For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context:** Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A**, **B**, **C**, or **D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

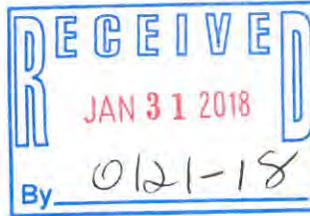
Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!
<http://www.maine.gov/dacf/mnap>

HNTB PORTLAND

FEB 09 2018

RECEIVED



January 29, 2018
SENT VIA MAIL

Kirk F. Mohney, Director
Maine Historic Preservation Commission
65 State House Station
Augusta, ME 04333-0065
Kirk.Mohney@maine.gov

RE: Project review for protected historic properties in the vicinity of Cobbosseecontee Stream
Bridge Rehabilitation Project

Dear Mr. Mohney:

HNTB Corporation has been contracted by the Maine Turnpike Authority (MTA) to provide project design/management services for project activities associated with rehabilitation of the existing Interstate 95 (I95) Cobbosseecontee Stream Bridge crossing in West Gardiner and Litchfield, Maine. The project is in the preliminary design phase, but will likely involve modifications within an approximately 1,000-foot long and 250-foot wide area centered on the existing bridge crossing, and generally within MTAs mowed/maintained right-of way (ROW) on each side of I-95 approximately. Impacts will remain primarily within the existing MTA easement, with little to no tree removals. In-stream work and dredging are anticipated within Cobbosseecontee Stream.

As part of project design and environmental permit planning activities we are writing to you to request information regarding protected historic properties within the project area. The project area is located at Latitude: 44.178880° Longitude: -69.860547° as shown on the attached figure. Your written response would be greatly appreciated and may be sent directly to me electronically or via mail.

Please do not hesitate to contact me if you have any questions regarding this request.

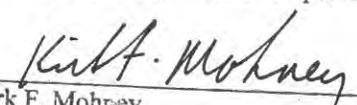
Sincerely,
HNTB CORPORATION

Kevin Braylee, PE
Structural Engineer
kbrayley@HNTB.com
(207) 228-0917

3 Attachments

cc: Kristi Van Ooyen (MTA), Sara Zografos (MTA), Stacie Grove (NewEarth)

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.


Kirk F. Mohney,
State Historic Preservation Officer
Maine Historic Preservation Commission

2/7/18
Date



PENOBSCOT NATION
CULTURAL & HISTORIC PRESERVATION
12 WABANAKI WAY, INDIAN ISLAND, ME 04468

CHRIS SOCKALEXIS – TRIBAL HISTORIC PRESERVATION OFFICER
E-MAIL: chris.sockalexis@penobscotnation.org

NAME	Kevin Brayley
ADDRESS	HNTB Corporation 340 County Road, Suite 6C Westbrook, ME 04092
OWNER'S NAME	Maine Turnpike Authority
TELEPHONE	(207) 228-0917
FAX	
EMAIL	kbrayley@HNTB.com
PROJECT NAME	Cobbosseecontee Stream Bridge Rehabilitation
PROJECT SITE	West Gardiner/Litchfield, ME
DATE OF REQUEST	January 29, 2018
DATE REVIEWED	February 9, 2018

Thank you for the opportunity to comment on the above referenced project. This project appears to have no impact on a structure or site of historic, architectural or archaeological significance to the Penobscot Nation as defined by the National Historic Preservation Act of 1966, as amended.

If Native American cultural materials are encountered during the course of the project, please contact my office at (207) 817-7471. Thank you for consulting with the Penobscot Nation Tribal Historic Preservation Office with this project.

Chris Sockalexis, THPO
Penobscot Nation

Tribal Historic Preservation Office

Passamaquoddy Tribe
PO Box 159 Princeton, Me. 04668
207-796-5533

HNTB
340 County Road
Westbrook, Maine

February 13, 2018

Re: West Gardner – Cobosseecontee Stream Bridge

Dear Kevin;

The Passamaquoddy THPO has reviewed the following application regarding the historic properties and significant religious and cultural properties in accordance with NHPA, NEPA, AIRFA, NAGPRA, ARPA, Executive Order 13007 Indian Sacred Sites, Executive Order 13175 Consultation and Coordination with Indian Tribal Governments, and Executive Order 12898 Environmental Justice.

The above listed proposed project will not have any impact on cultural and historical concerns of the Passamaquoddy Tribe.

Sincerely;

Donald Soctomah
Soctomah@gmail.com
THPO
Passamaquoddy Tribe

Stacie Grove

From: Stacie Grove <sgrove@newearthecological.com>
Sent: Thursday, March 29, 2018 10:22 AM
To: Robbins, David
Cc: Norwood IV, Ralph C.; Kevin Brayley; KVanOoyen@maineturnpike.com; Kuns, Eric
Subject: Re: Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Hello David,

Thank you for the input.

This is not a FEMA-funded project. It is funded entirely by Maine Turnpike Authority.

We are working with state agencies and the USACE to acquire applicable permits and have performed required coordination with both natural and cultural resource agency's. We will also be following up with Sue Baker.

Thank you.

Best Regards,

Stacie Grove

On Mar 29, 2018, at 8:34 AM, Robbins, David <David.Robbins@fema.dhs.gov> wrote:

Stacie,

Is this a prospective FEMA-funded project? If yes, I have Cc'd Eric Kuns who can serve as a nearby FEMA point-of-contact for you, and he may already be familiar with the project.

In any case, have you contacted the state Floodplain Administrator? If yes, great! If no, I strongly recommend that outreach sooner than later: sue.baker@maine.gov

If this is a prospective FEMA-funded project, we will conduct a required Environmental and Historic Preservation review. Any advance work you can do re permitting (e.g. US Army Corps, Maine DEP, etc), and documentation you can share will be helpful to that effort. Our review would include the eight-step floodplain management review required by Executive Order 11988 which includes alternatives analysis (not difficult if you can help us with summary detail about your alternatives analysis). I noticed that you mentioned "undisturbed" ground below – any related documentation you may have to support that would likely help to expedite the review required by section 106 of the National Historic Preservation Act. And, being Maine, the Endangered Species Act and Atlantic salmon come to mind. So, anything related you may have to share would be helpful to the review and consultation – if consultation is necessary.

Thank you and questions welcome.

- David

David E. Robbins
Regional Environmental Officer
FEMA Region 1 (New England)
99 High Street
Boston, MA 02110
david.robbsins@fema.dhs.gov
cell 978-914-0378

From: Stacie Grove [<mailto:sgrove@newearthecological.com>]
Sent: Wednesday, March 28, 2018 8:11 PM
To: Robbins, David <David.Robbins@fema.dhs.gov>
Cc: 'Norwood IV, Ralph C.' <RNorwood@maineturnpike.com>; Kevin Brayley <kbrayley@HNTB.com>;
KVanOoyen@maineturnpike.com
Subject: [WARNING: A/V UNSCANNABLE][WARNING: A/V UNSCANNABLE]Project Review Request -
Cobbosseecontee Stream Bridge Rehabilitation Project

Hello David,

As follow-up to my call earlier today, we are assisting the Main Turnpike Authority and HNTB Corporation with permitting on a proposed project to rehabilitate the existing bridge over the Cobbosseecontee Stream in West Gardiner and Litchfield, Maine. The site is located at Latitude: 44.178880° Longitude: -69.860547° as shown on the attached figure.

The primary components of the project involve bridge deck replacement and widening, as well as reconstruction work on existing abutments, elongation of piers to accommodate the wider bridge deck, and installation of rip-rap to replace the previous scour protection which is no longer functioning correctly.

Based on FEMA flood map 23011C0661D, effective 6/16/2011, the proposed project would impact one hundred thirty (130) square feet of previously disturbed designated SPECIAL FLOOD HAZARD AREA (a.k.a. Base Flood). The shoreline slopes and channel area will remain the same, and based on results of hydrologic evaluations, the work would not result in any significant changes to up or down stream elevations.

The impact location occurs adjacent to the existing bridge, thus there are no alternatives for the proposed impacts due to the current location of the bridge. Impacts have been minimized to the extent practical using maximum side slope grades.

We believe the rehabilitation effort would not result in significant changes to flood storage capacity and as a result would not require any additional evaluation or coordination per Floodplains Executive Order 1198S. We ask for your written concurrence, or recommendations on next steps.

Best Regards,

Stacie Grove
Principal Environmental Biologist
NewEarth Ecological
169 Watson Mill Road
Saco, ME 04072
C: (207) 329-4458

Stacie Grove

From: Baker, Sue <Sue.Baker@maine.gov>
Sent: Wednesday, April 4, 2018 4:32 PM
To: Stacie Grove
Cc: 'Norwood IV, Ralph C.'; 'Kevin Brayley'; KVanOoyen@maineturnpike.com; david.robbins@fema.dhs.gov
Subject: RE: Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Stacie –

As long as the engineer's certification shows 0.00 rise in the flood elevation, then it's fine. The requirements outlined under "all development" and "floodways" stem from the NFIP regulations and these standards are in the local floodplain management ordinances. Even if federal money is not being used, these standards need to be adhered to.

My take is that all communities that have local floodplain management ordinances have a responsibility to permit ALL development in the mapped flood hazard area. Local permit or not, as long as the project complies with the floodplain management standards, that's the most important part.

Sue

~~~~~  
Sue Baker, CFM  
NFIP State Coordinator  
Maine Floodplain Management Program  
Dept. of Agriculture, Conservation & Forestry  
93 SHS, 17 Elkins Lane  
Augusta, ME 04333-0093  
Direct Phone: 207-287-8063  
Fax: 207-287-2353  
[www.maine.gov/dacf/flood/](http://www.maine.gov/dacf/flood/)

---

**From:** Stacie Grove [mailto:sgrove@newearthecological.com]  
**Sent:** Wednesday, April 04, 2018 10:10 AM  
**To:** Baker, Sue <Sue.Baker@maine.gov>  
**Cc:** 'Norwood IV, Ralph C.' <RNorwood@maineturnpike.com>; 'Kevin Brayley' <kbrayley@HNTB.com>; KVanOoyen@maineturnpike.com; david.robbins@fema.dhs.gov  
**Subject:** RE: Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Good Morning Sue,

Thank you for your input. As follow up to your points below, the project is not receiving any federal funds. With only a few exceptions, all turnpike projects are self-funded.

The project would result in some impacts within the floodway portion of the floodplain. However, results of engineering hydrologic evaluations show that the proposed bridge rehabilitation does not result in any change to the flood elevations. Project engineers are preparing a technical memo that outlines the evaluation and results.

The project will meet all requirements outlined in Executive Order 11988 for “all development” and “floodways”.

The Towns of Litchfield and West Gardiner have no additional floodplain requirements and do not require any specific permits in addition to those being filed with DEP and USACE for this activity.

Thank you again for the input. We will pass along a copy of the hydrologic analysis memo once complete. Please do not hesitate to contact me if you have any questions.

Best Regards,

Stacie Grove  
NewEarth Ecological Consulting  
(207) 329-4458

---

**From:** Baker, Sue <[Sue.Baker@maine.gov](mailto:Sue.Baker@maine.gov)>  
**Sent:** Monday, April 2, 2018 11:14 AM  
**To:** Stacie Grove <[sgrove@newearthecological.com](mailto:sgrove@newearthecological.com)>  
**Cc:** 'Norwood IV, Ralph C.' <[RNorwood@maineturnpike.com](mailto:RNorwood@maineturnpike.com)>; Kevin Brayley <[kbrayley@HNTB.com](mailto:kbrayley@HNTB.com)>; [KVanOoyen@maineturnpike.com](mailto:KVanOoyen@maineturnpike.com)  
**Subject:** RE: Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Stacie –

Attached is a general guidance document that includes information pursuant to Executive Order 11988. EO 11988 must be followed if any federal money will be used for the project.

I have also attached copy of the FEMA flood map for this area. Since I haven't seen any maps, I am unclear whether any work will be taking place in the floodway portion of the floodplain. If it is, then all development for this project cannot result in any increase (0.00) in the floodway elevation. This requires an engineer's certification.

The project guidance under “requirements for all development” and potentially the “floodway” guidance will apply to this project.

All permits under the local floodplain management ordinance are issued by the local community.

Sue  
~~~~~  
Sue Baker, CFM
NFIP State Coordinator
Maine Floodplain Management Program
Dept. of Agriculture, Conservation & Forestry
93 SHS, 17 Elkins Lane
Augusta, ME 04333-0093
Direct Phone: 207-287-8063
Fax: 207-287-2353
www.maine.gov/dacf/flood/

From: Stacie Grove [<mailto:sgrove@newearthecological.com>]
Sent: Friday, March 30, 2018 8:56 AM
To: Baker, Sue <Sue.Baker@maine.gov>
Cc: 'Norwood IV, Ralph C.' <RNorwood@maineturnpike.com>; Kevin Brayley <kbrayley@HNTB.com>; KVanOoyen@maineturnpike.com
Subject: FW: Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Hello Sue,

As follow up to the voice message I left for you yesterday, below is a summary of the Cobbosseecontee Bridge Project and input we've received from David Robbins at FEMA.

Please note, this is not a FEMA-funded project. It is entirely funded by the Maine Turnpike Authority. The bridge rehabilitation measures have avoided and minimized to the extent possible given the rehabilitation needed on the structure. The rehabilitation measures will increase bridge service life and avoids the need to replace the structure.

Please feel free to email or call me directly if you'd like any additional information.

Stacie Grove
Principal Biologist
NewEarth Ecological
(207) 329-4458

From: Stacie Grove <sgrove@newearthecological.com>
Sent: Thursday, March 29, 2018 10:22 AM
To: Robbins, David <David.Robbins@fema.dhs.gov>
Cc: Norwood IV, Ralph C. <RNorwood@maineturnpike.com>; Kevin Brayley <kbrayley@HNTB.com>; KVanOoyen@maineturnpike.com; Kuns, Eric <Eric.Kuns@fema.dhs.gov>
Subject: Re: Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Hello David,

Thank you for the input.

This is not a FEMA-funded project. It is funded entirely by Maine Turnpike Authority.

We are working with state agencies and the USACE to acquire applicable permits and have performed required coordination with both natural and cultural resource agency's. We will also be following up with Sue Baker.

Thank you.

Best Regards,

Stacie Grove

On Mar 29, 2018, at 8:34 AM, Robbins, David <David.Robbins@fema.dhs.gov> wrote:

Stacie,

Is this a prospective FEMA-funded project? If yes, I have Cc'd Eric Kuns who can serve as a nearby FEMA point-of-contact for you, and he may already be familiar with the project.

In any case, have you contacted the state Floodplain Administrator? If yes, great! If no, I strongly recommend that outreach sooner than later: sue.baker@maine.gov

If this is a prospective FEMA-funded project, we will conduct a required Environmental and Historic Preservation review. Any advance work you can do re permitting (e.g. US Army Corps, Maine DEP, etc), and documentation you can share will be helpful to that effort. Our review would include the eight-step floodplain management review required by Executive Order 11988 which includes alternatives analysis (not difficult if you can help us with summary detail about your alternatives analysis). I noticed that you mentioned "undisturbed" ground below – any related documentation you may have to support that would likely help to expedite the review required by section 106 of the National Historic Preservation Act. And, being Maine, the Endangered Species Act and Atlantic salmon come to mind. So, anything related you may have to share would be helpful to the review and consultation – if consultation is necessary.

Thank you and questions welcome.

- David

David E. Robbins
Regional Environmental Officer
FEMA Region 1 (New England)
99 High Street
Boston, MA 02110
david.robbs@fema.dhs.gov
cell 978-914-0378

From: Stacie Grove [<mailto:sgrove@newearthecological.com>]
Sent: Wednesday, March 28, 2018 8:11 PM
To: Robbins, David <David.Robbins@fema.dhs.gov>
Cc: 'Norwood IV, Ralph C.' <RNorwood@maineturnpike.com>; Kevin Brayley <kbrayley@HNTB.com>; KVanOoyen@maineturnpike.com
Subject: [WARNING: A/V UNSCANNABLE][WARNING: A/V UNSCANNABLE]Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Hello David,

As follow-up to my call earlier today, we are assisting the Main Turnpike Authority and HNTB Corporation with permitting on a proposed project to rehabilitate the existing bridge over the Cobbosseecontee Stream in West Gardiner and Litchfield, Maine. The site is located at Latitude: 44.178880° Longitude: -69.860547° as shown on the attached figure.

The primary components of the project involve bridge deck replacement and widening, as well as reconstruction work on existing abutments, elongation of piers to accommodate the wider bridge deck, and installation of rip-rap to replace the previous scour protection which is no longer functioning correctly.

Based on FEMA flood map 23011C0661D, effective 6/16/2011, the proposed project would impact one hundred thirty (130) square feet of previously disturbed designated SPECIAL FLOOD HAZARD AREA (a.k.a. Base Flood). The shoreline slopes and channel area will remain the same, and based on results of hydrologic evaluations, the work would not result in any significant changes to up or down stream elevations.

The impact location occurs adjacent to the existing bridge, thus there are no alternatives for the proposed impacts due to the current location of the bridge. Impacts have been minimized to the extent practical using maximum side slope grades.

We believe the rehabilitation effort would not result in significant changes to flood storage capacity and as a result would not require any additional evaluation or coordination per Floodplains Executive Order 1198S. We ask for your written concurrence, or recommendations on next steps.

Best Regards,

Stacie Grove
Principal Environmental Biologist
NewEarth Ecological
169 Watson Mill Road
Saco, ME 04072
C: (207) 329-4458

<Baker Sue.vcf>

APPENDIX C
ACOE ENVIRONMENTAL PERMITS

**Maine Turnpike Authority
Cobbosseecontee Stream Bridges Rehabilitation Project**

**Application for United States Army Corps of Engineers
General Permit, Category II, 33 CFR 320-332**



**Mile Marker 99.2
West Gardiner and Litchfield, Maine**

MAY 17, 2018

17. DIRECTIONS TO THE SITE

Interstate 95, Mile Marker 99.2, Maine Turnpike Authority bridges No. 0547 Northbound and No. 1500 Southbound over the Cobbosseecontee Stream.

18. Nature of Activity (Description of project, include all features)

SEE ATTACHED.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The purpose of the project is to address structural deficiencies of the Cobbosseecontee Stream bridge crossings and improve bridge geometrics to accommodate future functionality and extending the service life of the existing structure. The project is needed because the bridges were classified as structurally deficient in 2017 due to poor concrete deck condition. The decks were subsequently repaired in 2017. This temporarily removed the structurally deficient tag, however the decks have reached the end of their service life. The existing shoulders are narrower than the existing approaches, resulting in a tapered approach roadway width at both ends of the bridge and presents a safety threat for travelers. In addition, the vertical profile results in a grade that is near flat (0.3%) providing less than optimal drainage on the structures and a hydraulic clearance above the Cobbosseecontee Stream that is only slightly above required minimums. Assuming approvals are granted for in-stream work outside of the July 15-Oct 1 timing window and work in IWWH outside the Aug 1-April 14 timing window are approved, construction is anticipated non-stop from November 2018 to November 2020.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

Dredge material is proposed for removal from within Cobbosseecontee Steam to facilitate replacement of rip-rap along existing armored areas of the shoreline and piers. Cofferdams will be used to minimize sedimentation and all materials will be disposed of at an approved upland location off site. Impacts were minimized to greatest extent possible while ensuring safety and design specifications were met. Based on geotechnical investigation performed on site, dredge material is primarily glacial till and comprised of clay.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
Silty clay and till = 1,185	NA	NA

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres 0.05 acre (ac) of wetland impact (0.04 ac temp; 0.01 ac perm); 0.27 ac of stream impact below OHW (0.12 ac temp; 0.15 ac perm).
or
Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

SEE ATTACHED

The impacts occur adjacent to the existing bridge that requires rehabilitation. The only project alternative was the "no action" alternative, which would not meet the project purpose and need, and was therefore eliminated.

24. Is Any Portion of the Work Already Complete? Yes No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- SEE ATTACHED

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

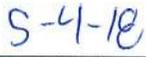
City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
SEE ATTACHED					

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

 SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMIT BY RULE NOTIFICATION FORM
 (For use with DEP Regulation, Natural Resources Protection Act- Permit by Rule Standards, Chapter 305)
 PLEASE TYPE OR PRINT IN **BLACK INK ONLY**

APPLICANT INFORMATION (Owner)		AGENT INFORMATION (If Applying on Behalf of Owner)	
Name:	Maine Turnpike Authority Ralph Norwood, IV	Name:	
Mailing Address:	2360 Congress Street	Mailing Address:	
Town:	Portland	Town:	
State and Zip Code:	ME 04102	State and Zip Code:	
Daytime Phone #:	(207) 482-8348	Daytime Phone #:	
Email Address:	RNorwood@mainturnpike.com	Email Address:	

PROJECT INFORMATION							
Part of a larger project? (check one):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	After the Fact? (check one):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Project involves work below mean low water? (check one):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Name of waterbody:	Cobbosseecontee Stream
Project Town:	West Gardiner/Litchfield	Project Location (Address):	I-95 Cobbosseecontee Bridge Crossings	Map & Lot Number:	Litchfield R09, Lots 33, 34, 35, 36A, 36D		
Brief Project Description:	SEE ATTACHED: Work to address structural and geometric deficiencies in the existing north and southbound bridge crossings (begin November 2018 and continue non-stop through November 2020)						
Brief Directions to Site:	I-95, Mile Marker 99.2, MTA bridges No. 0547 Northbound and No. 1500 Southbound.						

PERMIT BY RULE (PBR) SECTIONS (Check at least one): I am filing notice of my intent to carry out work which meets the requirements for Permit By Rule (PBR) under DEP Rules, Chapter 305. **I and my agents, if any, have read and will comply with all of the standards in the Sections checked below.**

- | | | |
|---|---|---|
| <input type="checkbox"/> Sec. (2) Act. Adj. to Protected Natural Res. | <input checked="" type="checkbox"/> Sec. (10) Stream Crossing | <input type="checkbox"/> Sec. (17) Transfers/Permit Extension |
| <input type="checkbox"/> Sec. (3) Intake Pipes | <input checked="" type="checkbox"/> Sec. (11) State Transportation Facil. | <input type="checkbox"/> Sec. (18) Maintenance Dredging |
| <input type="checkbox"/> Sec. (4) Replacement of Structures | <input type="checkbox"/> Sec. (12) Restoration of Natural Areas | <input type="checkbox"/> Sec. (19) Activities in/on/over significant vernal pool habitat |
| <input type="checkbox"/> Sec. (5) REPEALED | <input type="checkbox"/> Sec. (13) F&W Creation/Enhance/Water Quality Improvement | <input checked="" type="checkbox"/> Sec. (20) Activities located in/on/over high or moderate value inland waterfowl & wading bird habitat or shorebird feeding & roosting areas |
| <input type="checkbox"/> Sec. (6) Movement of Rocks or Vegetation | <input type="checkbox"/> Sec. (14) REPEALED | |
| <input type="checkbox"/> Sec. (7) Outfall Pipes | <input type="checkbox"/> Sec. (15) Public Boat Ramps | |
| <input type="checkbox"/> Sec. (8) Shoreline stabilization | <input type="checkbox"/> Sec. (16) Coastal Sand Dune Projects | |
| <input type="checkbox"/> Sec. (9) Utility Crossing | | |

NOTE: Municipal permits may also be required. Contact your local code enforcement office for more information. Federal permits may be required for stream crossings and for projects involving wetland fill. Contact the Army Corps of Engineers at the Maine Project Office for more information.

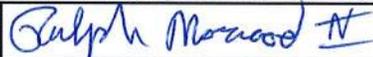
NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS

- Attach** all required submissions for the PBR Section(s) checked above. The required submissions for each PBR Section are outlined in Chapter 305 and may differ depending on the Section you are submitting under.
- Attach** a check for the correct fee made payable to: "Treasurer, State of Maine". The current fee for NRPA PBR Notifications can be found at the Department's website: <http://www.maine.gov/dep/feesched.pdf>
- Attach** a location map that clearly identifies the site (U.S.G.S. topo map, Maine Atlas & Gazetteer, or similar).
- Attach Proof of Legal Name** if applicant is a corporation, LLC, or other legal entity. Provide a copy of Secretary of State's registration information (available at <http://icrs.informe.org/nei-sos-icrs/ICRS?MainPage=x>) Individuals and municipalities are not required to provide any proof of identity.

I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules.

I also understand that this PBR becomes effective 14 calendar days after receipt by the Department *unless the Department approves or denies the PBR prior to that date.*

By signing this Notification Form, I represent that the project meets all applicability requirements and standards in the rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.

Signature of Agent or Applicant:		Date:	5-4-18
----------------------------------	---	-------	--------

Keep a copy as a record of permit. Send the form with attachments via certified mail or hand deliver to the Maine Dept. of Environmental Protection at the appropriate regional office listed below. The DEP will send a copy to the Town Office as evidence of the DEP's receipt of notification. No further authorization by DEP will be issued after receipt of notice. Permits are valid for two years. **Work carried out in violation of any standard is subject to enforcement action.**

AUGUSTA DEP
17 STATE HOUSE STATION
AUGUSTA, ME 04333-0017
(207)287-7688

PORTLAND DEP
312 CANCO ROAD
PORTLAND, ME 04103
(207)822-6300

BANGOR DEP
106 HOGAN ROAD
BANGOR, ME 04401
(207)941-4570

PRESQUE ISLE DEP
1235 CENTRAL DRIVE
PRESQUE ISLE, ME 04769
(207)764-0477

OFFICE USE ONLY	Ck.#	Date	Staff	Staff	
PBR #	FP		Acc. Date	Def. Date	After Photos

SUPPLEMENTAL INFORMATION - BLOCK 18**Project Description****Introduction**

The Applicant, Maine Turnpike Authority (MTA), is proposing the Cobbosseecontee Stream Bridges Rehabilitation Project (Project) located in West Gardiner and Litchfield, Maine (Attachment 1: Project Location Map). The proposed Project involves work to address structural and geometric deficiencies of the existing northbound and southbound bridge crossings over Cobbosseecontee Stream. Built in 1956, the existing mainline bridges (northbound Bridge Number 0547 and southbound Bridge Number 1500) are two-lane, four-span continuous bridges with an overall length of 210 feet and an out-to-out deck width of 34 feet. Numerous repairs have been made to the bridge structures between 1983 and 2017, and a thorough structural evaluation was completed in 2017. Although the bridge superstructure and substructures are in overall good condition, the bridge decks are deteriorating as evidenced by heavy spalls and cracking at multiple locations. Conditions are poor and if not refurbished, will eventually pose a significant safety hazard and may require significant maintenance efforts. Additionally, the bridges are narrower than the approach roadway which poses a potential safety risk to travelers.

To address these concerns, specific components of the Project are proposed that include replacement of bridge decks, widening of the bridge by a maximum of five feet to match the existing approach roadways, maintaining hydraulic clearance over the stream, and adjusting the vertical grade of the structure to improve drainage. Impact areas of the primary work components are shown in Attachment 2. The majority of work involving ground disturbance will take place within existing disturbed areas along turnpike road embankments and bridge abutments and piers, and includes: regrading side slopes along turnpike travel lanes; installation of a temporary work trestle and cofferdams within Cobbosseecontee Stream; culvert end repairs at an unnamed ephemeral drainage to Cobbosseecontee Stream; abutment and pier excavation; pier and deck demolition; pile driving; installation of concrete forms; superstructure installation; paving; and, placement of protective rip-rap armoring within and along the shoreline of Cobbosseecontee Stream and at culvert ends.

Bridge rehabilitation is necessary to extend the service life of the structure and eliminate identified maintenance issues and safety hazards to public transportation. The only project alternative was the “no action” alternative, which would not meet the project purpose and need, and was therefore eliminated.

Identified Environmental Concerns

A formal wetland and stream delineation, assessment of the site for potential significant wildlife habitat such as vernal pools, and an environmental data review, were performed by NewEarth Ecological Associates, LLC in 2017 to identify potential protected resources in the Project area. Much of the proposed work will take place on the existing bridge superstructure and involve no new ground disturbance. However, adjustments to the substructure and adjacent roadway will be necessary to accommodate the wider deck and to improve erosion protection of the structures and stream shoreline and will involve some temporary and permanent environmental impacts; some of which will occur within protected resources.

Through a desktop and onsite review of environmental conditions, careful design planning, and collaboration with environmental agencies, the Project was designed to minimize the impact to environmental resources and is expected to result in the following (see Attachment 2: Design Plans and Project Impacts):

Stormwater Impacts

40,500 square feet (sq ft) [0.93 acre] of disturbance (9,000 sq ft [0.21 acre] of which is new impervious surface). This is covered under the June 2017 Maine Department of Environmental Protection/Maine Department of Transportation/MTA Stormwater Memorandum of Agreement.

Wetland Impacts

2,163 sq ft (0.05 acre) of total wetland impact (263 sq ft [0.01 acre] permanent; 1,900 sq ft [0.04 acre] temporary), consisting of wetlands along the previously armored shoreline of Cobbosseecontee Stream, at the culvert in and outflow of an unnamed ephemeral drainage to Cobbosseecontee Stream, and along the turnpike road embankment toe of slope.

- 1,243 sq ft [0.03 acre] of the above wetland impacts (50 sq ft [less than 0.01 acre] permanent; 1,193sq ft [0.03 acre] temporary) occur within inland waterfowl and wading bird habitat (IWWH).

Stream Impacts

220 linear feet of impact along the shoreline of Cobbosseecontee Stream which includes:

- 11,820 sq ft [0.27 acre] of impact (6,670 sq ft [0.15 acre] permanent; 5,150 sq ft [0.12 acre] temporary) below the ordinary high-water line of Cobbosseecontee Stream.
- 1,185 cubic yards of silty clay and till dredge material removal and upland disposal.
- Work within Federal Emergency Management Agency (FEMA) base floodplain area.

Nearly all of the wetland and in-stream disturbances are being performed to improve the condition of existing poorly functioning armoring in order to meet current safety and design standards. Work would take place within the limits of the existing bridge footprint (i.e., existing modified embankments, previously armored or rip-rapped area) where the existing armoring is of limited function due to degradation and/or limited placement during original construction. Most of the areas to be impacted are highly disturbed and devoid of vegetation (see Attachment 5: Photographs).

Temporary impacts are associated with areas needed by contractors for equipment staging and laydown, as well as installation of temporary work platforms within Cobbosseecontee Stream. These areas will be restored to a condition equal to, or better than, their existing condition, functions and values will be the same, and measures will be taken to minimize secondary impacts such as erosion and siltation.

No slope or in-stream channel modifications are proposed within Cobbosseecontee Stream and floodplain areas, and as detailed in the attached memorandum (see Attachment 4: Hydrologic Evaluation Summary), there will be no effect on floodplain elevations from the proposed action. Additionally, all work will be performed in compliance with applicable federal, state and local floodplain management ordinances and standards.

All proposed work will take place within the existing MTA right-of way (see Attachment 2: Design Plans and Project Impacts). Vegetation removal is minor and will not include trees. Coordination with federal and state natural resource agencies and tribes has taken place and did not reveal any known Section 4(f) properties/properties of special significance, hazardous materials, aquifers or public water supplies, additional Significant Wildlife Habitat (SWH) protected under Maine's Natural Resource Protection Act (NRPA), tribal interests, or cultural resources of historic importance within the proposed Project site (see Supplemental Information, Block 26 for details).

Construction Timing

It is anticipated that the construction contract would be awarded in September 2018. Construction activities would begin in November 2018 and would continue non-stop through November 2020; with work on the southbound bridge occurring primarily in 2018-2019 and work on the northbound bridge primarily from 2019-2020. Work within Cobbosseecontee Stream and within IWWH is expected to take place outside of recommended work timing windows and will require a waiver for work timing.

As outlined below, work performed as part of abutment widening (items #2 and #7) will result in minor impacts (0.01 acre permanent; 0.03 acre temporary) to IWWH and is expected to begin in 2018 and continue in some areas through March 2020. Work beginning in April 2019 through July 2019 (items # 3 through 5) and beginning in April 2020 through July 2020 (items # 9 through 11), would involve activities below the mean high-water level of Cobbosseecontee Stream. It should be noted these dates are approximate and the Contractor will ultimately be responsible for developing their desired workflow while adhering to the projects designated environmental work windows.

1. Close SB bridge to traffic – November 2018
2. SB Bridge: Perform abutment widening, approach construction, bridge demolition – November 2018 to March 2019
3. SB In-stream trestle and coffer dam install – April 2019
4. SB Bridge: In-water work begins for pier modifications – April 2019 (ends at the end of summer)
5. SB In-stream trestle and coffer dam removal – July 2019
6. SB Bridge: Bridge deck is constructed – July 2019 to November 2019
7. Switch traffic to SB bridge, close NB bridge to traffic – December 2019
8. NB Bridge: Perform abutment widening, approach construction, bridge demolition – January 2020 to March 2020
9. NB In-stream trestle and coffer dam install – April 2020
10. NB Bridge: In-water work begins for pier modifications – April 2020 (ends at the end of summer)
11. NB In-stream trestle and coffer dam removal – July 2020
12. NB Bridge: Bridge deck is constructed – July 2020 to November 2020

13. Project complete December 2020

This schedule assumes approvals are granted for in-water work and work within IWWH and is based on the approximate construction schedule presented above. Construction would take several more years and extend delays for the traveling public if the timing of work within in-water and IWWH are not approved.

SUPPLEMENTAL INFORMATION - BLOCK 23

Avoidance and Minimization

The Project is being designed and will be conducted in accordance with the standards set forth in Maine DEP Chapter 305: Permit by Rule for Stream Crossings, State Transportation Facility activities, and activities located in, on or over high or moderate value inland waterfowl and wading bird habitat, or shorebird nesting, feeding, and staging areas to minimize environmental impacts from the Project.

Impacts were further avoided by minimizing the Project footprint to the greatest extent possible per safety and design specifications (see Attachment 2: Design Plans and Project Impacts). Side slopes of 2:1 and guardrails were used along the turnpike, instead of a more gradual slope with a wider base, to minimize impacts to wetlands located along the toe of slope. Rip-rap armoring was limited to the lowest amount needed to properly protect the bridge substructures and shorelines and placed within existing disturbed areas where possible. Temporary workspace areas and trestle locations within Cobbosseecontee Stream were minimized to the greatest extent practical. Girder spacing was optimized, and the bridge deck overhang maximized, to reduce the amount of necessary dredging and excavation for substructure modifications.

SUPPLEMENTAL INFORMATION - BLOCK 25

Adjoining Landowners

As shown in Attachment 6, seven properties are located adjacent to the proposed activity, including six properties to the south of Cobbosseecontee Stream and one to the north.

South of Cobbosseecontee Stream

Map R09, Lot 33
31 Shady Lane
Litchfield, ME 04350

Map R09, Lot 34
110 Hunts Meadow Road
Whitefield, ME 04353

Map R09, Lot 35
Keziah Lane
Litchfield, ME 04350

Map R09, Lot 36A
388 Lunts Hill Road
Litchfield, ME 04350

Map R09, Lot 36A
P.O. Box 1252
Gardiner, ME 04345

Map R09, Lot 36D
392 Lunts Hill Road
Litchfield, ME 04350

North of Cobbosseecontee Stream

No Map-Lot # available
629 Pond Road
West Gardiner, ME 04345

SUPPLEMENTAL INFORMATION - BLOCK 26

Agency Coordination

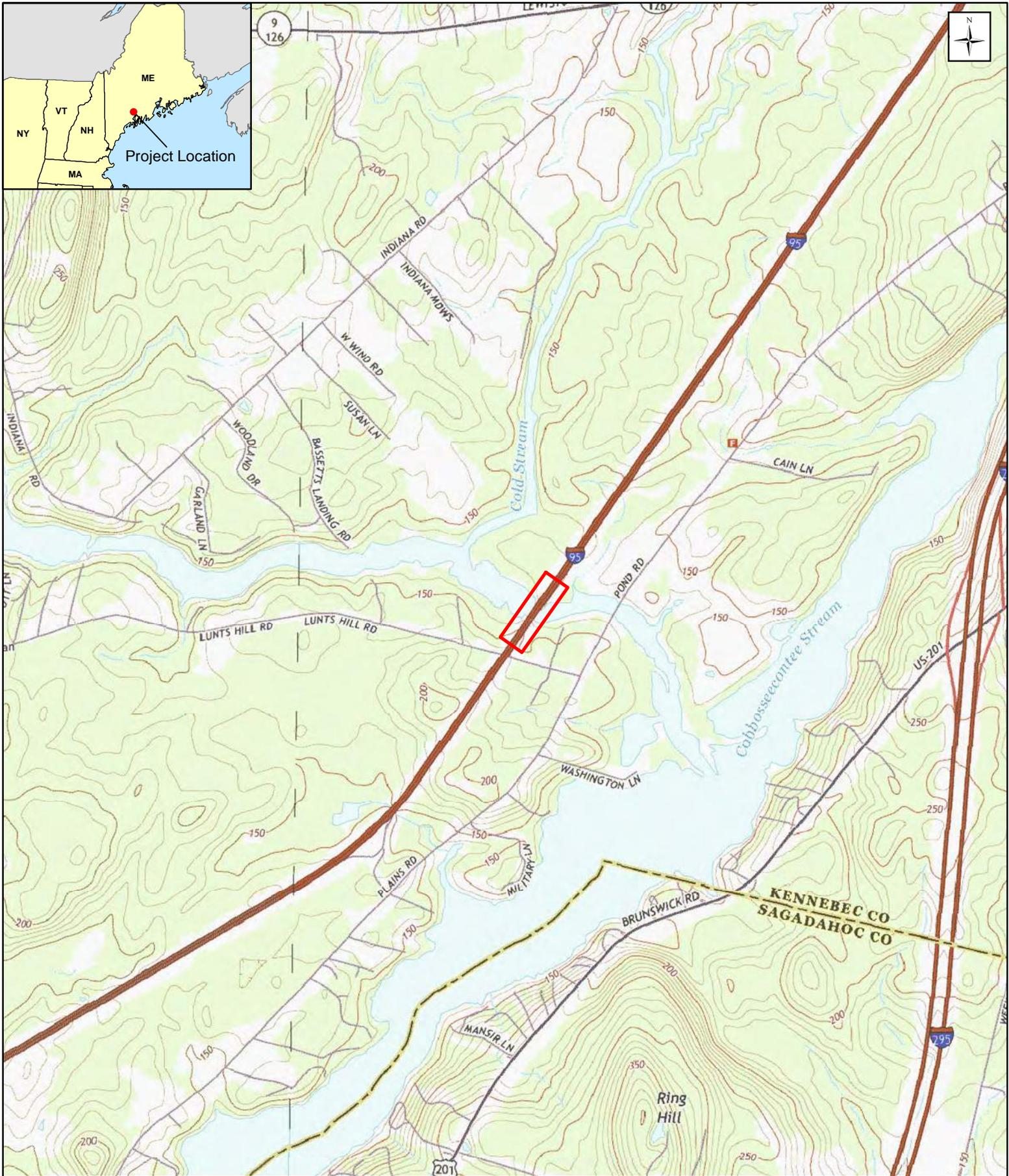
Natural and cultural resource agencies and tribes were contacted to request a review of the Project to identify concerns relating to resources within each agency/tribal area of interest or oversight. Based on the input received, and the avoidance/minimization measures taken, the Project is not expected to cause significant impacts to protected natural or cultural resources or floodplains. Attachment 7: Agency Correspondence, provides supporting documents relating to the following communications.

Agency/Tribe	Individual Contacted	Contact Type and Summary of Response Received
US Fish and Wildlife Service (IPAC)		<p>Online Review. Identified northern long-eared bat and Atlantic salmon as potential federally-listed species in the Project area.</p> <p>No habitat for these species would be affected by the Project as currently designed.</p>
Maine Department of Transportation	Eric Hamm – MAP Coordinator	<p>Email. Indicated Project does not require review through Maine Atlantic Salmon Programmatic Consultation (MAP). Currently, there is not access for Atlantic salmon above the downstream dams. There is also no stocking programs above the dams. Therefore, projects up there will not have no effect on ATS. The drainage is also not mapped as ATS critical habitat. Therefore, there is no effect on critical habitat.</p>
Maine Department of Inland Fisheries and Wildlife	John Perry	<p>Email/Letter. Indicated that additional coordination with MDIFW should take place regarding impacts to IWWH; but expressed no other concerns.</p> <p>A request for Project review and waiver of in-stream work and IWWH timing windows was submitted to MDIFW in May 2018.</p> <p>Impacts to IWWH were avoided/minimized to 1,193 sq ft (0.03 acre) of temporary impact and 50 sq ft (< 0.01 acre) of permanent impact.</p>
Maine Natural Heritage	Kristen Puryear	<p>Email/Letter. No concerns expressed.</p>
Maine Historic Preservation	Kirk Mohney	<p>Letter. No concerns expressed.</p>
Aroostook Band of Micmacs	Edward Peter-Paul	<p>Email/Letter. No response received.</p>
Houlton Band of Maliseet	Susan Young	<p>Email/Letter. No concerns expressed.</p>

Agency/Tribe	Individual Contacted	Summary of Response Received
Passamaquoddy Tribe of Indians (Pleasant Point and Indian Township Reservations)	Donald Soctomah	Email/Letter sent to both entities. No concerns expressed.
Penobscot Nation	Chris Sockalexis	Email/Letter. No concerns expressed.
Federal Emergency Management Agency	David Robbins	Email. Indicated applicable sections of Executive Order (EO) 11988 must be followed and recommended follow up with Sue Baker.
National Flood Insurance Program	Sue Baker	Email. Indicated applicable sections of EO 11988 must be followed, proof that Project would not cause any change in flood elevation must be provided by certified engineer, recommended follow up with town officials.
Town of Litchfield	Steve Ochamnski	Telephone. If EO 11988 is followed, no additional coordination or local permits are required.
Town of West Gardiner	Casey Peacock	Telephone. If EO 11988 is followed, no additional coordination or local permits are required. Requested a copy of the submitted permit application.

ATTACHMENT 1

Project Location



Prepared For: **HNTB**

Prepared By: **NewEarth**
ECOLOGICAL CONSULTING, LLC

Legend

Project Boundary

0 500 1,000 2,000 3,000 4,000 5,000
Feet

Site Location and Topography

Maine Turnpike Authority
Cobbesseecontee Stream
Bridge Rehabilitation Project
Gardiner & Litchfield, Maine

Source: United States Geological Survey, 2014. Date: 12/13/2017

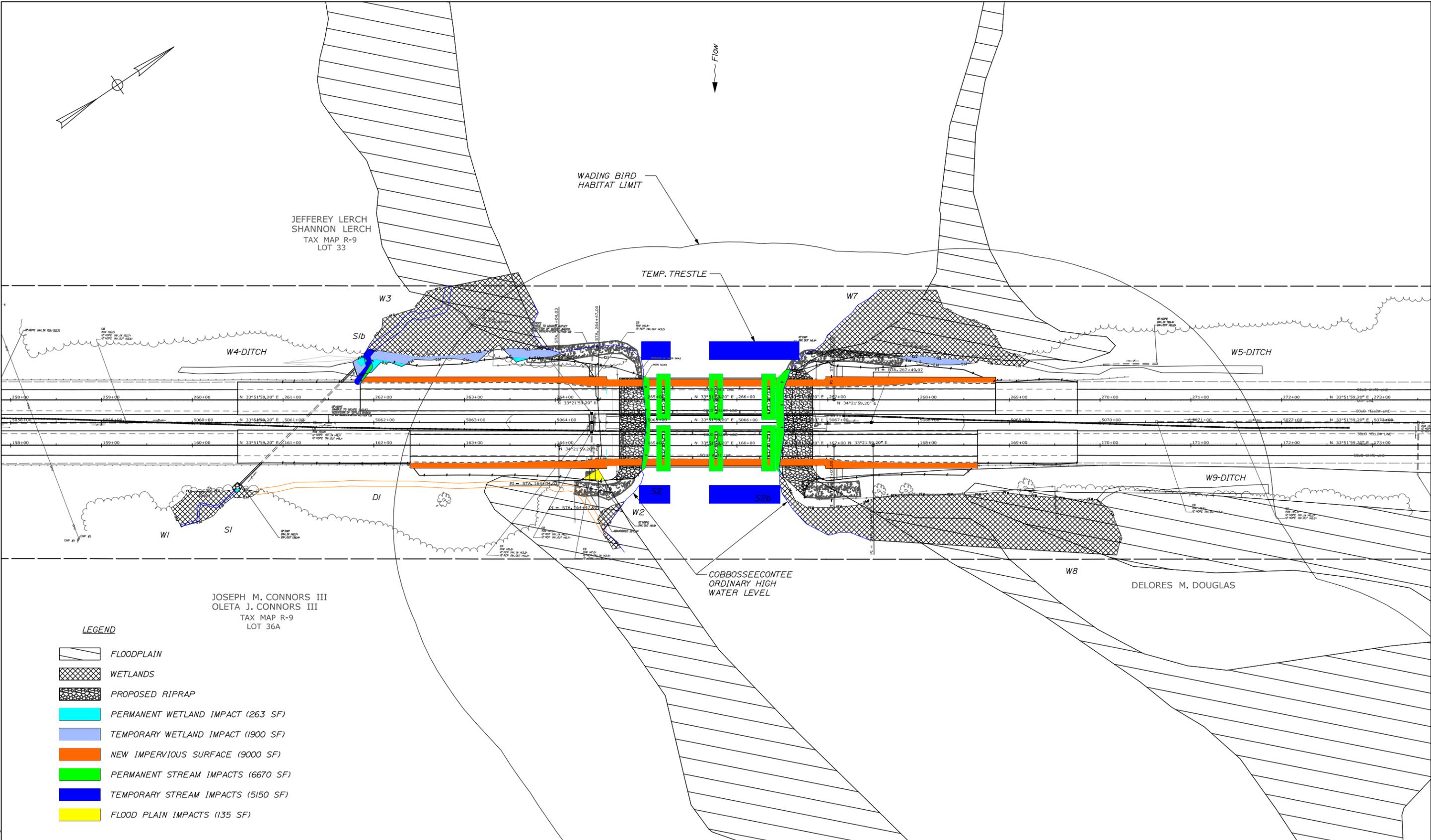
ATTACHMENT 2

Design Plans, Cross-sections and Environmental Impacts

As shown on the attached design plans and cross-sections, the primary activities for the Cobbosseecontee Bridge Rehabilitation Project include:

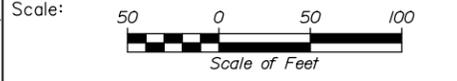
- Improving the vertical profile of the bridges by picking the bridges up approximately 1'. The profile change will require reconstructing approximately 750' of approach roadway, such as regrading side-slopes.
- Replacing and widening the bridge concrete decks by approximately 5' to match the existing approach roadway. The bridge widening will require adding one new steel girder to the bridge and elongating the existing substructure.
- Repairing the existing substructure concrete (piers and abutments).
- Replacing the bridge bearings and joints.
- Adding/replacing the rip-rap in front of abutments along the side slopes and at pier ends for scour counter measures.
- Repairing an existing culvert in the north approach (replacing deteriorated culvert end and placing rip-rap pad at end).

Date: 5/1/2018



LEGEND

- FLOODPLAIN
- WETLANDS
- PROPOSED RIPRAP
- PERMANENT WETLAND IMPACT (263 SF)
- TEMPORARY WETLAND IMPACT (1900 SF)
- NEW IMPERVIOUS SURFACE (9000 SF)
- PERMANENT STREAM IMPACTS (6670 SF)
- TEMPORARY STREAM IMPACTS (5150 SF)
- FLOOD PLAIN IMPACTS (135 SF)



No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	EDD	04\18	Checked	CDH	04\18
Drawn	EDD	04\18	In Charge of	RAL	04\18

HNTB CORPORATION
 340 County Road, Suite 6-C
 Westbrook, ME 04092
 TEL (207) 774-5155
 FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

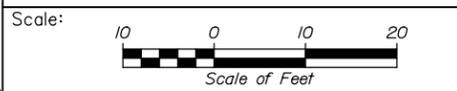
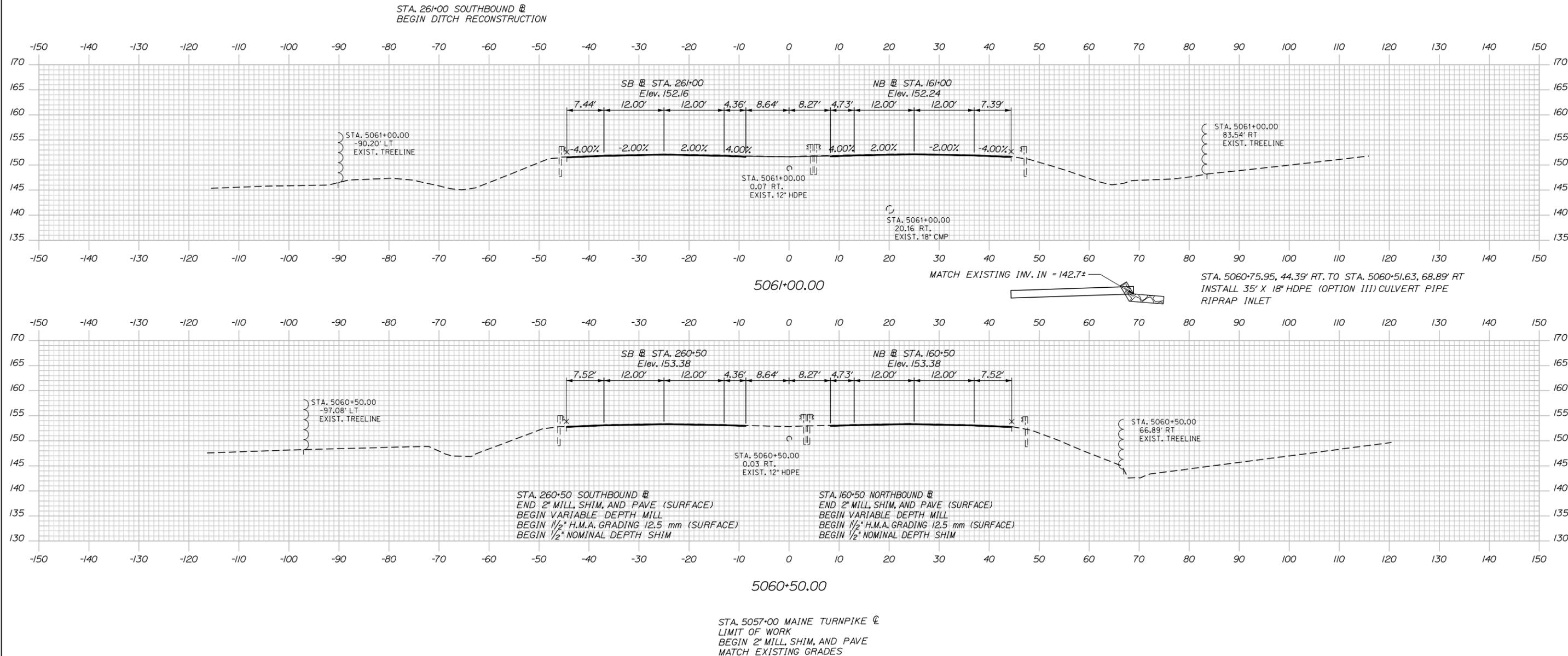
BRIDGE REHABILITATION
 COBBOSSEECONTEE STREAM OVERPASS
 ENVIRONMENTAL IMPACTS PLAN

SHEET NUMBER: GP-01
 1 OF 1

CONTRACT: 2018.15

Filename: 001_WetlandGraphic.dgn

Date: 4/12/2018



Designed by:

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CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

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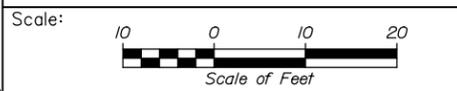
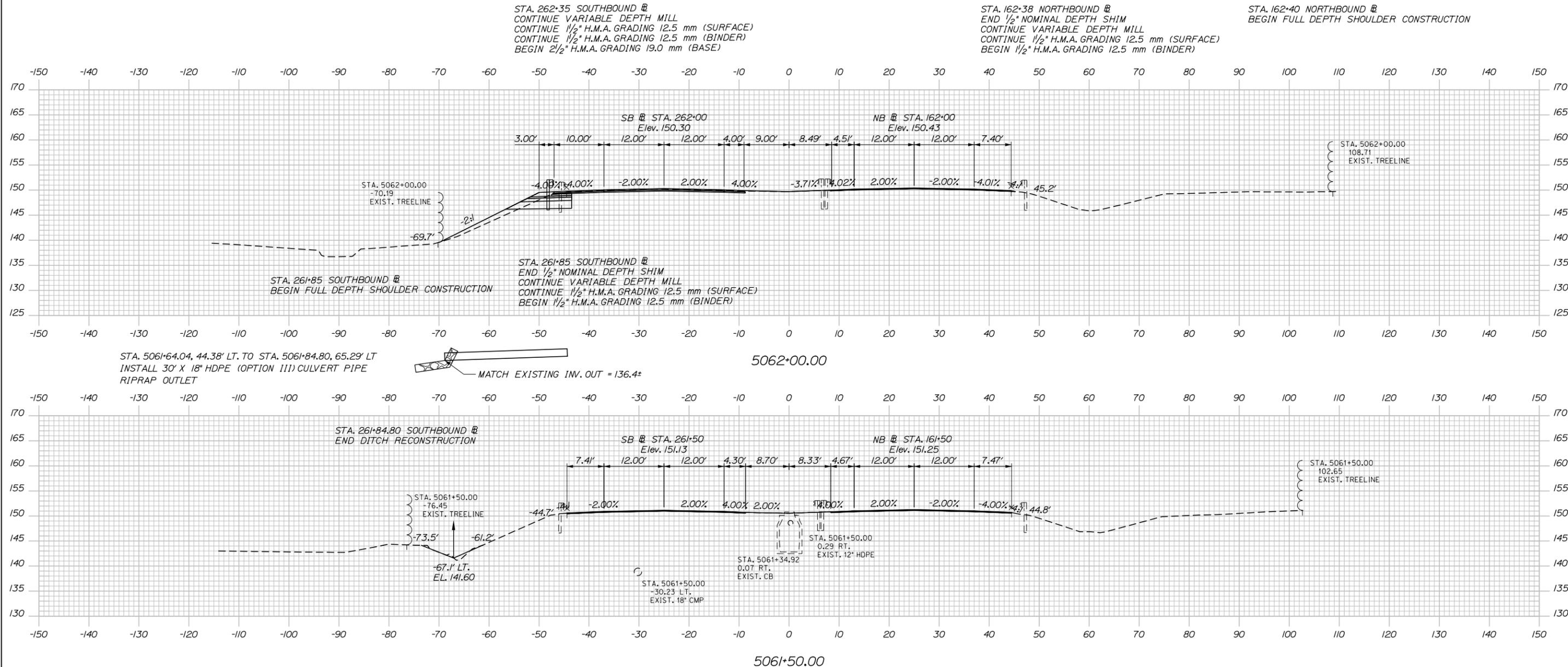
**THE GOLD STAR
MEMORIAL HIGHWAY**

BRIDGE REHABILITATION
 COBBOSSÉECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5060+50 TO STA. 5061+00

SHEET NUMBER: XS-01
 CONTRACT: 2018.15
 18 OF 78

Date: 4/12/2018



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CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

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BRIDGE REHABILITATION
COBBOSEECONTEE STREAM OVERPASS

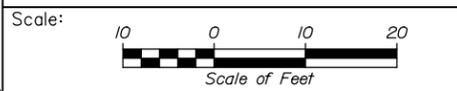
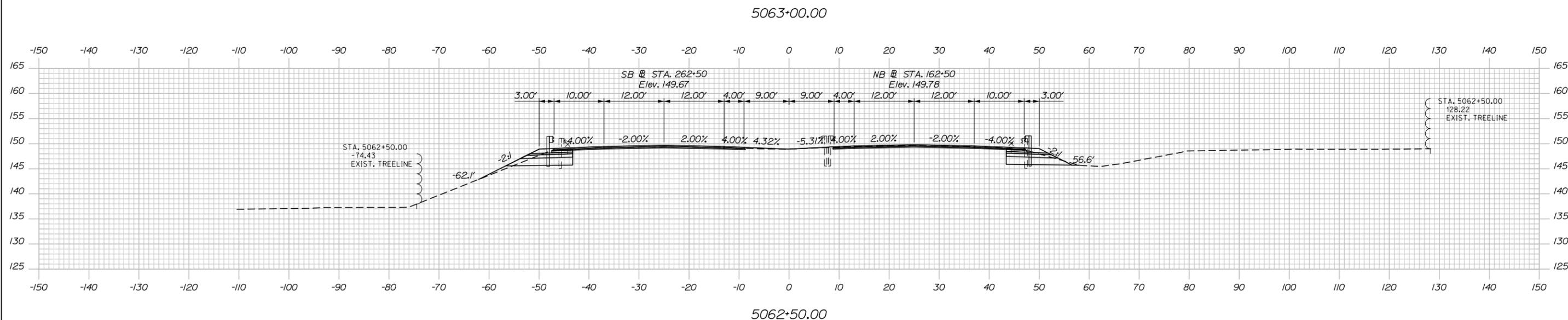
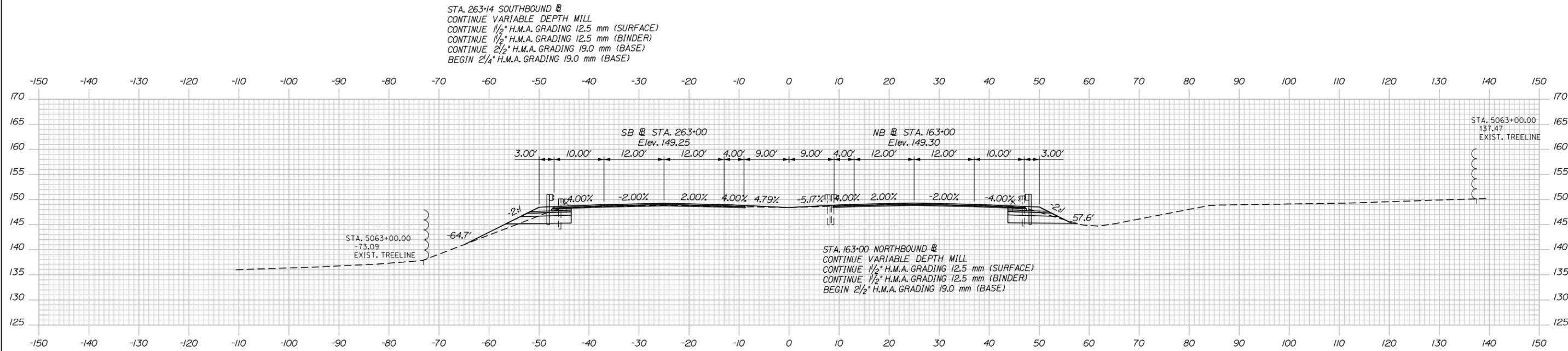
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STA. 5061+50 TO STA. 5062+00

SHEET NUMBER: XS-02
19 OF 78

CONTRACT: 2018.15

Filename: Xsect.dgn

Date: 4/12/2018



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CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

No.	Revision	By	Date

	By	Date		By	Date
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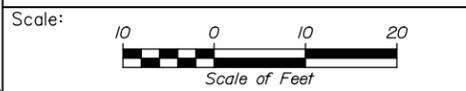
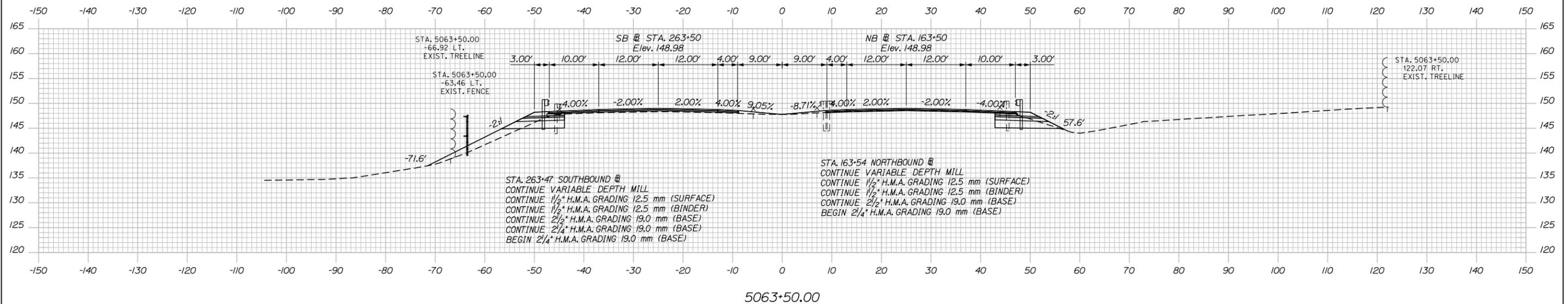
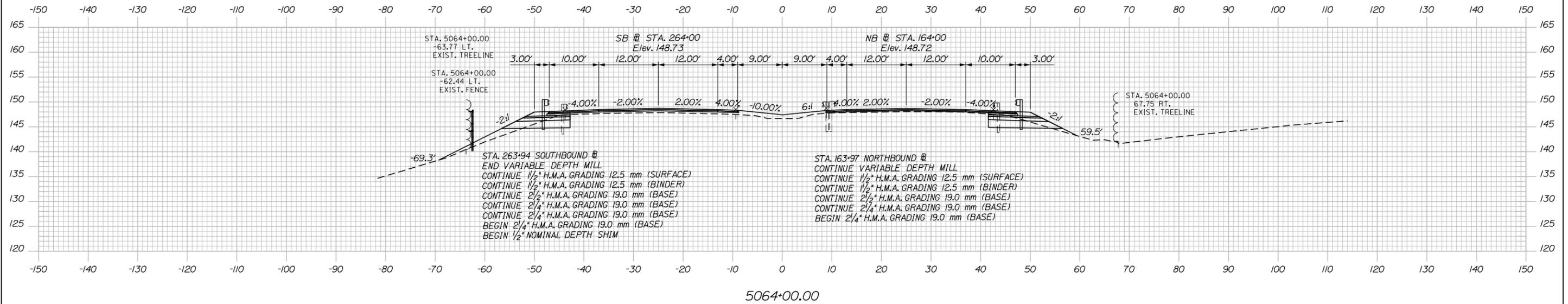
BRIDGE REHABILITATION
 COBBOSSECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5062+50 TO STA. 5063+00

SHEET NUMBER: XS-03
 CONTRACT: 2018.15
 20 OF 78

Filename: Xsect.dgn

Date: 4/12/2018



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No.	Revision	By	Date

	By	Date		By	Date
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BRIDGE REHABILITATION
COBBOSEECONTEE STREAM OVERPASS

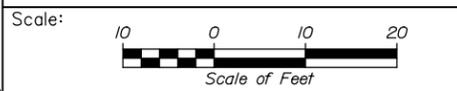
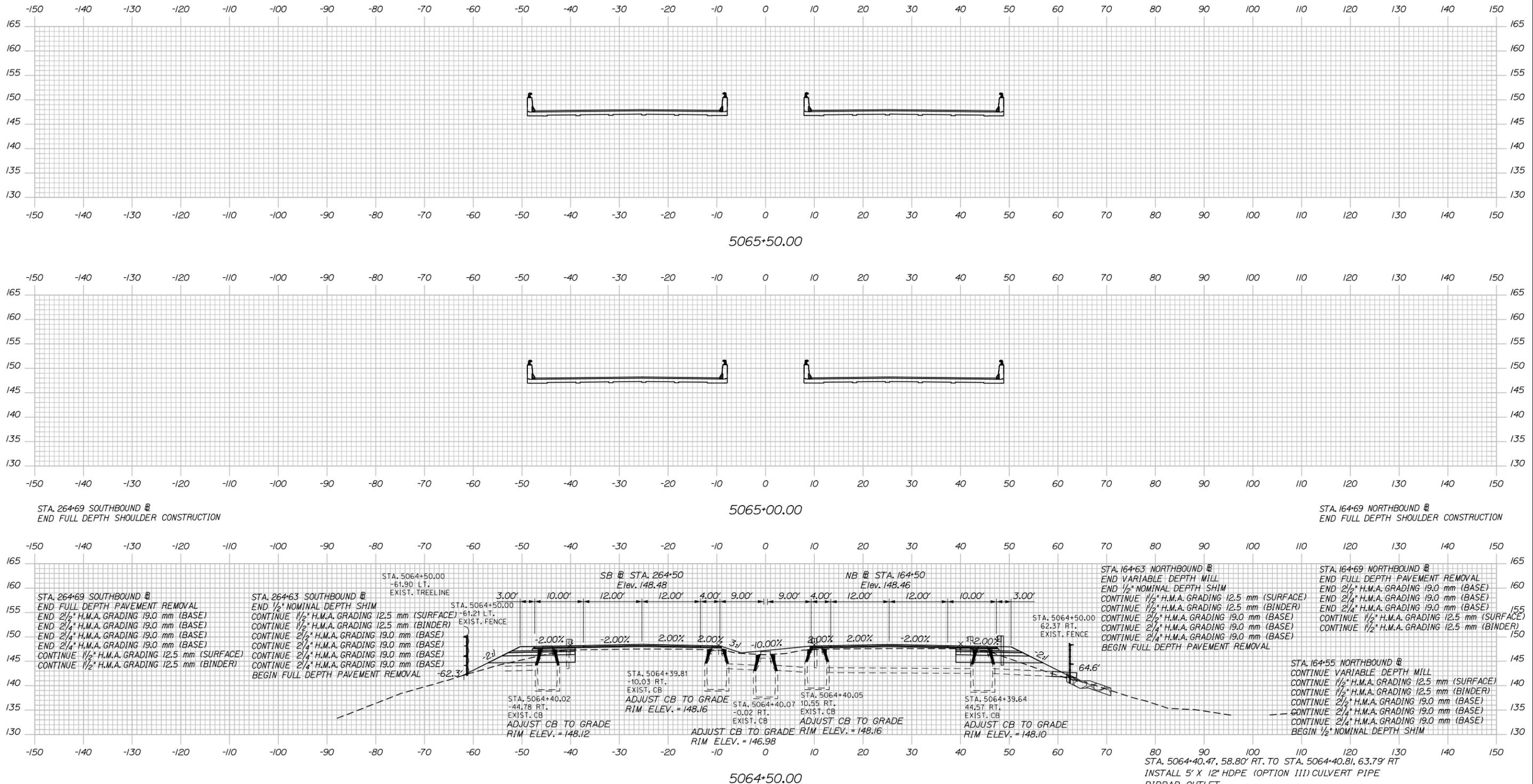
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SHEET NUMBER: XS-04
21 OF 78

CONTRACT: 2018.15

Filename: Xsect.dgn

Date: 4/12/2018



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MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REHABILITATION
 COBBOSSECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5064+50 TO STA. 5065+50

SHEET NUMBER: XS-05
 22 OF 78

CONTRACT: 2018.15

Filename: Xsect.dgn

Date: 4/12/2018

STA. 266+91 SOUTHBOUND
 END FULL DEPTH PAVEMENT REMOVAL
 END 2 1/4" H.M.A. GRADING 19.0 mm (BASE)
 END 2 1/4" H.M.A. GRADING 19.0 mm (BASE)
 CONTINUE 1 1/2" H.M.A. GRADING 12.5 mm (SURFACE)
 CONTINUE 1 1/2" H.M.A. GRADING 12.5 mm (BINDER)
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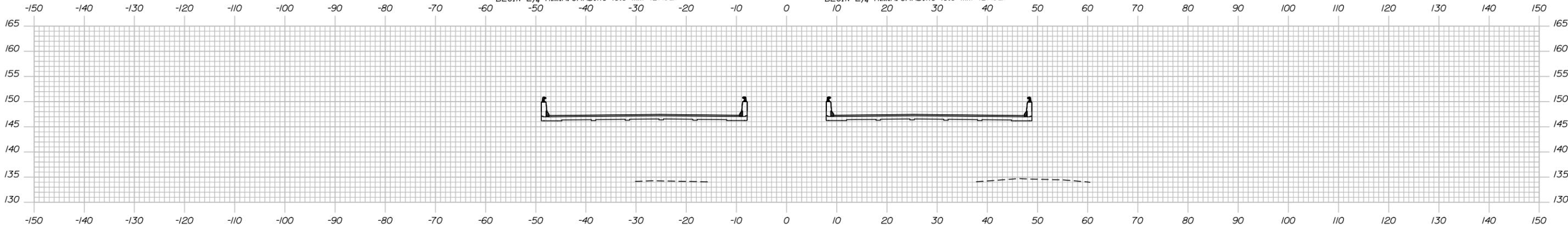
STA. 166+91 NORTHBOUND
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 END 2 1/4" H.M.A. GRADING 19.0 mm (BASE)
 CONTINUE 1 1/2" H.M.A. GRADING 12.5 mm (SURFACE)
 CONTINUE 1 1/2" H.M.A. GRADING 12.5 mm (BINDER)
 CONTINUE 2 1/2" H.M.A. GRADING 19.0 mm (BASE)
 BEGIN VARIABLE DEPTH MILL

STA. 266+85 SOUTHBOUND
 BEGIN FULL DEPTH SHOULDER CONSTRUCTION

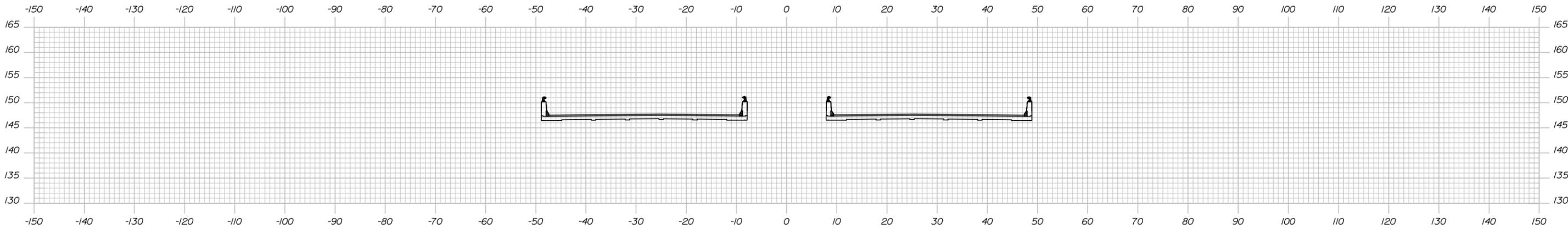
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 CONTINUE 1 1/2" H.M.A. GRADING 12.5 mm (BINDER)
 BEGIN FULL DEPTH PAVEMENT REMOVAL
 BEGIN 2 1/2" H.M.A. GRADING 19.0 mm (BASE)
 BEGIN 2 1/4" H.M.A. GRADING 19.0 mm (BASE)
 BEGIN 2 1/4" H.M.A. GRADING 19.0 mm (BASE)

STA. 166+85 NORTHBOUND
 CONTINUE 1 1/2" H.M.A. GRADING 12.5 mm (SURFACE)
 CONTINUE 1 1/2" H.M.A. GRADING 12.5 mm (BINDER)
 BEGIN FULL DEPTH PAVEMENT REMOVAL
 BEGIN 2 1/2" H.M.A. GRADING 19.0 mm (BASE)
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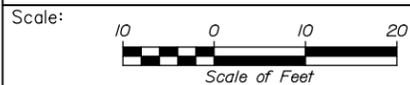
STA. 166+85 NORTHBOUND
 BEGIN FULL DEPTH SHOULDER CONSTRUCTION



5066+50.00



5066+00.00



Designed by:



HNTB CORPORATION
 340 County Road, Suite 6-C
 Westbrook, ME 04092
 TEL (207) 774-5155
 FAX (207) 228-0909



THE GOLD STAR
 MEMORIAL HIGHWAY

BRIDGE REHABILITATION
 COBBOSSECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5066+00 TO STA. 5066+50

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.					
Designed	By	Date	Checked	By	Date
	EDD	04\18		CDH	04\18
Drawn	By	Date	In Charge of	By	Date
	SLS	04\18		RAL	04\18

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

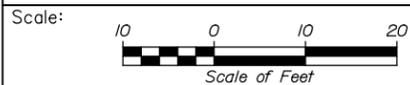
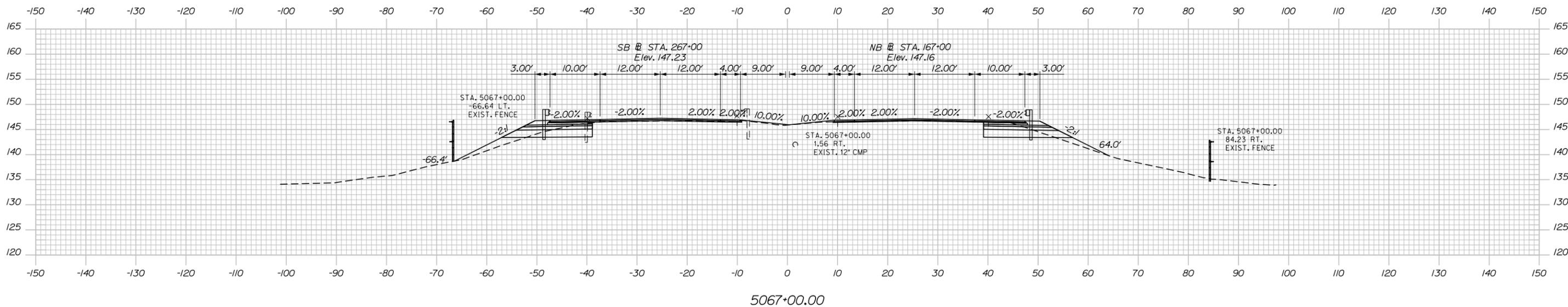
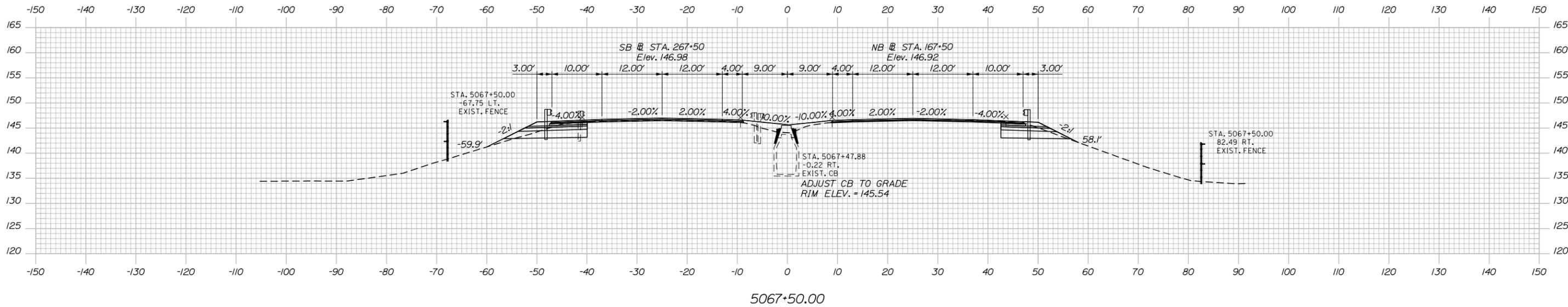
CONTRACT: 2018.15

SHEET NUMBER: XS-06

23 OF 78

Date: 4/12/2018

STA. 167+82 NORTHBOUND @
 END 2 1/2" H.M.A. GRADING 19.0 mm (BASE)
 CONTINUE VARIABLE DEPTH MILL
 CONTINUE 1/2" H.M.A. GRADING 12.5 mm (SURFACE)
 CONTINUE 1/2" H.M.A. GRADING 12.5 mm (BINDER)



Designed by:



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THE GOLD STAR
 MEMORIAL HIGHWAY

BRIDGE REHABILITATION
 COBBOSSECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5067+00 TO STA. 5067+50

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date		By	Date
Designed	EDD	04\18	Checked	CDH	04\18
Drawn	SLS	04\18	In Charge of	RAL	04\18

Date: 4/12/2018

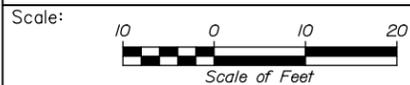
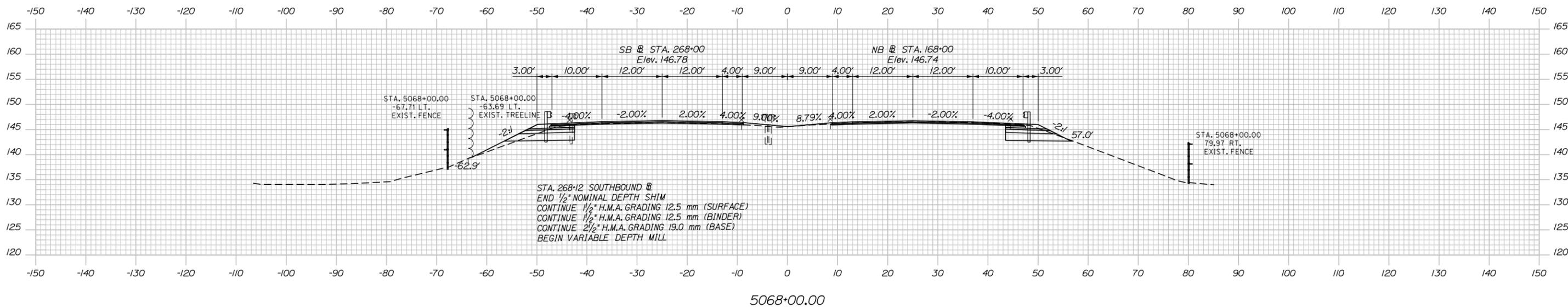
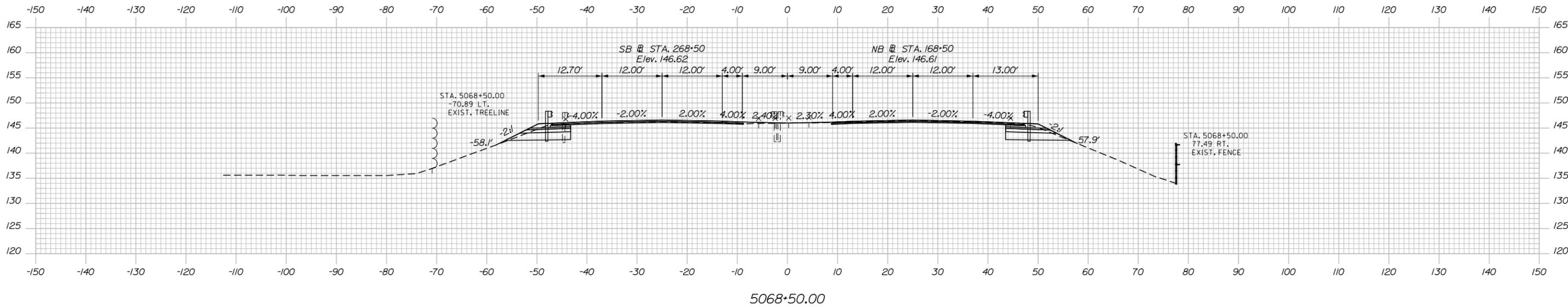
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 CONTINUE VARIABLE DEPTH MILL
 CONTINUE 1/2" H.M.A. GRADING 12.5 mm (SURFACE)
 BEGIN 1/2" NOMINAL DEPTH SHIM

STA. 268+85 SOUTHBOUND
 END FULL DEPTH SHOULDER CONSTRUCTION

STA. 268+69 SOUTHBOUND
 END 2 1/2" H.M.A. GRADING 19.0 mm (BASE)
 CONTINUE VARIABLE DEPTH MILL
 CONTINUE 1/2" H.M.A. GRADING 12.5 mm (SURFACE)
 CONTINUE 1/2" H.M.A. GRADING 12.5 mm (BINDER)

STA. 168+65 NORTHBOUND
 END 1/2" H.M.A. GRADING 12.5 mm (BINDER)
 CONTINUE VARIABLE DEPTH MILL
 CONTINUE 1/2" H.M.A. GRADING 12.5 mm (SURFACE)
 BEGIN 1/2" NOMINAL DEPTH SHIM

STA. 168+85 NORTHBOUND
 END FULL DEPTH SHOULDER CONSTRUCTION



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THE GOLD STAR
 MEMORIAL HIGHWAY

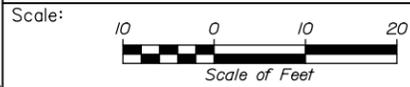
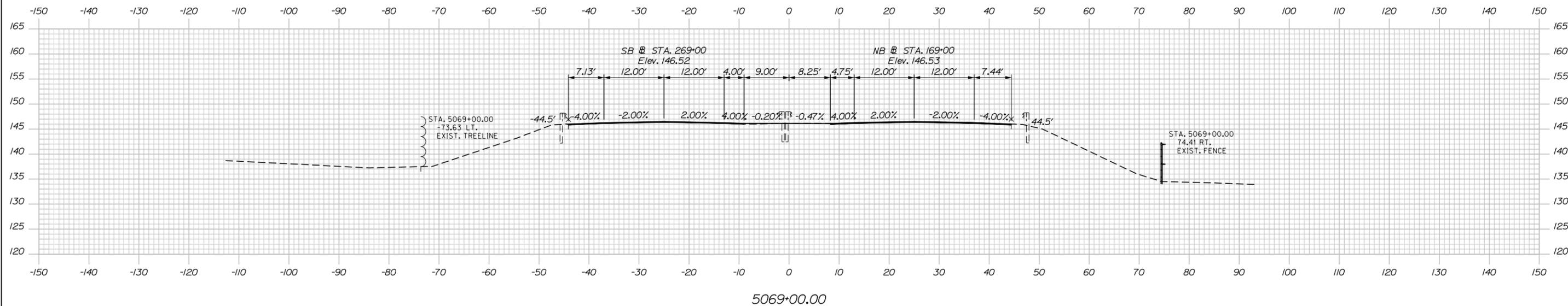
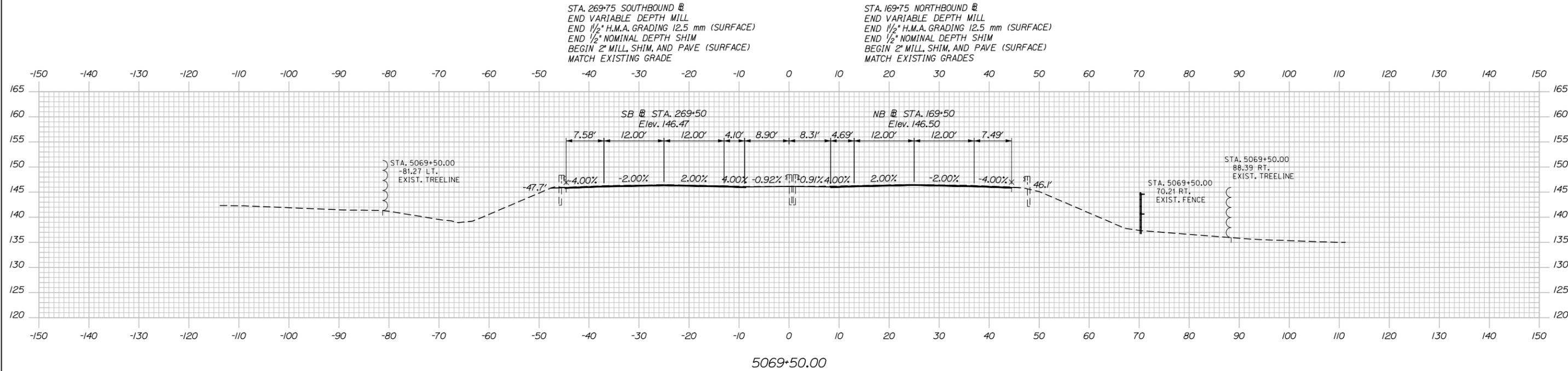
BRIDGE REHABILITATION
 COBBOSSECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5068+00 TO STA. 5068+50

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.			
	By	Date	
	By	Date	
	By	Date	
	By	Date	
	By	Date	

Date: 4/12/2018



Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

No.	Revision	By	Date

	By	Date		By	Date
Designed	EDD	04\18	Checked	CDH	04\18
Drawn	SLS	04\18	In Charge of	RAL	04\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REHABILITATION
 COBBOSSECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5069+00 TO STA.5069+50

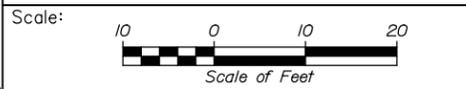
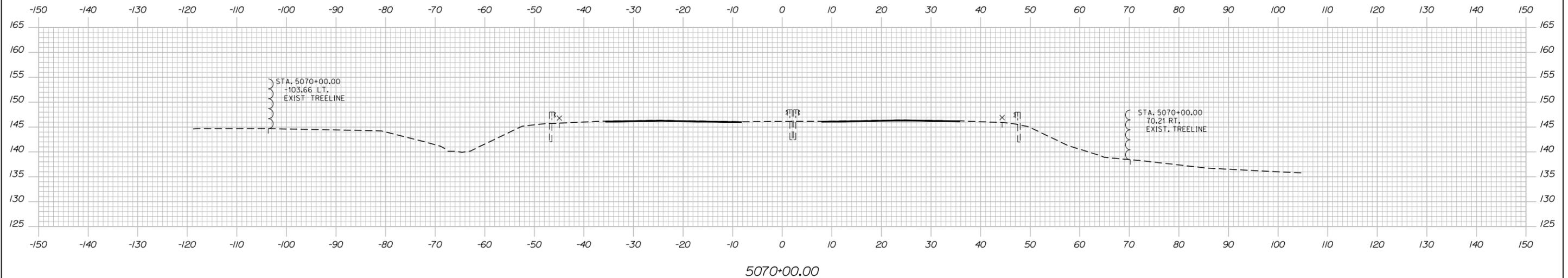
SHEET NUMBER: XS-09
 26 OF 78

CONTRACT: 2018.15

Filename: Xsect.dgn

Date: 4/12/2018

STA. 5074+25 MAINE TURNPIKE CL
 LIMIT OF WORK
 END 2" MILL, SHIM, AND PAVE (SURFACE)
 MATCH EXISTING GRADES



Designed by:

HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date	Checked	By	Date
Designed	EDD	04\18	Checked	CDH	04\18
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MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REHABILITATION
 COBBOSSECONTEE STREAM OVERPASS

CROSS SECTIONS
 STA. 5070+00 TO STA. 5070+00

SHEET NUMBER: XS-10
 CONTRACT: 2018.15
 27 OF 78

Filename: Xsect.dgn

ATTACHMENT 3**Erosion and Sediment Control**

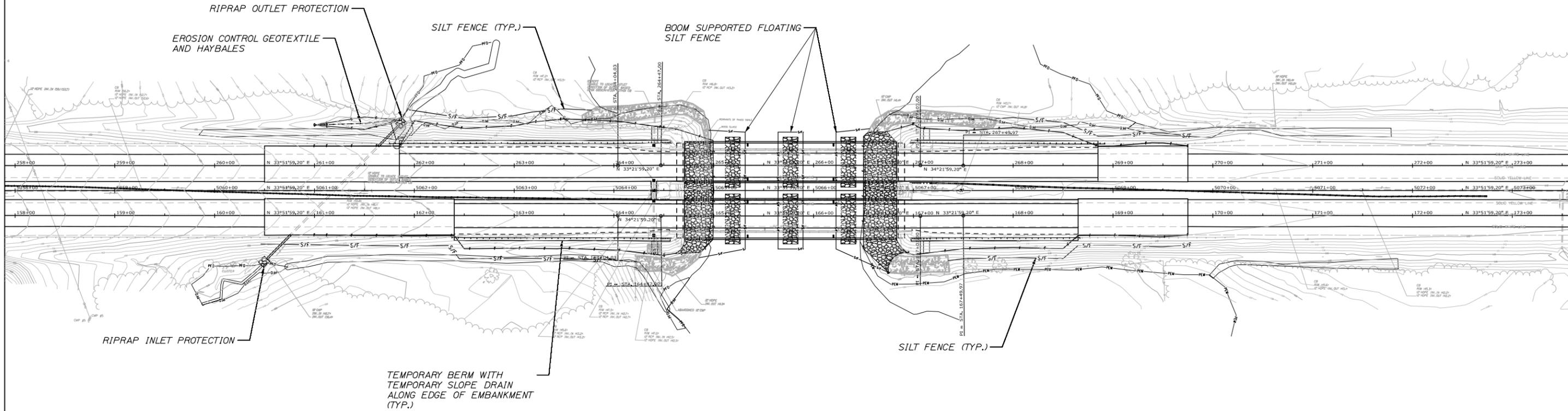
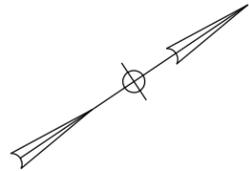
Per MTA's memorandum of agreement (MOA), MTA agrees to comply with the Stormwater Management and Erosion Control Standards outlined in the MOA to achieve stormwater quality and quantity controls reasonably consistent with the standards identified per MEDEP Chapter 500 Stormwater Management Rules. As identified in the attached Erosion and Sediment Control Plan (ESCP) and specifications, measures will be taken to prevent unreasonable erosion of soil or sediment beyond the site or into a protected natural resource, such as a river, stream, brook, lake, pond, or wetland and will ensure appropriate stormwater standards are met.

The attached ESCP and specifications will be provided to contractors to establish the minimum acceptable requirements which must be met before any ground-disturbing Project activities may begin. The plan identifies the temporary physical, structural, and managerial practices that will be used to prevent soil erosion and prevent or reduce the potential for sediment movement and discharge into protected natural resources and follows the recommendations and guidelines of MDEP's 2016 Erosion and Sediment Control Best Management Practices (BMP) Manual.

The pier modifications will be accomplished using cofferdams. The cofferdams will most likely be constructed with steel sheet pile walls driven to bedrock. Once installed the Contractor will pour tremi-seal concrete into the cofferdam enclosure, pushing the stream water out. After a proper seal is achieved the excess water will be pumped out and a dry working area will be provided for the duration of pier construction. The cofferdam dewatering process will occur at the beginning of the in-water work window, with the cofferdams staying in-place up until the last few days of the in-water work window. Boom supported turbidity curtains will be used throughout the process to control sediment

Additionally, while the attached ESCP and specifications provide the minimal acceptable practices, the selected contractor will be required to submit a contractor-prepared *Soil Erosion and Water Pollution Control Plan (SEWPCP)* prior to construction for MTA approval. The plan must provide specifications and details for the installation and implementation of cofferdams, dewatering, and soil erosion and sedimentation control measures per MDEP's BMP's and the attached ESCP's, while allowing flexibility to apply the most appropriate measures based on site-specific conditions, the construction sequence, timing and weather. MTA personnel and their representatives will ensure that the procedures contained in the contractor-prepared ESCP are followed by regularly inspecting all work and requiring corrective action when necessary.

Date: 4/12/2018



Filename: 001_ErosionControlPlan.dgn



No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Craig R. Morin, P.E.

	By	Date	By	Date
Designed	EDD	04\18	Checked	CDH 04\18
Drawn	EDD	04\18	In Charge of	RAL 04\18

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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

BRIDGE REHABILITATION
COBBOSSECONTEE STREAM OVERPASS
EROSION CONTROL PLAN

SHEET NUMBER: GP-01
CONTRACT: 2018.15
1 OF 1

SUPPLEMENTAL SPECIFICATION

SECTION 656

TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

Section 656 of the Standard Specifications is deleted in its entirety and replaced with the following:

656.01 Description

This work shall consist of providing temporary erosion and water pollution control during construction in accordance with these Specifications, standard details, Best Management Practices, or as otherwise directed.

The Contractor shall certify in writing to the Resident that an On-Site Responsible Party (OSRP) has been trained and is knowledgeable in erosion and sediment control (ECS) through the MaineDEP's Non-Point Source Training Center, or an equivalent program, or is licensed in the State of Maine as a Professional Engineer, Landscape Architect or Soil Scientist. Proof of certification for the OSRP, and any other Contractor employees charged with conducting ESC inspections, must be submitted to the Authority's Environmental Coordinator prior to starting work.

The Project will be performed in accordance with the MaineDOT Best Management Practices (BMP) latest issue. The Contractor shall fully comply with all erosion and sedimentation control requirements outlined in the BMP's or contained herein. Non-compliance with these requirements as determined by the Resident shall result in a financial penalty of \$1,000 per day, per violation. Any fines assessed to the Maine Turnpike Authority as a result of the Contractor's non-compliance shall be paid by the Contractor. If the Contractor fails to pay, the cost of the fine will be deducted from monies due, or which may become due, to the Contractor under this Contract.

In the event of conflict between these Specifications and other erosion and pollution control laws, rules or regulations of other Federal, State and local agencies, the more restrictive law, rules or regulations shall apply.

The standards as described below shall be met on the Project:

Water Pollution Control Requirements

(a) General

- 1.The Contractor must comply with the applicable Federal, State and local laws and regulations relating to prevention and abatement of water pollution.
- 2.Except as allowed by an approved permit or otherwise authorized by the Authority in writing, pollutants containing construction debris including excavated material, aggregate, residue from cleaning, sandblasting or painting, cement mixtures,

chemicals, fuels, lubricants, bitumens, raw sewage, wood chips, and other debris shall not be discharged into water bodies, wetlands or natural or manmade channels leading thereto and such materials shall not be located alongside water bodies, wetlands, or such channels such that it will be washed away by high water runoff. Furthermore, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in the areas of the site draining to an infiltration area, unless these portions of the site (where storage and handling of these materials) are isolated using dikes, berms, sumps and other forms of secondary containment that prevent discharge to groundwater.

3. Temporary winter stabilization must be used between November 1st and April 15th or outside of said time period if the ground is frozen or snow covered. Temporary winter stabilization involves, at a minimum, covering all disturbed soils and seeded ground that is not Acceptable Work with an approved method. Use of these methods for over-winter temporary erosion control will be paid for under the appropriate Erosion Control items included in the Contract.
4. Construction operations in water bodies or wetlands shall be restricted to the construction limits shown on the Plans and to those areas that must be entered for the construction of temporary or permanent structures, except as allowed by approved permit or otherwise authorized by the Authority in writing. Mechanized equipment shall not be operated in water bodies or wetlands except as allowed by approved permit or otherwise authorized by the Authority in writing.
5. Upon completion of the work, water bodies or wetlands shall be promptly cleared of all falsework, piling, debris or other obstructions caused by the construction operations, except as allowed by approved permit or otherwise authorized by the Authority in writing.

(b) Earthwork

If earthwork disturbance is part of the Project scope:

1. Erosion control blanket shall be installed in the bottom of all ditches except where a stone lining is planned. Seed shall be applied prior to the placement of the blanket.
2. Permanent slope stabilization measures shall be applied within one (1) week of the last soil disturbance. Newly seeded or sodded areas must be protected from vehicle traffic, excessive pedestrian traffic, and concentrated runoff until the vegetation is well-established. If necessary, areas must be reworked and restabilized if germination is sparse, plant coverage is spotty, or topsoil erosion is evident.
3. Dust control items, other than those under Standard Specification Section 637, Dust Control, if applicable, shall be included in the plan.

Construction Requirements

1. All temporary erosion control devices shall be in place and approved by the Resident prior to any operations resulting in disturbed area. Prior to construction, the Contractor shall properly install sediment barriers (e.g., silt fence) at the edge of any downgradient disturbed area and adjacent to any drainage channels within the disturbed area
2. The Contractor is responsible for all temporary drainage and erosion control measures. The Contractor shall review his construction operations and staging to determine if additional erosion control measures are required. The Resident may also request additional erosion control measures. The cost for all erosion control devices necessary, due solely to the Contractor's construction operations and not shown on the Plans, shall be borne solely by the Contractor.
3. Inspections shall be conducted (1) at least once a week as well as before and after a storm event and prior to completing permanent stabilization measures; and (2) by a person knowledgeable of erosion and stormwater control, including the standards and conditions in the permit if applicable.
4. The Contractor shall maintain all measures in effective operating condition until areas are permanently stabilized. If BMPs need to be modified (i.e., corrective action, additional BMPs installed, etc.), implementation must be completed within seven (7) calendar days and prior to any storm event.
5. Temporary erosion control measures shall be maintained until the site is permanently stabilized with vegetation or other permanent control measures.
6. The Contractor will immediately take appropriate measures to prevent erosion or sedimentation from occurring or to correct any existing problems regardless of the time of year.
7. During periods of approved suspension, the Contractor shall inspect and maintain temporary and permanent erosion and sedimentation controls.
8. Work in wetlands is prohibited except to the minimum extent necessary for completion of the work as detailed on the Plans. Excavated and other material shall not be stockpiled in wetlands. Haybales, silt fence or other suitable barriers shall be used, where necessary, to prevent sedimentation from eroding materials.
9. Disturbance of natural resources beyond the construction limits shown on the Plans is not allowed.
10. Existing ditches shall be maintained until the new ditches are stabilized. Stone check dams shall be placed in existing ditches prior to construction as to prevent the release of sedimentation. Stone check dams shall be installed at the outlets of all existing and proposed ditches adjacent to all stream and wetlands.
11. For proposed ditches, stabilize the outlet first and build from the bottom up. Only excavate what can be stabilized or protected by the end of the work day.
12. Before permitting permanent channels to carry water, they shall be stabilized. This may require the installation of temporary erosion control BMP's or temporarily diverting flows.
13. All cross culvert outlets shall be armored before the end of the work day.
14. The Contractor's operation may require the placement of temporary pipes and fill over a ditch line to provide access to the work area. The Resident shall approve the size of

- the pipe. The placement and removal of the temporary access shall not be measured for payment and shall be incidental to the Excavation item.
15. Bare earth slopes shall be roughened to dissipate sheet flow. This shall be accomplished by “tracking” the slope perpendicular to the centerline. This work will not be measured separately for payment, but shall be incidental to the Excavation item.
 16. Uncured concrete shall not be placed directly into the water body. Concrete may be placed in forms and shall cure at least one (1) week prior to form removal. No washing of tools, forms, etc. shall occur in or adjacent to the water body or wetland.
 17. The Contractor shall contain all demolition debris (including debris from wearing surface removal, sawcut slurry, dust, etc.) and shall not allow it to discharge to any resource. Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source. The Contractor shall dispose of debris in accordance with Maine Solid Waste Law, Title 38 M.R.S.A., Section 1301 et. seq.
 18. No wheeled or tracked equipment shall be operated in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may NOT cross streams.
 19. The Contractor shall not remove rocks from below the normal high water line of any wetland, great pond, river, stream or brook, except to the extent necessary for completion of the work and as allowed by environmental permits.

Spill Prevention Control and Countermeasure (SPCC) Plan

Any areas where petroleum products, oils or non-petroleum hazardous materials are handled or stored will require a Spill Prevention Control and Countermeasure (SPCC) Plan. These materials may not be stored or handled in areas of the site draining to an infiltration area. The Plan will be submitted to the Resident before construction begins. In addition to petroleum products and hazardous materials, controls must be used to prevent additional pollutants (i.e., fertilizers, pesticides, salt/brine, litter, construction demolition debris, etc.) from being discharged from materials on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation. The Plan shall provide the following information at a minimum:

1. The name and emergency response numbers (telephone number, cellular phone and pager numbers, if applicable) of the Contractor’s representative responsible for spill prevention and response;
2. Description of handling or storage location noting setbacks from water bodies where relevant. Significant sand and gravel aquifers and other sensitive resources, including infiltration areas, must be avoided wherever possible;
3. Description of storage and containment facilities, such as dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater or surface water;

4. Description of equipment and/or materials used to prevent discharges (including sorbent materials);
5. Preventative measures to minimize the possibility of a spill; and,
6. Contingency plan if spill should occur.

The approved plan must be posted at the Project site. All personnel working in the area are required to read and be familiar with the plan.

There shall be no separate payment for preparation of a SPCC Plan acceptable to the Resident and preparation shall be incidental to the work.

Notification of Authority of Hazardous Material Spills

In addition to MaineDEP reporting requirements for spills greater than five (5) gallons, the Contractor shall notify the on-site Resident Inspector. The on-site Resident Inspector shall notify the Maine Turnpike Radio Room at 207-871-7701. When the on-site Resident Inspector is not available, the Contractor shall notify the Maine Turnpike Radio Room directly at 207-871-7701.

In addition to MaineDEP reporting requirements for all spills where any stream or water body is threatened, the Contractor shall notify the on-site Resident Inspector. The on-site Resident Inspector shall notify the Maine Turnpike Radio Room at 207-871-7701. When the on-site Resident Inspector is not available, the Contractor shall notify the Maine Turnpike Radio Room directly at 207-871-7701.

These notification procedures shall be incorporated into the Spill Prevention Control and Countermeasure (SPCC) Plan.

Responsibility for Control and Cleanup of Hazardous Material Spills

The Contractor shall be responsible to control spills and properly cleanup, containerize, and dispose of petroleum and/or other hazardous material waste that results from the actions and/or equipment of the Contractor or his employees, subcontractors and suppliers. Chemicals, exposed to stormwater must be prevented from becoming a pollutant source.

The Contractor shall also be responsible for all direct and indirect costs associated with the control of spills and proper cleanup, containerization, and disposal of petroleum and/or other hazardous material waste that results from the actions and/or equipment of the Contractor or his employees, subcontractors and suppliers.

656.02 Temporary Erosion and Sedimentation Control Devices - Materials

The Contractor shall install and maintain all temporary erosion and sedimentation control materials in accordance with the manufacturer's recommendations or the latest BMP's.

1. Baled hay shall be bales at approximately 14 by 18 by 30 inches, or an equivalent, securely tied to form a firm bale.
2. Flexible drainage pipe shall consist of collapsible neoprene pipe, a minimum of 12 inches in diameter or equal.
3. Silt Fence
 - (a) Posts - Either hardwood posts or steel posts shall be used. Hardwood posts shall be straight, at least 18 inches longer than the height of the silt fence and at least one inch by one inch.

Staples shall be of No. 9 wire.

Steel posts shall be at least 18 inches longer than the height of the silt fence and have the means provided for fastening wire to the fence.

- (b) Wire Support Fence - If required, wire support fence shall be at least two inches higher than the height of the silt fence. Horizontal and vertical wires shall be spaced no more than six inches apart. The top and bottom wires shall be at least 10 gauge; all other wires at least 12 gauge.
- (c) Fabric - The woven geotextile fabric and components shall be made from polypropylene, polyester, polyamide or other chemically stable material and be resistant to ultraviolet radiation degradation for at least 12 months of installation. Silt retention capacity shall be no less than 75 percent. The fabric shall have a Mullen burst test of no less than 260 pounds per square inch with a maximum average sieve opening size of No. 20 to No. 60. Roll width of the fabric shall be no less than six inches wider than the height of the fence, except fabric for boom supported floating silt fence which shall be no less than two feet wider than the design width.
- (d) Flotation Devices – Boom supported floating silt fence shall consist of suitable, flexible plastic or synthetic rubber barrier supported on the top (or floated on the top using six inch “minimum” Styrofoam logs) and sides, and weighted or anchored on the bottom to form a continuous vertical barrier to contain within the designated area(s), silt and clay-size particles suspended or carried by water. The flotation boom and weighing devices for boom supported floating silt fence shall be sufficient to hold the fence in an approximately vertical position.

656.03 Temporary Erosion and Sedimentation Control Devices - General

Temporary Erosion Checks - Temporary erosion checks shall be constructed in ditches and at other locations designated. Checks shall be in accordance with the Standard Detail unless otherwise directed.

Baled hay shall be used in other areas as necessary to inhibit soil erosion.

During winter construction, November 1st through April 15th, all areas being constructed within 75 feet of a protected natural resource shall be protected with a double row of silt fence.

Sediment deposits behind haybales and silt fence shall be removed when the depth of sediment reaches 50 percent of the erosion control device height.

The Contractor is also required to have on-site, at all times, 25 percent additional Contract quantities of silt fence for use as backup devices.

656.04 Temporary Erosion and Sedimentation Control Devices – Construction Requirements

1. Erosion Control Filter Berm

The Contractor may opt to furnish and install an erosion control filter berm in lieu of silt fence. The erosion control filter berm shall be a water permeable windrow of a composted bark mix to remove suspended soil particles from water moving off the site. Erosion control filter berm shall be considered an erosion control device. The material and specific application shall be submitted to the Resident for approval.

The erosion control berm shall be placed uncompacted, in a windrow in locations approved by the Resident. The cross section of the berm shall be four feet wide at the base and 1-1/2 feet high at the center. The erosion control filter berm shall be removed when no longer required, as determined by the Resident, and shall be distributed over an adjacent area.

2. Temporary Berms

When designated, temporary barriers shall be constructed along the edge of the embankment. The barriers shall be of embankment earth material, gravel or sand as available and shaped approximately as shown in the Standard Details. The barriers shall be compacted with the wheels of construction equipment. When placed on pavement, the berms shall be constructed of asphalt grindings or other non-erodible soil material as approved by the Resident, and shaped as shown in the Standard Details.

At designated intervals, temporary slope drains shall be constructed with a crescent shaped barrier placed at each slope drain to direct the water into the inlet pipe.

3. Temporary Slope Drains

Collapsible pipe with corrugated metal pipe inlet shall be placed down the embankment slopes at designated locations and in accordance with the Best Management Practices. At the outlet end of the drain, dumped stone shall be placed to prevent scoring unless otherwise directed.

4. Silt Fence

The silt fence shall be installed downhill of disturbed slopes as shown on the Plans or as approved. The Contractor shall have the option to provide a reinforced filter fabric or an un-reinforced filter fabric attached to a wire fence.

The fence posts shall be spaced as specified by the Resident, however, not to exceed a maximum of eight feet [2.5 m] apart when either type of silt fence is used and be driven a minimum of 18 inches [450 mm] into the ground.

The geotextile fabric shall be secured to the post or fence by suitable staples, tie wire or hog rings in such a manner as to prevent tearing and sagging of the fabric. The bottom flap of the geotextile fabric shall be entrenched into the ground a minimum depth of six inches [150 mm] to prevent water from flowing under the fence. The geotextile shall be spliced together only at support posts with a minimum six inches [150 mm] overlap and secure post connection which prevents leakage of silt. The top of the geotextile shall be installed with a reinforced top end section.

The Contractor shall maintain the silt fence in a functional condition at all times. All deficiencies shall be immediately corrected by the Contractor. The Contractor shall make a daily inspection of silt fences in areas where construction activity causes drainage runoff, to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, additional silt fences shall be installed as approved or otherwise directed.

Sediment deposits shall be removed when sediments reach 50 percent of the height of the device. All sediment deposits remaining in place after the device is no longer required shall be graded to conform to the existing ground, seeded and mulched immediately.

Geotextile fabric which has decomposed or has become ineffective and is still needed shall be replaced with material equal to the original design.

5. Boom Supported Floating Silt Fence

Prior to starting any work within the river, the Contractor shall furnish and install a boom supported floating silt fence to completely surround the work area as shown on the Plans or as approved by the Resident. The boom supported floating silt fence shall remain in place a minimum of 48-hours after the completion of the work. The Contractor shall then remove the boom supported floating silt fence from the river.

The silt fence fabric shall be securely attached to the flotation boom with a continuous weight placed the entire length of the fence to maintain the fence in a vertical submerged position from the surface of the water to the design depth.

Anchor's shall be placed at the ends of the fence, and intermediate locations if

necessary, to hold the fence securely in place.

6. Temporary Mulch

Temporary stabilization with mulch or other non-erodible cover is required on all exposed soils that will not be worked for more than 7 days. Areas within 75 feet of a wetland or waterbody shall be stabilized within 48 hours of the initial disturbance of the soil or prior to any storm event, whichever comes first.

The Contractor is responsible for applying temporary mulch as necessary, in accordance with the latest edition of the BMP's, to minimize soil erosion prior to the application of the final slope treatment.

Temporary mulch applied during the winter months of November 1st through April 15th shall be applied at twice the standard temporary stabilization rate or 150 lbs. per 1,000 square feet or three tons/acre. Mulch shall not be spread on top of snow and shall be anchored with mulch netting on slopes steeper than eight percent unless erosion control blankets or erosion control mix is being used on the slopes.

The Contractor shall review his construction operations and staging to determine how much temporary mulching is required.

656.05 Temporary Erosion and Sedimentation Control Devices - Maintenance

The erosion control devices will be cleaned, repaired or replaced as necessary. All deficiencies shall be corrected immediately by the Contractor.

656.06 Temporary Erosion and Sedimentation Control Devices - Removing and Disposing

When disturbed areas have been permanently stabilized, temporary erosion control devices, including stone check dams, shall be removed. However, erosion control mix filter berms may be spread out, seeded and left to decompose. Areas disturbed during the removal of the erosion control devices shall be repaired and properly stabilized.

When removed, such devices may be reused in other locations provided they are in good condition and suitable to perform the erosion control for which they are intended. Reused devices, if approved, will be measured for payment.

656.07 Erosion Control Compliance Officer

The Contractor shall designate an Erosion Control Compliance Officer (CECCO) on this Project who shall be a "DEP Certified Contractor" or have had equivalent training approved by the Authority. The Contractor shall provide the Resident with the name of the CECCO and any phone numbers or pager numbers that can be used to contact the person in case of emergency.

Before commencing any work that could disturb soils or impact water quality, the CECCO must field review the Project with the Resident's ECCO (RECCO).

656.08 Inspection and Recordkeeping

The CECCO shall accompany the RECCO in the inspection of all erosion control devices. An inspection log shall be maintained by the Resident for the duration of the Project. The log will include daily on-site precipitation and air temperature as well as the performance, failure and/or any corrective action for all erosion and sedimentation controls in place. The log will be updated at least weekly and after all significant storm runoff or flood events. The log shall be signed by the RECCO and the CECCO after each inspection.

Failure to comply with the erosion and sedimentation control requirements herein or as directed by the RECCO within 24-hours after the violation is noted in the inspection log, will result in the \$1,000 per day per violation penalty until the violation is corrected to the satisfaction of the Resident.

656.09 Method of Measurement

Baled hay will be measured for payment by the number of bales or bags satisfactorily placed.

Temporary berms and temporary slope drains will be measured for payment by the linear foot measured parallel with the flow line including the pipe inlet.

Temporary silt fence will be measured by the linear foot along the gradient of the fence, end post to end post.

Boom supported floating silt fence will be measured by the linear foot.

Erosion control filter berm shall be measured by the linear foot.

The quantity of additional haybales and silt fence material required herein will be measured for payment only when and if they are actually put to use as additional measures on the Project as approved by the Resident. Haybales and silt fence material used for maintenance or replacement of existing devices will not be measured for payment.

The removal of silt and other material from behind the erosion control devices will not be measured separately for payment, but shall be incidental to the Erosion Control items.

Temporary Mulch – See Section 619 Mulch.

656.10 Basis of Payment

The accepted quantity of baled hay or sandbags will be paid for at the Contract unit price each for each bale or bag which price shall be full compensation for furnishing and placing the bales or sandbags, for furnishing and driving the stakes for baled hay, for maintaining the bales, stakes or

sandbags, and for the removing and disposing of the bales, stakes or sandbags when no longer needed.

The accepted quantity of temporary berms will be paid for at the Contract unit price per linear foot of berm which price shall be full compensation for furnishing, placing and compacting material, for maintaining and for removing the berm when no longer needed.

There will be no separate payment for excavation in the construction of temporary erosion control items under this Section and all necessary excavation shall be incidental to the work.

The accepted quantity of dumped stone will be paid for at the Contract unit price per cubic yard which price shall be full compensation for furnishing the stone, transporting, placing and shaping. Payment for removal or for covering will be made under Item 629.05, Hand Labor, and the appropriate Equipment Rental items.

The accepted quantity of temporary silt fence and boom supported floating silt fence will be paid for at the Contract unit price per linear foot complete in place. Payment shall be full compensation for furnishing, installing, maintaining, anchoring, replacing deteriorated geotextile and clogged geotextile when required and for removing and disposing of the fence when no longer needed.

The accepted quantity of erosion control filter berm will be paid for at the Contract unit price per linear foot under Item 656.632, 30 Inch Temporary Silt Fence, which price shall be full compensation for furnishing, placing, maintaining, and removing the erosion control filter berm.

Cost of seeding and mulching the area after removal of the temporary silt fence will be paid for at the Contract unit prices for Item 618, Seeding, and Item 619, Mulch.

Temporary Mulch – See Section 619 Mulch.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
656.50	Baled Hay, in place	Each
656.60	Temporary Berms	Linear Foot
656.62	Temporary Slope Drains	Linear Foot
656.632	30 inch Temporary Silt Fence	Linear Foot
656.64	Boom Supported Floating Silt Fence	Linear Foot

ATTACHMENT 4

Hydrologic Evaluation

As detailed in the attached memo, the Project would not result in any changes to the slope or in-stream channel and would have no (0.00) effect on floodplain elevations.

Hydraulic Summary Memo

Interstate 95 Northbound and Southbound over Cobbosseecontee Stream (MM 99.2)

The hydraulic response for the proposed rehabilitation project for the Cobbosseecontee Stream bridges was analyzed to understand the effect of the proposed work. The flows for the analysis were based on the FEMA FIS for Kennebec County and the downstream USGS stream gage in Gardiner. The drainage area to the Maine Turnpike bridges is approximately 183 square miles. The FEMA FIS flows used in the analysis were based on the drainage area of 186 square miles ($Q_{100} = 4660$ cfs). The USGS stream gage flows were scaled to the approximate location of the MTA bridges with a drainage area of 184 square miles ($Q_{100} = 4028$ cfs).

Hydraulic calculations for the existing and proposed conditions along Cobbosseecontee Stream were performed using the U.S. Army Corps of Engineers' software HEC-RAS, version 4.1.0. HEC-RAS supports one-dimensional, steady flow, water surface profiles calculations. Cross-sections were cut from survey gathered for this project.

The existing roadway and bridge information was entered into HEC-RAS. The existing low chord information is set to 143.66 feet and the existing structure provides 2998.49 square feet of hydraulic opening. The existing dual structures were modeled as a single structure in HEC-RAS due to the proximity of the structures to one another. The structures are close enough to each other that flow will not have the opportunity to contract or expand in between the structures. Therefore, the structures will act as one structure.

The proposed alterations to the structure will maintain the low chord of the existing structure and the location and shape of the piers. The proposed conditions account for the widening of the structure approximately six to seven feet to the upstream and downstream of the existing structure. The proposed alterations maintain the existing structure's 2998.49 square feet of hydraulic opening.

The HEC-RAS model was run assuming a known downstream water surface elevation. This was done due to the fact that the Cobbosseecontee Stream is controlled by a dam in the town of Gardiner. The downstream water surface elevations were found using the FEMA FIS and the flood profile.

The analysis found that the proposed widening of the existing bridge does not have an effect on the water surface elevation or velocities at the structure. When comparing the results from existing to proposed conditions for both the FEMA flows and the USGS Stream gage flows, the elevations remain un-changed for the 100-year events.

ATTACHMENT 5

Photographs

Cobbosseecontee Stream Bridge Rehabilitation Project



Cobbosseecontee Stream South Shoreline Facing West



Cobbosseecontee Stream South Shoreline Facing East



Cobbosseecontee Stream North Shoreline Facing West



Cobbosseecontee Stream North Shoreline Facing East



Cobbosseecontee Stream Northbound Bridge Substructure



Cobbosseecontee Stream Southbound Bridge Substructure

Cobbosseecontee Stream Bridge Rehabilitation Project



Wetland W1/Ephemeral Stream S1



Wetland W3/Ephemeral Stream S1B



Wetland W3 at I-95 Embankment Toe of Slope

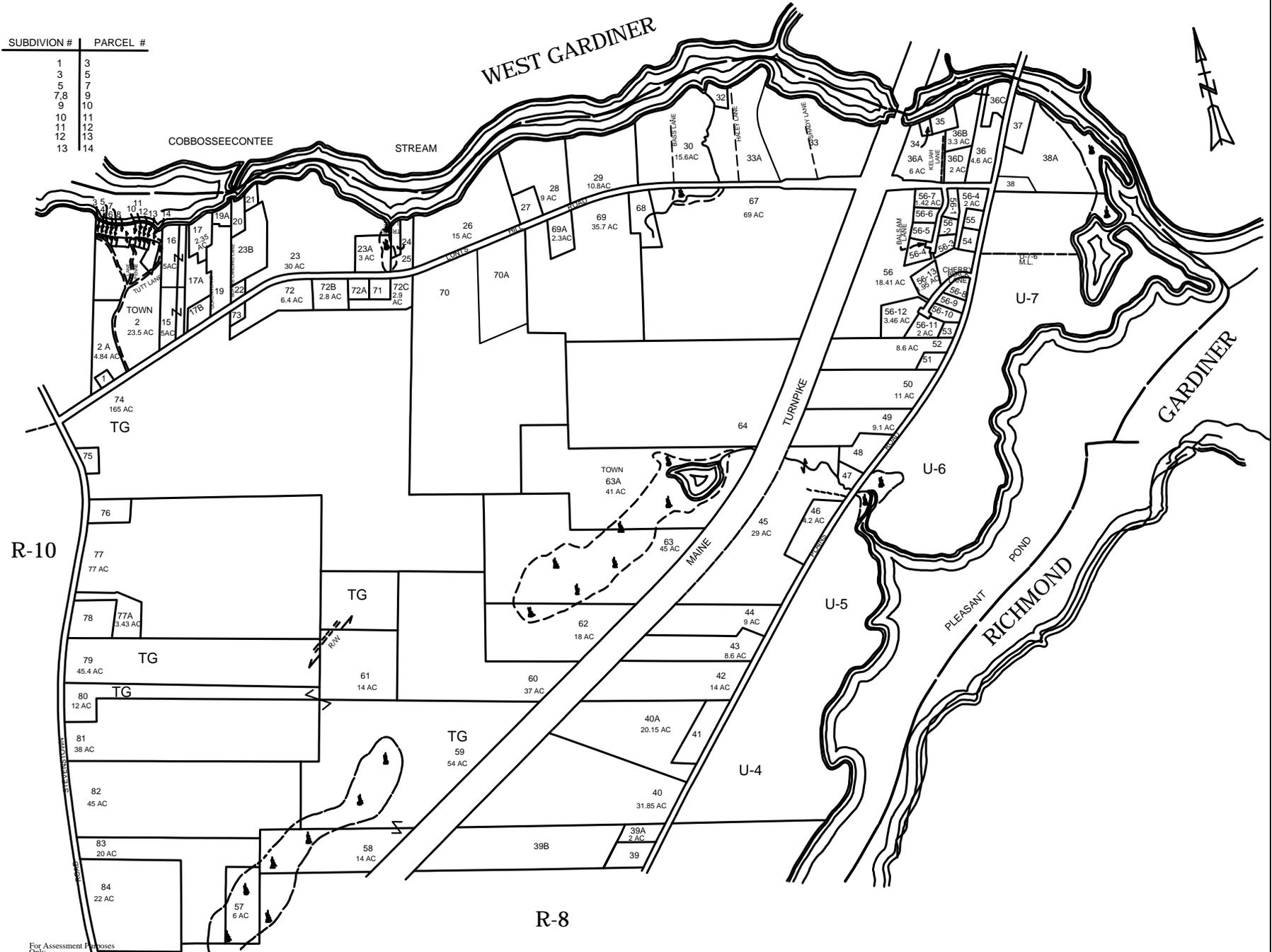


Wetland W7 at I-95 Embankment Toe of Slope

ATTACHMENT 6

Town of Litchfield Property Map

SUBDIVISION #	PARCEL #
1	3
3	5
5	7
7,8	9
9	10
10	11
11	12
12	13
13	14



For Assessment Purposes Only
Not For Property Conveyances

PREPARED BY PHOTOGRAMMETRIC METHODS BY
JOHN E. O'DONNELL &
ASSOCIATES AUBURN, MAINE

1975

LEGEND
ADJACENT SHEET NO.
COMMON OWNERSHIP
DEVELOPMENT LOT NO.
SCALED DIMENSION



PROPERTY MAP
LITCHFIELD
MAINE
C-49

UPDATED BY THE
TOWN OF LITCHFIELD
AS OF APRIL 1, 2016

SCALE IN FEET
0 500 1000

R-9

ATTACHMENT 7

Agency Correspondence



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Maine Ecological Services Field Office

P. O. Box A

East Orland, ME 04431

Phone: (207) 469-7300 Fax: (207) 902-1588

<http://www.fws.gov/mainefieldoffice/index.html>

In Reply Refer To:

March 28, 2018

Consultation Code: 05E1ME00-2018-SLI-0540

Event Code: 05E1ME00-2018-E-01125

Project Name: Cobbosseecontee Stream Bridge Rehabilitation Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies the threatened, endangered, candidate, and proposed species and designated or proposed critical habitat that may occur within the boundary of your proposed project or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC Web site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the Endangered Species Consultation Handbook at: <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

This species list also identifies candidate species under review for listing and those species that the Service considers species of concern. Candidate species have no protection under the Act but are included for consideration because they could be listed prior to completion of your project. Species of concern are those taxa whose conservation status is of concern to the Service (i.e., species previously known as Category 2 candidates), but for which further information is needed.

If a proposed project may affect only candidate species or species of concern, you are not required to prepare a Biological Assessment or biological evaluation or to consult with the Service. However, the Service recommends minimizing effects to these species to prevent future conflicts. Therefore, if early evaluation indicates that a project will affect a candidate species or species of concern, you may wish to request technical assistance from this office to identify appropriate minimization measures.

Please be aware that bald and golden eagles are not protected under the Endangered Species Act but are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). Projects affecting these species may require development of an eagle conservation plan: http://www.fws.gov/windenergy/eagle_guidance.html Information on the location of bald eagle nests in Maine can be found on the Maine Field Office Web site: <http://www.fws.gov/mainefieldoffice/Project%20review4.html>

Additionally, wind energy projects should follow the wind energy guidelines: <http://www.fws.gov/windenergy/> for minimizing impacts to migratory birds and bats. Projects may require development of an avian and bat protection plan.

Migratory birds are also a Service trust resource. Under the Migratory Bird Treaty Act, construction activities in grassland, wetland, stream, woodland, and other habitats that would result in the take of migratory birds, eggs, young, or active nests should be avoided. Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g.,

cellular, digital television, radio, and emergency broadcast) can be found at:
<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm> and at:
<http://www.towerkill.com>; and at:
<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Maine Ecological Services Field Office

P. O. Box A

East Orland, ME 04431

(207) 469-7300

Project Summary

Consultation Code: 05E1ME00-2018-SLI-0540

Event Code: 05E1ME00-2018-E-01125

Project Name: Cobbosseecontee Stream Bridge Rehabilitation Project

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: The primary components of the project involve bridge deck replacement and widening, as well as reconstruction work on existing abutments, elongation of piers to accommodate the wider bridge deck, and installation of rip-rap to replace the previous scour protection which is no longer functioning correctly. In-stream work on piers, abutments and shoreline areas is anticipated between June and November over a two year period. A total of 3.02 acres of disturbance is anticipated (most of which involves replacement of the bridge deck). Cofferdams will be used for in-stream work. Removal and upland disposal of 32,000 cubic feet (1,185 cubic yards) of dredge material will be required.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/44.17898352204372N69.86047104217423W>



Counties: Kennebec, ME

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Fishes

NAME	STATUS
Atlantic Salmon <i>Salmo salar</i> Population: Gulf of Maine DPS There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2097	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Stacie Grove

From: Norwood IV, Ralph C. <RNorwood@maineturnpike.com>
Sent: Monday, March 26, 2018 3:44 PM
To: Kevin Brayley (kbrayley@HNTB.com); Craig Morin <cmorin@HNTB.com> (cmorin@HNTB.com); Stacie Grove
Cc: Van Ooyen, Kristi
Subject: FW: MTA - Salmon Habitat

Please see the e-mail from Eric Ham below. In addition I sent an email to ACOE which I will forward.

From: Ham, Eric <Eric.Ham@maine.gov>
Sent: Monday, March 26, 2018 9:28 AM
To: Norwood IV, Ralph C. <RNorwood@maineturnpike.com>
Subject: RE: MTA - Salmon Habitat

Ralph,

I think I missed a call from you this morning. Sorry about that.

I would be more than happy to take a look at your project with you, but I think it will be pretty easy.

Any projects located in the Cobbosseecontee Stream drainage above the most downstream dam in Gardiner typically are not processed through the MAP.

Currently, there is not access for Atlantic salmon above the down stream dams. There is also no stocking programs above the dams. Therefore, projects up there will not have no effect on ATS. The drainage is also not mapped as ATS critical habitat. Therefore, there is no effect on critical habitat.

When permitting the project, the ACOE can likely make a 'no effect' determination for the project. Nothing further for ATS should be needed.

If you would like to talk a bit more about this, please give me another call and hopefully I will be available. I should be for the rest of the day!

From: Norwood IV, Ralph C. [<mailto:RNorwood@maineturnpike.com>]
Sent: Monday, March 26, 2018 8:59 AM
To: Ham, Eric <Eric.Ham@maine.gov>
Subject: MTA - Salmon Habitat

Hi Eric – We are working on the design of a bridge rehabilitation project where the turnpike goes over Cobbosseecontee Stream. The project will widening the bridge slightly which will require in water work to widening the existing bridge piers. Since this project is in the mapped salmon dps it appears we will need to use the MAP. Can we set up a time with you to review this project with you and discuss how we proceed with the MAP process?

Thank you,

Ralph C Norwood IV, P.E., PTOE

Project Manager
Maine Turnpike Authority
2360 Congress Street
Portland, ME 04102

(207)482-8348

Fax: (207)879-5567

rnorwood@maineturnpike.com



PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

CHANDLER E. WOODCOCK
COMMISSIONER

February 9, 2018

Kevin Braylee
HNTB Corporation
340 County Road, Suite 6C
Westbrook, ME 04092

RE: Information Request - MTA I-95 bridge, Litchfield/West Gardiner

Dear Kevin:

Per your request received January 30, 2018, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and fisheries habitat concerns within the vicinity of the *MTA I-95 bridge Project* in Litchfield/West Gardiner.

Our information indicates no locations of Endangered, Threatened, or Special Concern species within the project area that would be affected by your project. Additionally, our Department has not mapped any Essential Habitats that would be directly affected by your project.

Significant Wildlife Habitat

Inland Waterfowl and Wading Bird Habitats

This project intersects with an Inland Waterfowl and Wading Bird Habitats (IWWHs), which are considered Significant Wildlife Habitat under Maine's Natural Resources Protection Act. These habitats provide important breeding, feeding, migration, staging, and wintering habitat for waterfowl and wading bird species. High and moderate value IWWHs within the study area includes both the wetland complex and a 250-foot upland zone. As your project develops, we recommend you contact MDIFW Region B wildlife staff (207-547-5319) to discuss methods to minimize impacts to this wildlife resource.

Fisheries Habitat

Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fish and fisheries habitat. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that

Letter to Kevin Braylee
Comments RE: West Gardiner, MTA I-95 bridge
February 9, 2018

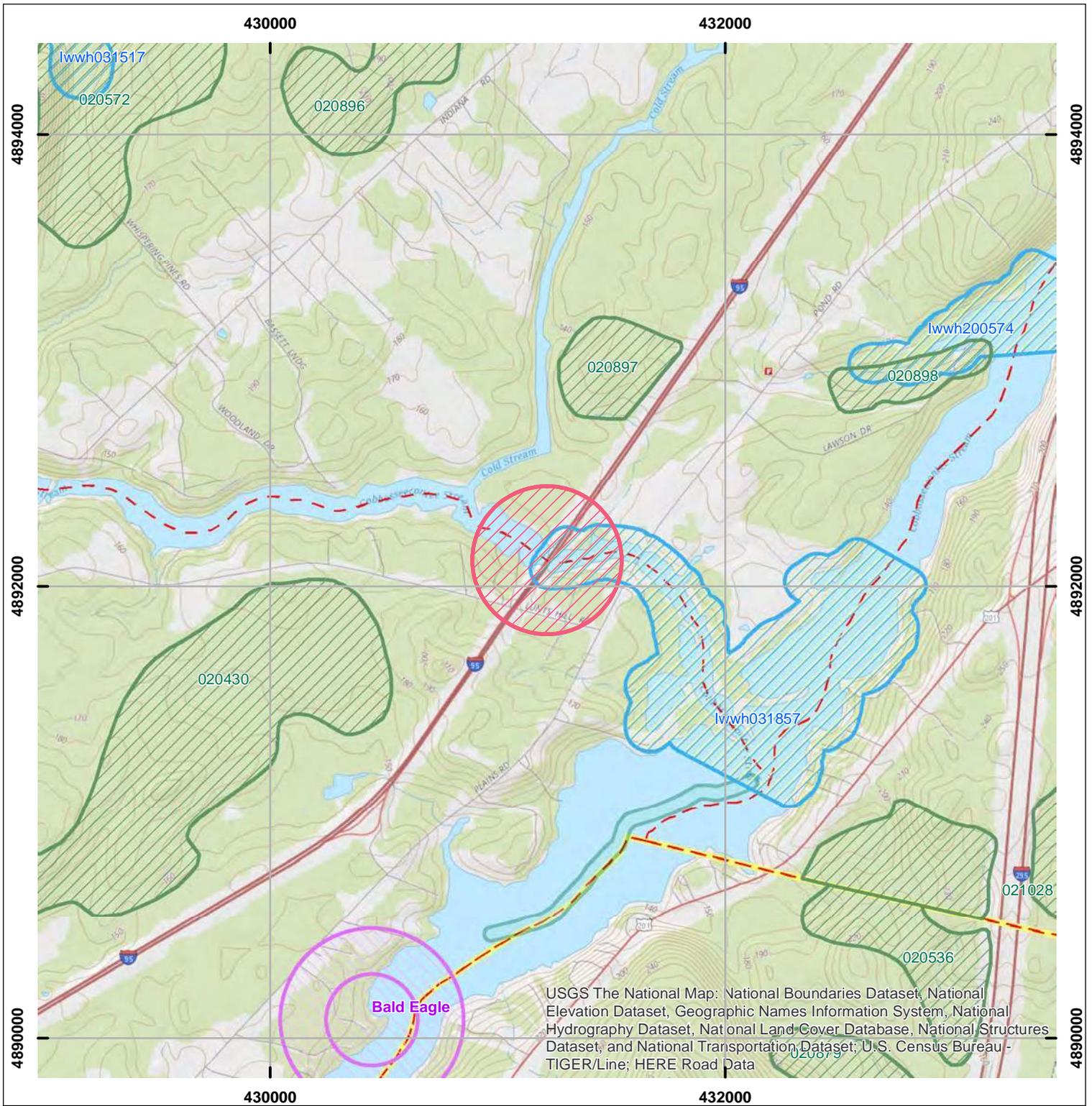
may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

A handwritten signature in blue ink, appearing to read "John Perry". The signature is fluid and cursive, with the first name "John" being more prominent than the last name "Perry".

John Perry
Environmental Review Coordinator

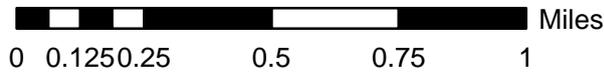


Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: **raremuscells** (Version 1)



Maine Department of
Inland Fisheries and Wildlife



Projection: UTM, NAD83, Zone 19N

Date: 2/2/2018

- ProjectPolys
- Deer Winter Area
- Inland Waterfowl/Wading Bird
- ETSc Environmental Review Polygons
- ProjectSearchAreas
- Special Concern-occupied habitats(100ft buffer)





STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY

93 STATE HOUSE STATION

AUGUSTA, MAINE 04333

PAUL R. LePAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

January 31, 2018

Kevin Brayley
HNTB Corporation
340 County Road, Suite 6C
Westbrook, ME 04092

Via email: kbrayley@hntb.com

Re: Rare and exemplary botanical features in proximity to: Cobbosseecontee Bridge Rehabilitation, Interstate 95, West Gardiner-Litchfield, Maine

Dear Mr. Brayley:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request received January 29, 2018 for information on the presence of rare or unique botanical features documented from the vicinity of the project in West Gardiner and Litchfield, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

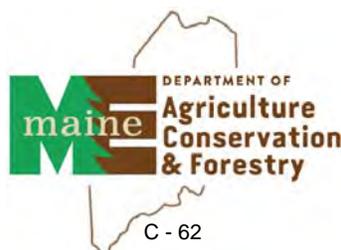
Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM



PHONE: (207) 287-8044
FAX: (207) 287-8040
WWW.MAINE.GOV/DACF/MNAP

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$150.00 for two hours of our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,



Kristen Puryear | Ecologist | Maine Natural Areas Program
207-287-8043 | kristen.puryear@maine.gov

**Rare and Exemplary Botanical Features within 4 miles of
Project: Cobbosseecontee Stream Bridge Rehabilitation, Interstate 95, West
Gardiner-Litchfield, Maine**

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
American Ginseng						
	E	S3	G3G4	1989	33	Hardwood to mixed forest (forest, upland)
	E	S3	G3G4	1912-07	17	Hardwood to mixed forest (forest, upland)
Columbia Water-meal						
	SC	S2	G5	2007-08-14	5	Open water (non-forested, wetland)
Water Stargrass						
	SC	S3	G5	2002-09-12	11	Open water (non-forested, wetland)

STATE RARITY RANKS

- S1** Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- S2** Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- S3** Rare in Maine (20-100 occurrences).
- S4** Apparently secure in Maine.
- S5** Demonstrably secure in Maine.
- SU** Under consideration for assigning rarity status; more information needed on threats or distribution.
- SNR** Not yet ranked.
- SNA** Rank not applicable.
- S#?** Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: **State Rarity Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

- G1** Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.
- G2** Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- G3** Globally rare (20-100 occurrences).
- G4** Apparently secure globally.
- G5** Demonstrably secure globally.
- GNR** Not yet ranked.

Note: **Global Ranks** are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered and Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

- E** ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.
- T** THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

- SC** SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.
- PE** Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

Visit our website for more information on rare, threatened, and endangered species!
<http://www.maine.gov/dacf/mnap>

ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size:** Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition:** For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context:** Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

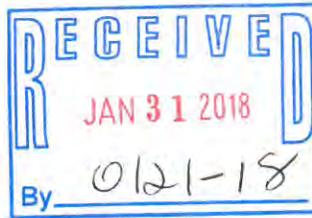
These three factors are combined into an overall ranking of the feature of **A**, **B**, **C**, or **D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!
<http://www.maine.gov/dacf/mnap>

FEB 09 2018

RECEIVED



January 29, 2018
SENT VIA MAIL

Kirk F. Mohney, Director
Maine Historic Preservation Commission
65 State House Station
Augusta, ME 04333-0065
Kirk.Mohney@maine.gov

RE: Project review for protected historic properties in the vicinity of Cobbosseecontee Stream
Bridge Rehabilitation Project

Dear Mr. Mohney:

HNTB Corporation has been contracted by the Maine Turnpike Authority (MTA) to provide project design/management services for project activities associated with rehabilitation of the existing Interstate 95 (I95) Cobbosseecontee Stream Bridge crossing in West Gardiner and Litchfield, Maine. The project is in the preliminary design phase, but will likely involve modifications within an approximately 1,000-foot long and 250-foot wide area centered on the existing bridge crossing, and generally within MTAs mowed/maintained right-of way (ROW) on each side of I-95 approximately. Impacts will remain primarily within the existing MTA easement, with little to no tree removals. In-stream work and dredging are anticipated within Cobbosseecontee Stream.

As part of project design and environmental permit planning activities we are writing to you to request information regarding protected historic properties within the project area. The project area is located at Latitude: 44.178880° Longitude: -69.860547° as shown on the attached figure. Your written response would be greatly appreciated and may be sent directly to me electronically or via mail.

Please do not hesitate to contact me if you have any questions regarding this request.

Sincerely,
HNTB CORPORATION

Kevin Braylee, PE
Structural Engineer
kbrayley@HNTB.com
(207) 228-0917

3 Attachments

cc: Kristi Van Ooyen (MTA), Sara Zografos (MTA), Stacie Grove (NewEarth)

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney
Kirk F. Mohney,
State Historic Preservation Officer
Maine Historic Preservation Commission

2/7/18
Date



PENOBSCOT NATION
CULTURAL & HISTORIC PRESERVATION
12 WABANAKI WAY, INDIAN ISLAND, ME 04468

CHRIS SOCKALEXIS – TRIBAL HISTORIC PRESERVATION OFFICER
E-MAIL: chris.sockalexis@penobscotnation.org

NAME	Kevin Brayley
ADDRESS	HNTB Corporation 340 County Road, Suite 6C Westbrook, ME 04092
OWNER'S NAME	Maine Turnpike Authority
TELEPHONE	(207) 228-0917
FAX	
EMAIL	kbrayley@HNTB.com
PROJECT NAME	Cobbosseecontee Stream Bridge Rehabilitation
PROJECT SITE	West Gardiner/Litchfield, ME
DATE OF REQUEST	January 29, 2018
DATE REVIEWED	February 9, 2018

Thank you for the opportunity to comment on the above referenced project. This project appears to have no impact on a structure or site of historic, architectural or archaeological significance to the Penobscot Nation as defined by the National Historic Preservation Act of 1966, as amended.

If Native American cultural materials are encountered during the course of the project, please contact my office at (207) 817-7471. Thank you for consulting with the Penobscot Nation Tribal Historic Preservation Office with this project.

A handwritten signature in black ink, appearing to read "Chris Sockalexis".

Chris Sockalexis, THPO
Penobscot Nation

Tribal Historic Preservation Office

Passamaquoddy Tribe
PO Box 159 Princeton, Me. 04668
207-796-5533

HNTB
340 County Road
Westbrook, Maine

February 13, 2018

Re: West Gardner – Cobosseecontee Stream Bridge

Dear Kevin;

The Passamaquoddy THPO has reviewed the following application regarding the historic properties and significant religious and cultural properties in accordance with NHPA, NEPA, AIRFA, NAGPRA, ARPA, Executive Order 13007 Indian Sacred Sites, Executive Order 13175 Consultation and Coordination with Indian Tribal Governments, and Executive Order 12898 Environmental Justice.

The above listed proposed project will not have any impact on cultural and historical concerns of the Passamaquoddy Tribe.

Sincerely;

Donald Soctomah
Soctomah@gmail.com
THPO
Passamaquoddy Tribe

Stacie Grove

From: Stacie Grove <sgrove@newearthecological.com>
Sent: Thursday, March 29, 2018 10:22 AM
To: Robbins, David
Cc: Norwood IV, Ralph C.; Kevin Brayley; KVanOoyen@maineturnpike.com; Kuns, Eric
Subject: Re: Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Hello David,

Thank you for the input.

This is not a FEMA-funded project. It is funded entirely by Maine Turnpike Authority.

We are working with state agencies and the USACE to acquire applicable permits and have performed required coordination with both natural and cultural resource agency's. We will also be following up with Sue Baker.

Thank you.

Best Regards,

Stacie Grove

On Mar 29, 2018, at 8:34 AM, Robbins, David <David.Robbins@fema.dhs.gov> wrote:

Stacie,

Is this a prospective FEMA-funded project? If yes, I have Cc'd Eric Kuns who can serve as a nearby FEMA point-of-contact for you, and he may already be familiar with the project.

In any case, have you contacted the state Floodplain Administrator? If yes, great! If no, I strongly recommend that outreach sooner than later: sue.baker@maine.gov

If this is a prospective FEMA-funded project, we will conduct a required Environmental and Historic Preservation review. Any advance work you can do re permitting (e.g. US Army Corps, Maine DEP, etc), and documentation you can share will be helpful to that effort. Our review would include the eight-step floodplain management review required by Executive Order 11988 which includes alternatives analysis (not difficult if you can help us with summary detail about your alternatives analysis). I noticed that you mentioned "undisturbed" ground below – any related documentation you may have to support that would likely help to expedite the review required by section 106 of the National Historic Preservation Act. And, being Maine, the Endangered Species Act and Atlantic salmon come to mind. So, anything related you may have to share would be helpful to the review and consultation – if consultation is necessary.

Thank you and questions welcome.

- David

David E. Robbins
Regional Environmental Officer
FEMA Region 1 (New England)
99 High Street
Boston, MA 02110
david.robbsins@fema.dhs.gov
cell 978-914-0378

From: Stacie Grove [<mailto:sgrove@newearthecological.com>]
Sent: Wednesday, March 28, 2018 8:11 PM
To: Robbins, David <David.Robbins@fema.dhs.gov>
Cc: 'Norwood IV, Ralph C.' <RNorwood@maineturnpike.com>; Kevin Brayley <kbrayley@HNTB.com>;
KVanOoyen@maineturnpike.com
Subject: [WARNING: A/V UNSCANNABLE][WARNING: A/V UNSCANNABLE]Project Review Request -
Cobbosseecontee Stream Bridge Rehabilitation Project

Hello David,

As follow-up to my call earlier today, we are assisting the Main Turnpike Authority and HNTB Corporation with permitting on a proposed project to rehabilitate the existing bridge over the Cobbosseecontee Stream in West Gardiner and Litchfield, Maine. The site is located at Latitude: 44.178880° Longitude: -69.860547° as shown on the attached figure.

The primary components of the project involve bridge deck replacement and widening, as well as reconstruction work on existing abutments, elongation of piers to accommodate the wider bridge deck, and installation of rip-rap to replace the previous scour protection which is no longer functioning correctly.

Based on FEMA flood map 23011C0661D, effective 6/16/2011, the proposed project would impact one hundred thirty (130) square feet of previously disturbed designated SPECIAL FLOOD HAZARD AREA (a.k.a. Base Flood). The shoreline slopes and channel area will remain the same, and based on results of hydrologic evaluations, the work would not result in any significant changes to up or down stream elevations.

The impact location occurs adjacent to the existing bridge, thus there are no alternatives for the proposed impacts due to the current location of the bridge. Impacts have been minimized to the extent practical using maximum side slope grades.

We believe the rehabilitation effort would not result in significant changes to flood storage capacity and as a result would not require any additional evaluation or coordination per Floodplains Executive Order 1198S. We ask for your written concurrence, or recommendations on next steps.

Best Regards,

Stacie Grove
Principal Environmental Biologist
NewEarth Ecological
169 Watson Mill Road
Saco, ME 04072
C: (207) 329-4458

Stacie Grove

From: Baker, Sue <Sue.Baker@maine.gov>
Sent: Wednesday, April 4, 2018 4:32 PM
To: Stacie Grove
Cc: 'Norwood IV, Ralph C.'; 'Kevin Brayley'; KVanOoyen@maineturnpike.com; david.robbins@fema.dhs.gov
Subject: RE: Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Stacie –

As long as the engineer's certification shows 0.00 rise in the flood elevation, then it's fine. The requirements outlined under "all development" and "floodways" stem from the NFIP regulations and these standards are in the local floodplain management ordinances. Even if federal money is not being used, these standards need to be adhered to.

My take is that all communities that have local floodplain management ordinances have a responsibility to permit ALL development in the mapped flood hazard area. Local permit or not, as long as the project complies with the floodplain management standards, that's the most important part.

Sue

~~~~~  
Sue Baker, CFM  
NFIP State Coordinator  
Maine Floodplain Management Program  
Dept. of Agriculture, Conservation & Forestry  
93 SHS, 17 Elkins Lane  
Augusta, ME 04333-0093  
Direct Phone: 207-287-8063  
Fax: 207-287-2353  
[www.maine.gov/dacf/flood/](http://www.maine.gov/dacf/flood/)

---

**From:** Stacie Grove [mailto:sgrove@newearthecological.com]  
**Sent:** Wednesday, April 04, 2018 10:10 AM  
**To:** Baker, Sue <Sue.Baker@maine.gov>  
**Cc:** 'Norwood IV, Ralph C.' <RNorwood@maineturnpike.com>; 'Kevin Brayley' <kbrayley@HNTB.com>; KVanOoyen@maineturnpike.com; david.robbins@fema.dhs.gov  
**Subject:** RE: Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Good Morning Sue,

Thank you for your input. As follow up to your points below, the project is not receiving any federal funds. With only a few exceptions, all turnpike projects are self-funded.

The project would result in some impacts within the floodway portion of the floodplain. However, results of engineering hydrologic evaluations show that the proposed bridge rehabilitation does not result in any change to the flood elevations. Project engineers are preparing a technical memo that outlines the evaluation and results.

The project will meet all requirements outlined in Executive Order 11988 for “all development” and “floodways”.

The Towns of Litchfield and West Gardiner have no additional floodplain requirements and do not require any specific permits in addition to those being filed with DEP and USACE for this activity.

Thank you again for the input. We will pass along a copy of the hydrologic analysis memo once complete. Please do not hesitate to contact me if you have any questions.

Best Regards,

Stacie Grove  
NewEarth Ecological Consulting  
(207) 329-4458

---

**From:** Baker, Sue <[Sue.Baker@maine.gov](mailto:Sue.Baker@maine.gov)>  
**Sent:** Monday, April 2, 2018 11:14 AM  
**To:** Stacie Grove <[sgrove@newearthecological.com](mailto:sgrove@newearthecological.com)>  
**Cc:** 'Norwood IV, Ralph C.' <[RNorwood@maineturnpike.com](mailto:RNorwood@maineturnpike.com)>; Kevin Brayley <[kbrayley@HNTB.com](mailto:kbrayley@HNTB.com)>; [KVanOoyen@maineturnpike.com](mailto:KVanOoyen@maineturnpike.com)  
**Subject:** RE: Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Stacie –

Attached is a general guidance document that includes information pursuant to Executive Order 11988. EO 11988 must be followed if any federal money will be used for the project.

I have also attached copy of the FEMA flood map for this area. Since I haven't seen any maps, I am unclear whether any work will be taking place in the floodway portion of the floodplain. If it is, then all development for this project cannot result in any increase (0.00) in the floodway elevation. This requires an engineer's certification.

The project guidance under “requirements for all development” and potentially the “floodway” guidance will apply to this project.

All permits under the local floodplain management ordinance are issued by the local community.

Sue  
~~~~~  
Sue Baker, CFM
NFIP State Coordinator
Maine Floodplain Management Program
Dept. of Agriculture, Conservation & Forestry
93 SHS, 17 Elkins Lane
Augusta, ME 04333-0093
Direct Phone: 207-287-8063
Fax: 207-287-2353
www.maine.gov/dacf/flood/

From: Stacie Grove [<mailto:sgrove@newearthecological.com>]
Sent: Friday, March 30, 2018 8:56 AM
To: Baker, Sue <Sue.Baker@maine.gov>
Cc: 'Norwood IV, Ralph C.' <RNorwood@maineturnpike.com>; Kevin Brayley <kbrayley@HNTB.com>; KVanOoyen@maineturnpike.com
Subject: FW: Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Hello Sue,

As follow up to the voice message I left for you yesterday, below is a summary of the Cobbosseecontee Bridge Project and input we've received from David Robbins at FEMA.

Please note, this is not a FEMA-funded project. It is entirely funded by the Maine Turnpike Authority. The bridge rehabilitation measures have avoided and minimized to the extent possible given the rehabilitation needed on the structure. The rehabilitation measures will increase bridge service life and avoids the need to replace the structure.

Please feel free to email or call me directly if you'd like any additional information.

Stacie Grove
Principal Biologist
NewEarth Ecological
(207) 329-4458

From: Stacie Grove <sgrove@newearthecological.com>
Sent: Thursday, March 29, 2018 10:22 AM
To: Robbins, David <David.Robbins@fema.dhs.gov>
Cc: Norwood IV, Ralph C. <RNorwood@maineturnpike.com>; Kevin Brayley <kbrayley@HNTB.com>; KVanOoyen@maineturnpike.com; Kuns, Eric <Eric.Kuns@fema.dhs.gov>
Subject: Re: Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

Hello David,

Thank you for the input.

This is not a FEMA-funded project. It is funded entirely by Maine Turnpike Authority.

We are working with state agencies and the USACE to acquire applicable permits and have performed required coordination with both natural and cultural resource agency's. We will also be following up with Sue Baker.

Thank you.

Best Regards,

Stacie Grove

On Mar 29, 2018, at 8:34 AM, Robbins, David <David.Robbins@fema.dhs.gov> wrote:

Stacie,

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Thank you and questions welcome.

- David

David E. Robbins
Regional Environmental Officer
FEMA Region 1 (New England)
99 High Street
Boston, MA 02110
david.robbsins@fema.dhs.gov
cell 978-914-0378

From: Stacie Grove [<mailto:sgrove@newearthecological.com>]
Sent: Wednesday, March 28, 2018 8:11 PM
To: Robbins, David <David.Robbins@fema.dhs.gov>
Cc: 'Norwood IV, Ralph C.' <RNorwood@maineturnpike.com>; Kevin Brayley <kbrayley@HNTB.com>; KVanOoyen@maineturnpike.com
Subject: [WARNING: A/V UNSCANNABLE][WARNING: A/V UNSCANNABLE]Project Review Request - Cobbosseecontee Stream Bridge Rehabilitation Project

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We believe the rehabilitation effort would not result in significant changes to flood storage capacity and as a result would not require any additional evaluation or coordination per Floodplains Executive Order 1198S. We ask for your written concurrence, or recommendations on next steps.

Best Regards,

Stacie Grove
Principal Environmental Biologist
NewEarth Ecological
169 Watson Mill Road
Saco, ME 04072
C: (207) 329-4458

<Baker Sue.vcf>

APPENDIX D
MS4 PROCEDURES AND PLANS

Maine Turnpike Authority

MS4 Stormwater Awareness Plan

Developing and implementing a Best Management Plan (BMP) Adoption Plan is a requirement of the Maine Department of Environmental Protection's (DEP's) *General Permit for the Discharge of Stormwater from Maine Department of Transportation (MaineDOT) and Maine Turnpike Authority (MTA) Municipal Separate Storm Sewer Systems (MS4s)*. Since MTA is subject to this MS4 permit and its six *Minimum Control Measures (MCMs)*, *Part IV(H)(1)(a)(ii)* requires MTA to conduct Public Education and Outreach (MCM #1) efforts that **encourage “employees and contractors to utilize BMPs that minimize stormwater pollution.”**

1.0 PERMIT LANGUAGE

Part IV(H)(1) of the MS4 Permit establishes three goals for *MCM #1 - Public Education and Outreach on Stormwater Impacts*. These include the following:

1. *To raise awareness that polluted stormwater runoff is one of the most significant sources of water quality problems for Maine's waters;*
2. *To motivate staff and contractors to use Best Management Practices (BMPs) which reduce polluted stormwater runoff; and*
3. *To reduce polluted stormwater runoff as a result of increased awareness and utilization of BMPs.*

In addition to continuing outreach efforts from the previous MS4 Permit (e.g., 5-year cycle)¹, MTA must satisfy these three goals by encouraging employees and contractors to use BMPs that minimize stormwater pollution as part of this Targeted BMP Adoption Plan. The progress and effectiveness of the Plan and associated efforts must then be evaluated and included in each annual report submitted to Maine DEP in accordance with *Part IV(J)* of the MS4 Permit. As part of this evaluation, MTA must include an assessment of process indicators and impact indicators to evaluate efforts in meeting these goals. In the fifth annual report, the BMP Adoption Plan shall be reviewed fully and include analysis of the process and impact indicators.

2.0 COVERAGE AREA

This plan has been developed for implementation by MTA to meet MS4 Permit requirements for Urbanized Areas (UAs) within MTA's right-of-way (ROW).

Process indicators are related to the execution of the program, such as (1) percent or number of employees who attend a training session; or (2) completion of a particular action item (e.g., distributing posters to employee work place and/or contractor job site).

Impact indicators are related to the achievement of the goals and objectives of the program, such as (1) observable/measurable effects on behavior; or (2) percent or number of employees to describe sources of storm water pollution, proper spill response, or maintenance of a BMP.

¹ Public education and outreach efforts continued from the previous MS4 permit cycle include (but are not limited to) conducting annual stormwater pollution prevention/spill prevention control and countermeasures (SPCC) training to MTA maintenance and engineering employees, as well as other Measurable Goals that can be found in MTA's Stormwater Program Management Plan (SPMP) dated December 2013.

3.0 OBJECTIVE

The objective of this Stormwater Awareness Plan is to raise awareness among MTA employees and contractors regarding stormwater issues. For example, stormwater runoff is one of the most significant sources of water quality problems for Maine's waters.

The goal of the Stormwater Awareness Plan is to provide information relative to stormwater impacts in an effort to raise awareness of MTA employees. For example, 100% of Highway Maintenance employees and Engineering Inspectors will attend training sessions at which stormwater issues and impacts will be addressed. Additionally, MTA will also work to raise awareness among MTA employees in other departments, such as Fare Collections by providing abbreviated Stormwater/Spill Prevention and Response training to supervisors and managers who will in turn inform additional employees regarding stormwater issues relative to MTA operations.

The goal of this Plan is to also raise awareness of contractors by providing this Plan, as well as the Targeted BMP Adoption Plan (which is designed to motivate employees and contractors to use BMPs to reduce polluted stormwater runoff), prior to starting work on MTA projects.

4.0 MESSAGE

The message MTA will strive to impart on employees and contractors will relate to the potential impacts their activities may have on stormwater runoff and water quality in Maine. The message statement is:

“The effect stormwater runoff has on the water quality of Maine waters is impacted by the level of effort put into the construction, operation, and maintenance of MTA’s stormwater infrastructure. Polluted water entering the storm drain system and discharged untreated directly to waterbodies is used for drinking, fishing, and swimming, which impacts everyone in Maine.”

In addition to the Stormwater Awareness Plan message, the target audience will be informed of authorized non-stormwater discharges allowed by the permit provided they do not contribute to a violation of water quality standards, as determined by the DEP. These include the following:

- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20))
- Uncontaminated pumped ground water
- Uncontaminated flows from foundation drains
- Air conditioning and compressor condensate
- Irrigation water
- Flows from uncontaminated springs
- Uncontaminated water from crawl space pumps
- Uncontaminated flows from footing drains
- Lawn watering runoff
- Flows from riparian habitats and wetlands
- Residual street wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material has been removed and detergents are not used)
- Hydrant flushing and fire fighting activity runoff
- Water line flushing and discharges from potable water sources

4.1 OUTREACH TOOL(S) AND DISTRIBUTION

This Stormwater Awareness Plan and message will be provided to each MTA employee at annual training sessions and also to each contractor before commencement of work, in addition to the Targeted BMP Adoption Plan.

MTA has established or will rely on a number of outreach tools including the following:

- Existing stormwater training programs
 - For MTA employees, the internal training program will be evaluated annually (and updated, as needed) to include storm water topics in order to assess process and impact indicators; and
 - For contractors, MTA continues to require an On-Site Responsible Party (OSRP) certified by DEP's NPS Training Program to be knowledgeable of stormwater, specifically erosion prevention, sedimentation control and other potential impacts to water quality in Maine.
- Stormwater information packages to raise awareness and encourage utilization of targeted BMPs
 - For MTA employees, information will be provided during annual and supplemental training sessions. Informational packages may also be provided via MTA's newsletters and memos posted to employee bulletin boards, as well as through employee meetings, including quarterly Environmental Health & Safety Committee meetings.
 - For contractors, MTA will continue to include contractual requirements provided in the standard contract language that establishes the anticipated expectations for performance and payment. Stormwater information will be discussed or provided to contractors prior to starting work (e.g., at Pre-Construction meetings).

4.2 TIMELINE AND IMPLEMENTATION SCHEDULE

The timeline and implementation schedule is determined by:

- The training schedule established each year for MTA employees; and
- The solicitation and project award notices each year.

MTA has established a representative training schedule for each year and is similar to the table below:

Date	Training Type
April	Erosion and Sediment Control (ESC) and Stormwater Pollution Prevention for highway maintenance Supervisors and Foremen
May - June	Spill Prevention Control and Countermeasures Plan (SPCC), Stormwater and Erosion and Sediment Control (ESC) for MTA maintenance and engineering employees.
October	Spill Prevention Control and Countermeasures Plan (SPCC) and Stormwater for Fare Collections

The training sessions are designed to meet the goal of increasing awareness, as well as encouraging utilization of targeted BMPs to reduce stormwater runoff and potential impacts. In addition to these training sessions, there may be supplemental training sessions as needed and/or new information posters about stormwater BMPs posted at MTA facilities. Newsletters including stormwater information may also be sent each year to employees.

For contractors, MTA's requirement to have an OSRP certified by DEP's NPS Program ensures that the contractor is aware of stormwater related issues. In addition, MTA distributes this Stormwater Awareness Plan to contractors.

4.3 RESPONSIBLE PARTY

The primary responsible party at MTA is the Environmental Services Coordinator, John Branscom. The Environmental Services Coordinator may also rely on the following:

- MTA Supervisors, Foremen, Inspectors and/or other personnel to inform MTA employees and contractors of the targeted BMPs to be utilized;
- An environmental consulting firm, such as GZA GeoEnvironmental, Inc, to ensure MTA’s employees are trained as defined by the Plan; and
- A design engineering firm, such as HNTB, who administer construction contracts, to ensure the Plan is properly implemented by the contractors.

4.4 EVALUATION PROTOCOL

MTA training is documented with attendance sign-in sheets, exam scores, in-class workshops and evaluation forms. A training database is maintained with information gathered from employees during each training session.

Process Indicators: Assessment of the program execution will be included in the annual report. The following topics will be reported for MTA employees:

1. Number of employees that attended training; and
2. Average exam scores for attendees.

Impact Indicators: Gauging the achievement of goals and objectives of the program will be included in the annual report. These will be addressed by the following behavioral change questions:

1. Number or percentage of employees to identify the goals of MCM #1 correctly;
2. Number or percentage of employees to identify source(s) of storm water pollution;
3. Number or percentage of employees to identify and differentiate between structural and non-structural BMPs; and
4. Number or percentage of employees to demonstrate an applied knowledge of BMP-specific information.

Process and impact indicators for contractors will be tracked by documenting the pre-construction meetings when this Plan and the Targeted BMP Adoption Plan are provided to each contractor and the contractor, in turn, provides MTA with the certification for their OSRP for the project.

4.5 PLAN MODIFICATION

This Stormwater Awareness Plan may require modification if evaluation data shows that efforts are not effective. Should modifications be needed, the plan will be revised or a new plan will be developed.

I have read and accept the policies outlined in this Stormwater Awareness Plan as required by MTA’s MS4 Permit.

Contractor Signature of Acknowledgement

Date

Printed Name

Project Number

Maine Turnpike Authority

MS4 Targeted BMP Adoption Plan

Developing and implementing a Best Management Plan (BMP) Adoption Plan is a requirement of the Maine Department of Environmental Protection's (DEP's) *General Permit for the Discharge of Stormwater from Maine Department of Transportation (MaineDOT) and Maine Turnpike Authority (MTA) Municipal Separate Storm Sewer Systems (MS4s)*. Since MTA is subject to this MS4 permit and its six *Minimum Control Measures (MCMs)*, *Part IV(H)(1)(a)(ii)* requires MTA to conduct Public Education and Outreach (MCM #1) efforts that **encourage “employees and contractors to utilize BMPs that minimize stormwater pollution.”**

1.0 PERMIT LANGUAGE

Part IV(H)(1) of the MS4 Permit establishes three goals for *MCM #1 - Public Education and Outreach on Stormwater Impacts*. These include the following:

- 1. To raise awareness that polluted stormwater runoff is one of the most significant sources of water quality problems for Maine's waters;*
- 2. To motivate staff and contractors to use Best Management Practices (BMPs) which reduce polluted stormwater runoff; and*
- 3. To reduce polluted stormwater runoff as a result of increased awareness and utilization of BMPs.*

In addition to continuing outreach efforts from the previous MS4 Permit (e.g., 5-year cycle)¹, MTA must satisfy these three goals by encouraging employees and contractors to use BMPs that minimize stormwater pollution as part of this Targeted BMP Adoption Plan. The progress and effectiveness of the Plan and associated efforts must then be evaluated and included in each annual report submitted to Maine DEP in accordance with *Part IV(J)* of the MS4 Permit. As part of this evaluation, MTA must include an assessment of process indicators and impact indicators to evaluate efforts in meeting these goals. In the fifth annual report, the BMP Adoption Plan shall be reviewed fully and include analysis of the process and impact indicators.

2.0 COVERAGE AREA

This plan has been developed for implementation by MTA to meet MS4 Permit requirements for Urbanized Areas (UAs) within MTA's right-of-way (ROW).

Process indicators are related to the execution of the program, such as (1) percent or number of employees who attend a training session; or (2) completion of a particular action item (e.g., distributing posters to employee work place and/or contractor job site).

Impact indicators are related to the achievement of the goals and objectives of the program, such as (1) observable/measurable effects on behavior; or (2) percent or number of employees to describe sources of storm water pollution, proper spill response, or maintenance of a BMP.

¹ Public education and outreach efforts continued from the previous MS4 permit cycle include (but are not limited to) conducting annual stormwater pollution prevention/spill prevention control and countermeasures (SPCC) training to MTA maintenance and engineering employees, as well as other Measurable Goals that can be found in MTA's Stormwater Program Management Plan (SPMP) dated December 2013.

3.0 OBJECTIVE

The objective of this Targeted BMP Adoption Plan is to educate MTA's employees and contractors to use BMPs which reduce polluted stormwater runoff within UA.

The goal of the BMP Adoption Plan is to target BMPs in the MaineDOT BMP Manual to be utilized by employees and contractors that minimize stormwater pollution during construction activities, such as:

- (1) Installing silt fence prior to land disturbance; and
- (2) Ensuring that hay mulch is applied to soil at the end of each work day.

For MTA employees, focus will also be given to targeting BMPs relevant to transportation-related maintenance and good housekeeping activities, such as:

- (1) Regular sweeping of the mainline and peripheral facilities;
- (2) Annual catch basin clean-outs and sediment removal;
- (3) As needed ditch cleaning and repair;
- (4) On-going culvert maintenance and litter removal.

Contractors are also encouraged to utilize BMPs in accordance with standard construction contract language (e.g., Special Provision 656), as well as the MaineDOT BMP Manual.

4.0 MESSAGE

The message MTA will strive to impart on employees and contractors will relate to the impacts their activities have on stormwater runoff and the importance of BMPs. The message statement is:

“Implementing appropriate BMPs, as described in MaineDOT’s Stormwater BMPs Manual, to all MTA related activities will help to minimize stormwater pollutants introduced to Maine’s waterbodies.”

4.1 OUTREACH TOOL(S) AND DISTRIBUTION

Targeted BMPs are included in the MaineDOT BMP Manual that is available at each MTA maintenance facility and referenced in standard contract language for contractors.

MTA has established or will rely on a number of outreach tools including the following:

- Existing stormwater training programs
 - For MTA employees, the internal training program will be evaluated annually (and updated, as needed) to include storm water topics in order to assess process and impact indicators; and
 - For contractors, MTA continues to require an On-Site Responsible Party (OSRP) certified by DEP’s NPS Training Program to be knowledgeable in erosion prevention and sedimentation control.
- Existing standard contract language
 - Requires contractors to maintain a certified OSRP on-site who has authority to implement BMPs appropriately; and
 - Specifies that contractors must utilize MaineDOT’s BMP Manual, as well as other BMPs, to ensure construction site runoff is minimized.
- Stormwater information packages to raise awareness and encourage utilization of targeted BMPs
 - For MTA employees, information will be provided during annual and supplemental training sessions. Informational packages may also be provided via MTA’s newsletters

and memos posted to employee bulletin boards, as well as through employee meetings, including quarterly Environmental Health & Safety Committee meetings.

- For contractors, MTA will continue to include contractual requirements provided in the standard contract language that establishes the anticipated expectations for performance and payment. This Target BMP Adoption Plan will also be provided to contractors prior to starting work (e.g., at Pre-Construction meetings).

4.2 TIMELINE AND IMPLEMENTATION SCHEDULE

The timeline and implementation schedule is determined by:

- The training schedule established each year for MTA employees; and
- The solicitation and project award notices each year.

MTA has established a representative training schedule for each year and is similar to the table below.

Date	Training Type
April	Erosion and Sediment Control (ESC) and Stormwater Pollution Prevention for Highway Maintenance Supervisors and Foremen
May - June	Spill Prevention Control and Countermeasures Plan (SPCC), Stormwater and Erosion and Sediment Control (ESC) for MTA maintenance and engineering employees.

In addition to the training sessions above, there may be supplemental training sessions as needed and/or new information posters about stormwater BMPs posted at MTA facilities. Newsletters including stormwater information may also be sent each year to employees.

For contractors, targeted BMPs are already being implemented in accordance with contract language and the MaineDOT BMP Manual. In addition, MTA distributes this Targeted BMP Adoption Plan to contractors.

4.3 RESPONSIBLE PARTY

The primary responsible party at MTA is the Environmental Services Coordinator, John Branscom. The Environmental Services Coordinator may also rely on the following:

- MTA Supervisors, Foremen, Inspectors and/or other personnel to inform MTA employees and contractors of the targeted BMPs to be utilized;
- An environmental consulting firm, such as GZA GeoEnvironmental, Inc, to ensure MTA’s employees are trained as defined by the Plan; and
- A design engineering firm, such as HNTB, who administer construction contracts, to ensure the Plan is properly implemented by the contractors.

5.0 EVALUATION PROTOCOL

MTA training is documented with attendance sign-in sheets, exam scores, in-class workshops and evaluation forms. A training database is maintained with information gathered from employees during each training session.

Process Indicators: Assessment of the program execution will be included in the annual report. The following topics will be reported for MTA employees:

1. Number of employees that attended training; and
2. Average exam scores for attendees.

Impact Indicators: Gauging the achievement of goals and objectives of the program will be included in the annual report. These will be addressed by the following behavioral change questions:

1. Number or percentage of employees to identify the goals of MCM #1 correctly;

2. Number or percentage of employees to identify source(s) of storm water pollution;
3. Number or percentage of employees to identify and differentiate between structural and non-structural BMPs; and
4. Number or percentage of employees to demonstrate an applied knowledge of BMP-specific information.

Process and impact indicators for contractors will be tracked and evaluated based on daily and/or weekly inspections conducted on-site.

6.0 PLAN MODIFICATION

This Targeted BMP Adoption Plan may require modification if evaluation data shows that efforts are not effective. Should modifications be needed, the plan will be revised or a new plan will be developed.

I have read and accept the policies outlined in this Stormwater Awareness Plan as required by MTA's MS4 Permit.

Contractor Signature of Acknowledgement

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