

MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

CONTRACT DOCUMENTS

CONTRACT 2018.07

ANDROSCOGGIN RIVER BRIDGES

SUBSTRUCTURE REPAIRS

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.

TABLE OF CONTENTS

	<u>PAGE</u>
NOTICE TO CONTRACTORS	N-1
PROPOSAL	P-1
CONTRACT AGREEMENT	C-1
CONTRACT BOND	CB-1
FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT	F-1
 <u>ARRANGEMENT OF SPECIFICATIONS</u>	
PART I – SUPPLEMENTAL SPECIFICATIONS	SS-1
PART II - SPECIAL PROVISIONS	SP-1

MAINE TURNPIKE AUTHORITY

NOTICE TO CONTRACTORS

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

CONTRACT 2018.07

ANDROSCOGGIN RIVER BRIDGES

SUBSTRUCTURE REPAIRS

MILE 78.9

at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, ME, until 10:00 a.m., prevailing time as determined by the Authority on March 20, 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 repairing the Androscoggin River Bridges substructure and superstructure over the Androscoggin River in the Town of Auburn/Lewiston, Maine. The work includes abutment concrete repairs, pier concrete repairs, bearing repairs, joint 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 Fifty (\$50.00) 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 March 6, 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 2018.07

ANDROSCOGGIN RIVER BRIDGES

SUBSTRUCTURE REPAIRS

MILE 78.9

MAINE TURNPIKE AUTHORITY

PROPOSAL

CONTRACT 2018.07

ANDROSCOGGIN RIVER BRIDGES

SUBSTRUCTURE REPAIRS

MILE 78.9

TO MAINE TURNPIKE AUTHORITY:

The work consists of repairing the Androscoggin River Bridges' substructure and superstructure over the Androscoggin River in the Town of Auburn/Lewiston, Maine. The work includes abutment concrete repairs, pier concrete repairs, bearing repairs, joint 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 2018.07 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. 2018.07
 Androscoggin River Bridges
 Substructure Repairs**

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				
504.885	Post-Tensioning Sleeve Repair	Each	13				
514.06	Curing Box for Concrete Cylinders	Each	1				
515.202	Clear Protective Coating for Concrete Surfaces	Square Yard	3,250				
515.23	Anti-Graffiti Coating	Square Yard	900				
518.40	Epoxy Injection Crack Repair	Linear Foot	310				
518.401	Epoxy Injection Crack Repair - Below Waterline	Linear Foot	470				
518.51	Repair of Upward Facing Surfaces - Below Reinforcing Steel < 8 inches	Square Foot	43				
518.60	Repair of Vertical Surfaces < 8 inches	Square Foot	2,950				
518.601	Repair of Vertical Surfaces < 8 inches - Below Waterline	Square Foot	18				
518.70	Repair of Overhead Surfaces < 8 inches	Square Foot	91				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
520.224	Joint Armor Repair	Lump Sum	1				
523.56	Cleaning and Painting Bearing	Each	42				
523.561	Repair Bearing	Each	1				
523.562	Repair Bearing Keeper Strap	Each	10				
524.301	Temporary Structural Support	Lump Sum	1				
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				
527.341	Work Zone Crash Cushion - TL-3	Unit	1				
627.712	White or Yellow Pavement Marking Line	Linear Foot	4,300				
627.73	Temporary 6 Inch Pavement Marking Tape	Linear Foot	6,300				
627.731	Temporary 6 Inch Black Pavement Marking Tape	Linear Foot	1,500				
627.77	Removing Existing Pavement Marking	Square Foot	2,100				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
629.05	Hand Labor, Straight Time	Hour	20				
631.10	Air Compressor (including operator)	Hour	10				
631.11	Air Tool (including operator)	Hour	10				
631.172	Truck - large (including operator)	Hour	20				
631.36	Foreman	Hour	10				
652.30	Flashing Arrow	Each	1				
652.33	Drum	Each	50				
652.34	Cone	Each	50				
652.35	Construction Signs	Square Foot	420				
652.361	Maintenance of Traffic Control Devices	Lump Sum	1				
652.41	Portable-Changeable Message Sign	Each	1				
652.45	Truck Mounted Attenuator	Calendar Day	20				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
652.452	Automated Trailer Mounted Speed Limit Sign	Each	1				
652.46	Temporary Portable Rumble Strip	Unit	20	150	00	3000	00
656.64	Boom Supported Floating Silt Fence	Linear Foot	302				
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

—	GENERAL DESCRIPTION OF WORK	SP-1
—	PLANS	SP-1
101.2	DEFINITION	SP-1
103.4	NOTICE OF AWARD	SP-1
104.3.8	WAGE RATES AND LABOR LAWS	SP-2
104.4.6	UTILITY COORDINATION	SP-4
104.4.7	COOPERATION WITH OTHER CONTRACTORS	SP-5
105.2.4.2	LEAD PAINT	SP-5
105.8.2	PERMIT REQUIREMENTS	SP-8
105.8.3	WETLAND AND WATERBODY IMPACTS	SP-9
107.1	CONTRACT TIME AND CONTRACT COMPLETION DATE	SP-9
107.1.1	SUBSTANTIAL COMPLETION	SP-9
107.3.2	NIGHT WORK	SP-10
107.4.2	SCHEDULE OF WORK REQUIRED	SP-10
107.4.6	PROSECUTION OF WORK	SP-10
107.4.7	LIMITATION OF OPERATION	SP-11
201.	CLEARING RIGHT-OF-WAY (Removal of Debris)	SP-12
504.	STRUCTURAL STEEL (Post Tensioning Sleeve Repair)	SP-14
506.	PAINTING STRUCTURAL STEEL	SP-16
515.	PROTECTIVE COATING FOR CONCRETE SURFACES (Clear Concrete Protective Coating)	SP-18
515.	PROTECTIVE COATING FOR CONCRETE SURFACES (Anti-Graffiti Coating)	SP-21
518.	STRUCTURAL CONCRETE REPAIR (Epoxy Injection Crack Repair)	SP-24

518.	STRUCTURAL CONCRETE REPAIR (Epoxy Injection Crack Repair – Below Waterline) (Repair of Vertical Surfaces – Below Waterline)	SP-27
520.	EXPANSION DEVICES – NON MODULAR (Joint Armor Repair)	SP-35
523.	BEARINGS (Cleaning and Painting Bearing) (Repair Bearing) (Repair Bearing Keeper Strap)	SP-37
524.	TEMPORARY STRUCTURAL SUPPORTS (Temporary Access for Pier Inspection and Repair)	SP-41
524.	TEMPORARY STRUCTURAL SUPPORTS (Temporary Structural Support)	SP-42
526.	CONCRETE BARRIER (Temporary Concrete Barrier Type I – Supplied by Authority)	SP-45
527.	ENERGY ABSORBING UNIT (Work Zone Crash Cushion)	SP-48
627.	PAVEMENT MARKINGS (White or Yellow Pavement Marking Line)	SP-50
627.	PAVEMENT MARKINGS (Temporary 6 Inch Pavement Marking Tape) (Temporary 6 Inch Black Pavement Marking Tape)	SP-52
652.	MAINTENANCE OF TRAFFIC (Specific Project Maintenance of Traffic Requirements)	SP-55
652.	MAINTENANCE OF TRAFFIC (Truck Mounted Attenuator)	SP-56
652.	MAINTENANCE OF TRAFFIC (Automated Speed Limit Sign)	SP-58
652.	MAINTENANCE OF TRAFFIC (Temporary Portable Rumble Strips)	SP-61
719.	SIGNING MATERIAL	SP-63

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 repairing the Androscoggin River Bridges' substructure and superstructure over the Androscoggin River in the Town of Auburn/Lewiston, Maine. The work includes abutment concrete repairs, pier concrete repairs, bearing repairs, joint 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 2018.07 – Androscoggin River Bridges Substructure Repairs 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:

Independence Day 2018
(Fourth of July)

12:01 p.m. preceding Tuesday to
noon the following Thursday.

103.4 Notice of Award

The following sentence is added:

The Maine Turnpike Authority Board is scheduled to consider the Contract Award on March 22, 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 -----2018.07-Androscoggin River Bridges Substructure Repairs

Location of Project --Lewiston, Auburn, Androscoggin County

**2018 Fair Minimum Wage Rates
 Heavy & Bridge Androscoggin County**

<u>Occupation Title</u>	<u>Minimum Wage</u>	<u>Minimum Benefit</u>	<u>Total</u>	<u>Occupation Title</u>	<u>Minimum Wage</u>	<u>Minimum Benefit</u>	<u>Total</u>
Backhoe Loader Operator	\$20.00	\$2.16	\$22.16	Laborer (Includes Helper-Tender)	\$16.00	\$1.72	\$17.72
Boom Truck (Truck Crane) Operator	\$21.66	\$6.86	\$28.52	Laborer - Skilled	\$18.91	\$3.48	\$22.39
Bricklayer	\$24.00	\$3.99	\$27.99	Line Erector-Power/Cable Splicer	\$25.75	\$7.13	\$32.88
Bulldozer Operator	\$20.00	\$4.06	\$24.06	Loader Operator - Front-End	\$19.00	\$2.39	\$21.39
Carpenter	\$20.85	\$2.63	\$23.48	Mechanic- Maintenance	\$20.00	\$3.58	\$23.58
Carpenter - Rough	\$20.50	\$4.67	\$25.17	Mechanic- Refrigeration	\$24.88	\$4.76	\$29.64
Cement Mason/Finisher	\$17.00	\$0.56	\$17.56	Millwright	\$27.60	\$22.03	\$49.63
Communication Equipment Installer	\$20.00	\$2.03	\$22.03	Painter	\$20.75	\$2.97	\$23.72
Comm. Transmission Erector	\$19.00	\$3.57	\$22.57	Paver Operator	\$20.00	\$3.78	\$23.78
Microwave & Cell							
Crane Operator =>15 Tons)	\$25.00	\$5.49	\$30.49	Pile Driver Operator	\$25.00	\$11.13	\$36.13
Crusher Plant Operator	\$17.75	\$2.48	\$20.23	Pipe/Steam/Sprinkler Fitter	\$24.70	\$5.55	\$30.25
Diver	\$32.00	\$0.00	\$32.00	Pipe Layer	\$28.00	\$12.54	\$40.54
Driller -Rock	\$18.38	\$2.60	\$20.98	Pump Installer	\$21.00	\$3.73	\$24.73
Earth Auger Operator	\$23.76	\$6.43	\$30.19	Reclaimer Operator	\$18.50	\$2.85	\$21.35
Electrician - Licensed	\$28.55	\$10.53	\$39.08	Rigger	\$20.00	\$6.12	\$26.12
Electrician Helper/Cable Puller (Licensed)	\$23.89	\$6.36	\$30.25	Roller Operator - Earth	\$15.88	\$1.76	\$17.64
Excavator Operator	\$22.88	\$3.67	\$26.55	Roller Operator - Pavement	\$18.30	\$1.64	\$19.94
Fence Setter	\$16.00	\$1.17	\$17.17	Truck Driver - Light	\$18.15	\$2.88	\$21.03
Flagger	\$12.00	\$0.00	\$12.00	Truck Driver - Medium	\$17.75	\$1.82	\$19.57
Grader/Scraper Operator	\$21.33	\$5.13	\$26.46	Truck Driver - Heavy	\$18.75	\$2.40	\$21.15
HVAC (Heat-Vent-Air Conditioning)	\$23.00	\$3.05	\$26.05	Truck Driver - Tractor Trailer	\$20.50	\$5.46	\$25.96
Ironworker - Ornamental	\$22.85	\$4.85	\$27.70				
Ironworker - Reinforcing	\$26.48	\$11.83	\$38.31				
Ironworker - Structural	\$23.00	\$6.26	\$29.26				

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-026-2018**

A true copy

Filing Date: **February 15, 2018**

Attest: 

Expiration Date: **12-31-2018**

**Scott A. Cotnoir
 Wage & Hour Director**

BLS(Heavy & Bridge Androscoggin)

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 of 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

FAIRPOINT COMMUNICATIONS

Fairpoint Communications is located within the Project Limits along Riverside Drive parallel with the southern abutment of the Androscoggin River Bridge. Fairpoint is the bottom 2 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

FERC 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 2018 construction season include:

MTA Contract 2018.10 – Danville Corner Underpass Bridge Repair MM 75.8

MTA Contract 2018.10 – Hackett Road Underpass Bridge Repair MM 76.9

MTA Contract 2018.10 – Fisher Road Underpass Bridge Repair MM 87.5

MTA Contract 2018.12 – Mainline Pavement Rehabilitation, Drainage Improvements and Guardrail Upgrades

105.2.4.2 Lead Paint

The Contractor shall note that the existing bridge structure contains lead based paint. A copy of the Lead Determination Report is attached as **Appendix A**. The Contractor shall institute every precaution when working with materials coated with lead based paints.

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 Project is being constructed under the Maine Department of Environmental Protection (DEP) 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 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) was not submitted by the Authority to the DEP for coverage under the Maine Construction General Permit (MCGP) since the estimated LOD is under the permitting threshold and the work is classified as maintenance and, therefore, is exempted.

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 0.1 acres. This includes contract disturbance at the north and south abutments and allowance for an unknown laydown area adjacent to Riverside Drive.

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 C** 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
--------------------	---------

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 December 14, 2018. The proposed repair work for the Androscoggin River Bridges shall be substantially complete by November 18, 2018.

107.1.1 Substantial Completion

This Subsection is amended by the addition of the following:

Substantially complete 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.

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.

The following Subsection is added:

107.4.2 Schedule of Work Required

This Subsection is amended by the addition of the following:

The work shall be completed in logical timely increments. The Contractor shall submit a schedule for review that shows large segments of work scheduled for continuous blocks of time. Work in a segment shall be completed over a period of continuous work days. Work shall not be started in an area until the Contractor has scheduled the labor and equipment necessary to complete all work in the segment. The Contractor will not be permitted to “stretch” the Project over the entire Contract period, doing a day or two of work per week.

A schedule that shows sporadic work activities through the duration of the Contract will not be approved. Actual work activities that are sporadic will not be allowed.

A two week schedule shall be submitted by the Contractor weekly, the first week shall be detailed. The weekly detailed schedule shall show all lane closures that are anticipated for the following week. Lane closures that are not shown on this schedule will only be allowed if they are deemed emergency lane closures by the Resident.

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, 2018 and October 1, 2018.
- b. Northbound lane closures with concrete barrier will be allowed until August 10, 2018. Northbound lane closures with concrete barrier will not be allowed after August 10, 2018 and it should be expected that any other northbound traffic control or lane closures after August 10, 2018 will be restricted based on the work performed for Mainline Pavement Rehabilitation Contract 2018.12.
- c. Southbound lane closures with concrete barrier will not be allowed until August 13, 2018. Southbound lane closures with concrete barrier will not be allowed before August 13, 2018 and it should be expected that any other southbound traffic control or lane prior to August 13, 2018 will be restricted based on the work performed for Mainline Pavement Rehabilitation Contract 2018.12.

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, 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.

Liquidated damages shall be assessed at \$2100/day for every day after August 10, 2018 that a lane closure with concrete barrier is on the Northbound bridge and any day before August 13, 2018 that a lane closure with concrete barrier is on the Southbound bridge, unless the Contractor has coordinated the maintenance of traffic setup with the Pavement Rehabilitation Contractor.

107.4.7 Limitations of Operations

Traffic shall be maintained as described in Section 652.

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.

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 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 (100%) percent 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 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

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 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 PROVISIONSECTION 515PROTECTIVE 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 faces substructure units 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 PROVISIONSECTION 518STRUCTURAL 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 Androscoggin River Piers 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 first paragraph is deleted and replaced with the following:

Except as noted, all concrete repairs shall be completed using Class AAA modified concrete conforming to the requirements of Table 1 of Subsection 502.05 for Class AAA Concrete, except as noted herein.

All materials used for repair of concrete or reinforcing steel shall meet the applicable requirements of Division 700 as specified in the Standard Specification Sections 502 and 503 respectively. When concrete is used as the repair material, it shall conform to the requirements of

Table 1 of Subsection 502.05 for Class AAA Concrete except as noted herein. All new reinforcing steel shall be epoxy coated.

The third paragraph and Gradation Designation tables are deleted and replaced with the following:

All concrete used for bridge repairs shall be modified Class AAA and shall conform to Subsection 502.05; except that the minimum cement content shall be 750 pounds per cubic yard and the minimum compressive strength shall be 1,200 psi above design strength of 4,500 psi. The coarse aggregate size shall conform to ASTM C33 Grading 7. The Contractor may propose the use of self-consolidating concrete.

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 surface preparations for pier repairs are as follows:

- a. Where pier repairs are required to extend more than 1/3 the width of the pier column the work shall be sequenced such that removal of the column concrete is limited to no more than 1/3 of the column width at any one time.
- b. Mechanically remove concrete to the limits indicated on the Drawings.
- c. Remove at least two inches of existing concrete facing and continue removal as required to expose sound aggregate. The repairs shall extend as deep as necessary to reach sound concrete. Substrate should have minimum amplitude of 1/4 inch. Limit the size of chipping hammers to 35 lbs (6.8 kg) to reduce micro fractures. Use light chipping hammers to prepare surface.
- d. Where pier repairs are required to extend more than 6" deep the Resident shall be notified before the depth of removal exceeds 6".
- e. Square cut or undercut perimeter of the area to be repaired to a minimum depth of two inches if reinforcing steel cover permits. Do not cut existing steel reinforcement.
- f. Where reinforcing steel with active corrosion is encountered, comply with the following:
 - i. Clean reinforcing steel in accordance with Subsection 518.04.
 - ii. If corrosion has reduced the cross sectional area of the bar by 25% or more chip-out behind the reinforcing to a one inch minimum depth.
 - iii. Splice new reinforcing steel to existing steel where corrosion has depleted the cross section area by 25 percent as directed by the Resident. Minimum lap lengths meeting the requirements of MaineDOT Standard Specification 503 shall be provided at all splice locations.
- g. Thoroughly abrade the roughened surface and exposed reinforcement using mechanical equipment to remove all bond inhibiting materials such as rust, dirt, and loose chips. Areas of repair shall be sand or water blasted prior to the placement of repair materials.
- h. Final cleaning of the prepared surface shall occur no more than 72-hours prior to placement of the concrete repair material.

The last paragraph and its two Subparts (a) and (b) are removed and replaced with the following:

For repair of vertical surfaces, deteriorated concrete shall be removed until sound concrete is encountered. The clearance behind the reinforcing steel shall not be less than one inch, or as directed by the manufacturer's recommendations, whichever is greater.

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

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.

The following paragraphs are added to the end of this Subsection:

Where directed by the Resident, exposed reinforcement shall be depressed to provide 1-1/2 inch clear cover of concrete over the top bars. Minimum clear distance under the bottom of reinforcement bars for horizontal repairs, behind reinforcement bars on vertical repairs, and over the top of reinforcement bars on overhead surfaces, shall meet the requirements of Subsection 518.03. Epoxy coated or plastic reinforcing support chairs shall be provided by the Contractor to support the bars in their specified location. Bars protruding from sound concrete adjacent to a repair area shall be bent up or down within the repair area to obtain the required minimum clear cover.

518.07 Placing Repair Materials

The following is added after the first paragraph:

All vertical repair areas shall be formed over the entire surface with quick erecting forms approved by the Resident. The forms shall be held securely in place and be able to withstand the hydrostatic pressure of the fluid concrete of the height to which it is to be placed. Forms shall be built such that the resulting repair will duplicate the original lines of the concrete removed. Form faces shall be of new finished plywood or steel, or other smooth surface as approved by the Resident prior to use. Forms for repair of vertical surfaces will be provided with a top chute, at a maximum spacing of four feet, for providing a compression head of concrete in the form. The overfilled area shall be struck-off flush when forms are removed. Forms shall be placed snugly against the surface of the old concrete at the edges of the patch and shall extend beyond the edges at least three inches.

They shall not deflect under the placement of the fresh concrete. Vertical and overhead surface repair forms shall remain in place a minimum of 48-hours.

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 paragraphs are added to the end of this Subsection:

Modified Class AAA Concrete may be transit mixed or mixed on-site. The concrete shall be placed in accordance with the provisions of Section 502 except that the pre-plasticized slump shall not exceed three inches. Materials shall be batched by weight. The concrete shall be pumped or hand shoveled into the forms. Internal mechanical vibrators shall be of an approved design and of a size suitable to the work at hand. External vibrators attached to the forms will be permitted if requested, subject to the results obtained. The amount of vibration shall be guided by results obtained from previous placements.

If the concrete cannot be placed satisfactorily, as determined by the Resident, superplasticizers shall be added to the mix as directed by the Resident and at no additional cost to the Authority. After removal of the forms, the concrete shall be given a smooth rubbed finish.

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 repairs 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 sixth paragraph is deleted and not replaced.

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

(Joint Armor Repair)

520.01 Description

The following paragraph is added:

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

520.02 Materials

The following paragraph is added:

Replacement joints shall be Expansion Device – Gland Seal that match the existing seals.

All new steel required to repair joint shall conform to AASHTO M270 Grade 36.

520.06 Installation

The following paragraph is added:

For Joint Armor Modification, a new steel center extrusion that matches the existing joint shall be furnished and installed. This includes removing existing gland seals and furnishing and installing new gland seals. Removal of seals may require temporary removal of parapet cover plates.

The existing steel joint armor to remain shall be cleaned and sandblasted prior to the installation of the new joint steel and seals.

On phased construction projects, gland seals shall be installed in one piece after the joint modifications have been completed for all construction phases.

Once the new gland seals are permanently installed, the Contractor shall thoroughly clean the abutment seats, bearings, and girder ends by pressure washing to remove any debris, salt, or other foreign contaminants. Payment for pressure washing shall be incidental to the Joint Armor Modification item.

520.07 Method of Measurement

The following paragraph is added:

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

520.08 Basis of Payment

The following paragraph is added:

Joint Armor Modification will be paid for at the Contract unit price which price shall be full compensation for removal and disposal of the existing joint seal, removing existing steel armor, furnishing and installing the proposed steel armor, furnishing and installing the expansion device – gland seal, 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

(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 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 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 PROVISIONSECTION 524TEMPORARY STRUCTURAL SUPPORTS

(Temporary Structural Support)

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 each support location. The jacking shall be synchronized so that all portions of the girders are raised by approximately equal amounts simultaneously. The superstructure may be raised a maximum of 1/4 inch during the jacking operation, or as limited by the modular joint system, whichever is less. A maximum of 1/8 inch differential movement between adjacent girders will be allowed during the jacking operation.

The jacking operations shall be synchronized such that the differential movement between adjacent substructure units does not exceed 1/8 inch.

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	Lump Sum

SPECIAL PROVISIONSECTION 526CONCRETE 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 and mounting retro-reflective delineators, 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>
Crosby Maintenance Area Mile 45.8	2,000

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:

- e. 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.

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:

4. One on top of each barrier.
5. One on the traffic side of every barrier used in a taper.
6. One on the traffic side of every other barrier at regularly spaced intervals and locations.
7. Delineators shall be installed on both sides of the barrier if barrier is used to separate opposing traffic.
8. Delineators shall be physically adhered so as to withstand the force of throw from a snow plow.
9. 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.
10. 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, 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

(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:

<u>Pay Item</u>		<u>Pay Unit</u>
527.341	Work Zone Crash Cushions – TL-3	Unit
527.342	Work Zone Crash Cushions – TL-2	Unit

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:

<u>Pay Item</u>		<u>Pay Unit</u>
627.73	Temporary 6 Inch Pavement Marking Tape	Linear Foot
627.731	Temporary 6 Inch Black Pavement Marking Tape	Linear Foot

SPECIAL PROVISIONSECTION 652MAINTENANCE 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

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. Joint repair
3. 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. 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>

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 **Appendix D**).

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

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.

Appendix A

Lead Paint Testing Results

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.

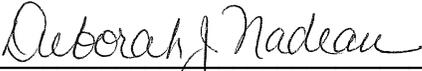
Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

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 PR 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 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.

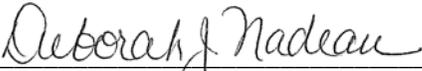
Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

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: <u>1</u> of <u>1</u>	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

Permit by Rule

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

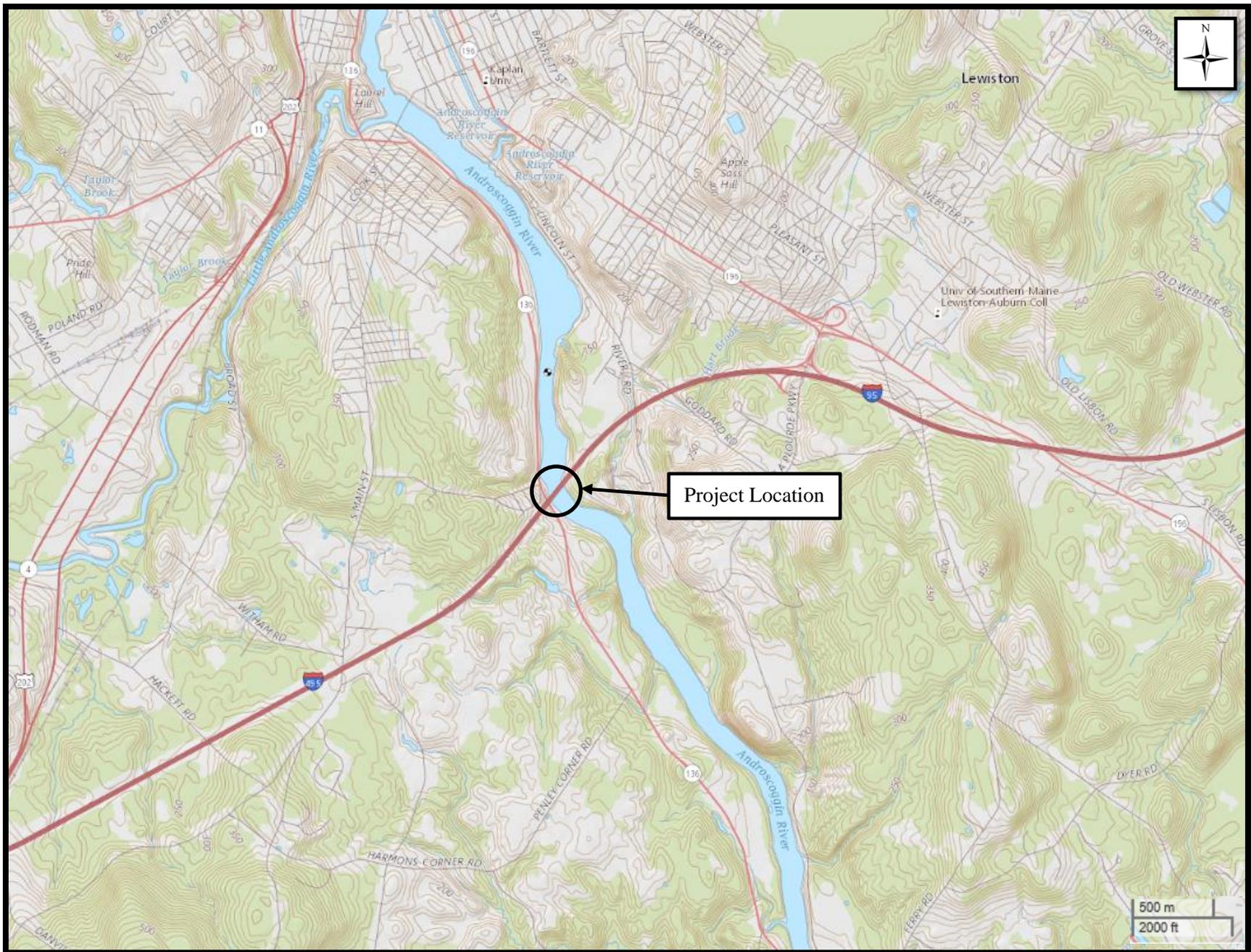
BANGOR DEP
 106 HOGAN ROAD
 BANGOR, ME 04401
 (207)941-4570

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)
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.

11. State transportation facilities

A. Applicability

- (1) This section applies to the maintenance, repair, reconstruction, rehabilitation, replacement or minor construction of a State Transportation Facility carried out by, or under the authority of, the Maine Department of Transportation (MaineDOT) or the Maine Turnpike Authority, including any testing or preconstruction engineering, and associated technical support services.
- (2) This section does not apply to an activity within a coastal sand dune system.

NOTE: The construction of a transportation facility other than roads and associated facilities may be subject to the Storm Water Management Law, 38 M.R.S.A. Section 420-D.

B. Standards

- (1) Photographs of the area to be altered by the activity must be taken before work on the site begins. The photographs must be kept on file and be made available at the request of the DEP.
- (2) The activity must be reviewed by the Department of Inland Fisheries and Wildlife and the Department of Marine Resources, as applicable. The applicant must coordinate with the reviewing agencies and incorporate any recommendations from those agencies into the performance of the activity.
- (3) All construction activities undertaken must be detailed in a site-specific Soil Erosion and Water Pollution Control Plan and conducted in accordance with MaineDOT's Best Management Practices for Erosion and Sediment Control, dated January 2000, and Standard Specifications, dated December 2002.
- (4) Alignment changes may not exceed a distance of 200 feet between the old and new center lines in any natural resource.
- (5) The activity may not alter more than 300 feet of shoreline (both shores added together) within a mile stretch of any river, stream or brook, including any bridge width or length of culvert.
- (6) The activity may not alter more than 150 feet of shoreline (both shores added together) within a mile stretch of any outstanding river segment identified in 38 M.R.S.A. 480-P, including any bridge width or length of culvert.
- (7) The activity must minimize wetland intrusion. The activity is exempt from the provisions of Chapter 310, the Wetland and Waterbodies Protection Rules, if the activity alters less than 15,000 square feet of natural resources per mile of roadway (centerline measurement) provided that the following impacts are not exceeded within the 15,000 square foot area:
 - (a) 1,000 square feet of coastal wetland consisting of salt tolerant vegetation or shellfish habitat; or

- (b) 5,000 square feet of coastal wetland not containing salt tolerant vegetation or shellfish habitat; or
- (c) 1,000 square feet of a great pond.

All other activities must be performed in compliance with all sections of Chapter 310, the Wetland Protection Rules, except 310.2(C), 5(A), 9(A), 9(B) and 9(C).

- (8) The activity may not permanently block any fish passage in any watercourse containing fish. The applicant must coordinate with the reviewing agencies listed in paragraph 2 above to improve fish passage and incorporate any recommendations from those agencies into the performance of the activity.

NOTE: For guidance on meeting the design objectives for fish passage, including peak flow, maximum velocity, mining depth and gradient, see the MaineDOT Waterbody and Wildlife Crossing Policy and Design Guide (July 2008), developed in conjunction with state and federal resource and regulatory agencies.

- (9) Rocks may not be removed from below the normal high water line of any coastal wetland, freshwater wetland, great pond, river, stream or brook except to the minimum extent necessary for completion of work within the limits of construction.
- (10) If work is performed in a river, stream or brook that is less than three feet deep at the time and location of the activity, the applicant must isolate the work area from the resource and divert stream flows around the work area, maintaining downstream flows while work is in progress.
- (11) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom. If avoiding the operation of wheeled or tracked equipment in the water is not possible, the applicant must explain the need to operate in the water. Approval from the DEP to operate in the water must be in writing, and any recommendations from the DEP must be incorporated into the performance of the activity.
- (12) All wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms.
- (13) Any debris or excavated material must be stockpiled either outside the wetland or on mats or platforms. Erosion and sediment control best management practices must be used, where necessary, to prevent sedimentation. Any debris generated during the activity must be prevented from washing downstream and must be removed from the wetland or water body. Disposal of debris must be in conformance with the Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Section 1301 *et seq.*
- (14) Work below the normal high water line of a great pond, river, stream or brook must be done at low water except for emergency work or work agreed to by the resource agencies listed in paragraph 2 above.
- (15) Perimeter controls must be installed before the work starts. Disturbance of natural resources beyond the construction limits shown on the plans is not allowed under this rule.

NOTE: Guidance on the location of construction limits can be obtained from the on site Construction Manager.

- (16) The use of untreated lumber is preferred. Lumber pressure treated with chromated copper arsenate (CCA) may be used only if necessary and only if use is allowed under federal law and not prohibited from sale under 38 M.R.S.A. 1682, and provided it is cured on dry land in a manner that exposes all surfaces to the air for a period of at least 21 days prior to construction. Wood treated with creosote or pentachlorophenol may not be used where it will contact water.
- (17) A temporary road for equipment access must be constructed of crushed stone, blasted ledge, or similar materials that will not cause sedimentation or restrict fish passage. Such roads must be completely removed at the completion of the activity. In addition, any such temporary roads which are in rivers, streams or brooks, must allow for a passage of stormwater flows associated with a 10-year storm.
- (18) Non-native species may not be planted in restored areas.
- (19) Disposal of debris must be in conformance with Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Sections 1301 *et seq.*
- (20) Disturbance of vegetation must be avoided, if possible. Where vegetation is disturbed outside of the area covered by any road or structure construction, it must be reestablished immediately upon completion of the activity and must be maintained.
- (21) A vegetated area at least 25 feet wide must be established and maintained between any new stormwater outfall structure and the high water line of any open water body. A velocity reducing structure must be constructed at the outlet of the stormwater outfall that will create sheet flow of stormwater, and prevent erosion of soil within the vegetated buffer. If the 25 foot vegetated buffer is not practicable, the applicant must explain the reason for a lesser setback in writing. Approval from the DEP must be in writing and any recommendations must be incorporated into the activity.

C. Definitions. The following terms, as used in this chapter, have the following meanings, unless the context indicates otherwise:

- (1) Diversion. The rerouting of a river, stream or brook around a construction site and then back to the downstream channel.
- (2) Fill. a. (verb) To put into or upon, supply to, or allow to enter a water body or wetland any earth, rock, gravel, sand, silt, clay, peat, or debris; b. (noun) Material, other than structures, placed in or immediately adjacent to a wetland or water body.
- (3) Floodplain wetlands. Freshwater wetlands that are inundated with flood water during a 100-year flood event based on flood insurance maps produced by the Federal Emergency Agency or other site specific information.
- (4) Riprap. Heavy, irregularly shaped rocks that are fit into place, without mortar, on a slope as defined in the MaineDOT Standard Specifications, dated December 2002.

Appendix C

MS4 Requirements

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

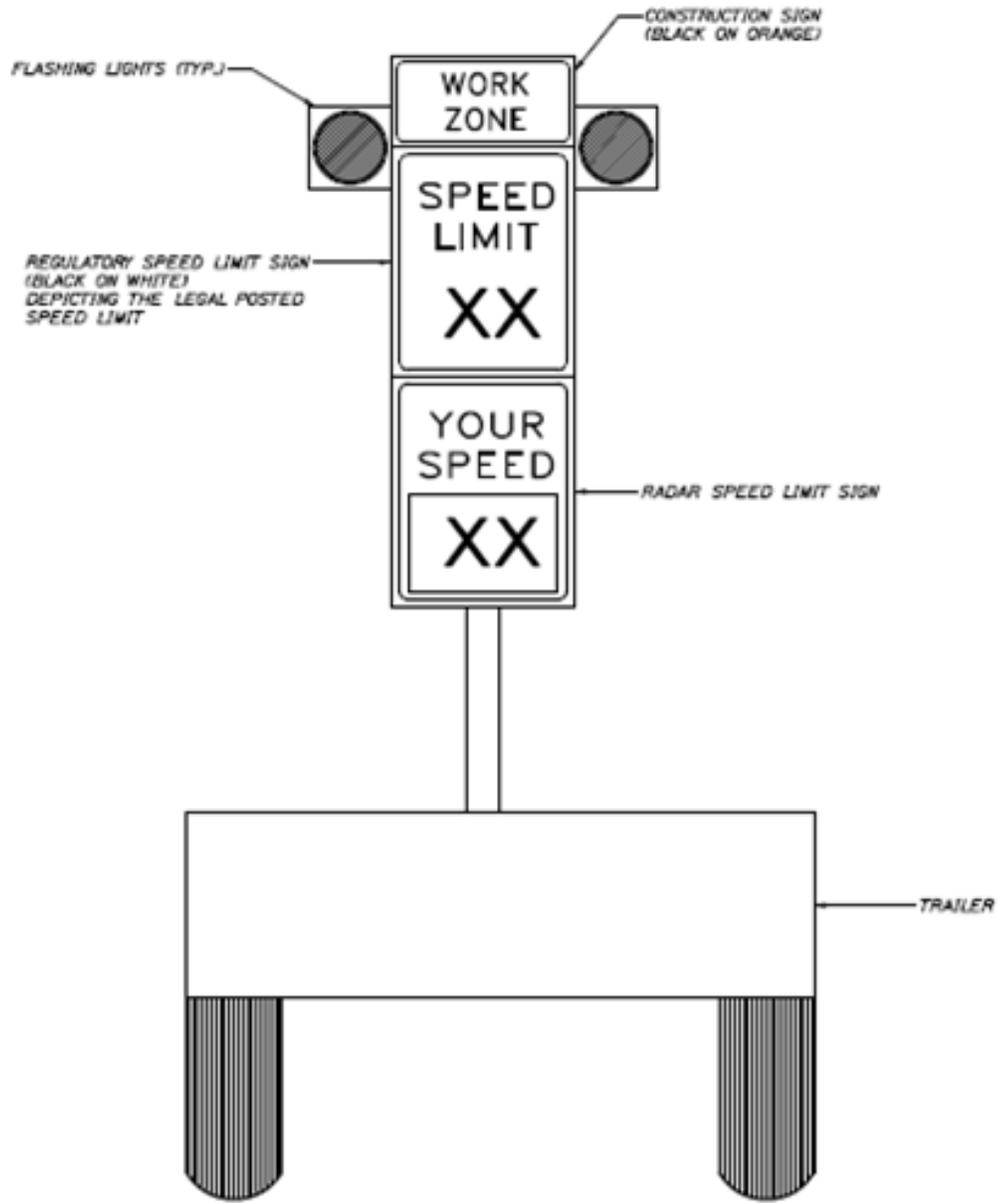
Date

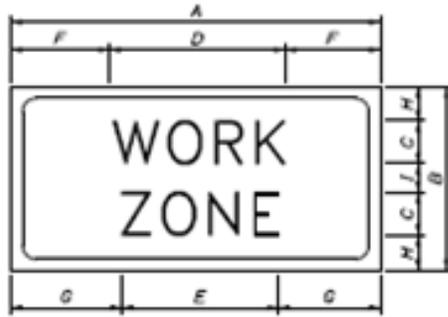
Printed Name

Project Number

Appendix D

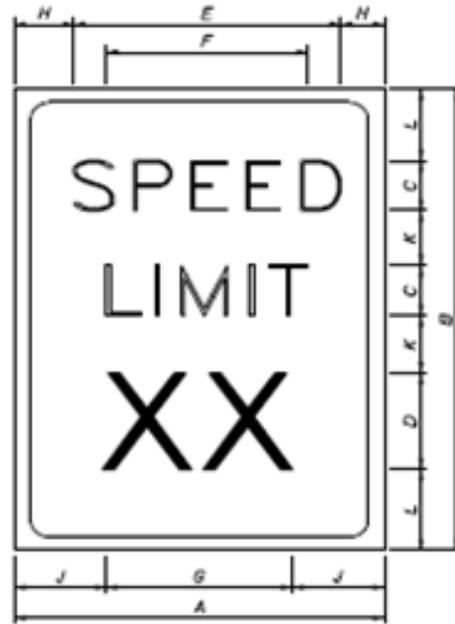
Automated Trailer Mounted Speed Limit Sign





SIGN #1

1.25" BORDER, 0.75" INDENT,
BLACK ON ORANGE, BB GRADE PLYWOOD SIGN



SIGN #2

1.25" 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	18 1/8	16 3/8	14 1/8	15 3/8	4	2	N/A	N/A	N/A
*2	48	60	80	16 1/2	30 1/4	29 1/4	29 1/2	4 1/2	9 3/8	9 1/4	8	6

