MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

CONTRACT DOCUMENTS

CONTRACT 2021.01

Pavement Rehabilitation and Safety Improvements and Exit 32
Southbound Deceleration Lane Construction
MM 30.0 TO MM 35.5

NOTICE TO CONTRACTORS

PROPOSAL

CONTRACT AGREEMENT

CONTRACT BOND

FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT

SPECIFICATIONS

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

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

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

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MAINE TURNPIKE AUTHORITY

NOTICE TO CONTRACTORS

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

CONTRACT 2021.01

Pavement Rehabilitation and Safety Improvements and Exit 32
Southbound Deceleration Lane Construction
MM 30.0 TO MM 35.5

at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, ME, until 11:00 a.m., prevailing time as determined by the Authority on March 23, 2021, at which time and place the Proposals will be publicly opened and read via telephone. Bids will be accepted from Contractors **prequalified** by the Maine Department of Transportation for Paving Construction Projects. All other bids may be rejected. This Project includes a wage determination developed by the State of Maine Department of Labor.

The pavement rehabilitation work consists of milling and filling three 12 foot wide lanes and the median shoulder for both northbound and southbound. Excess material in the median will be removed to restore proper drainage, guardrail height will be adjusted as necessary. A deceleration lane for the Southbound Exit 32 ramp will be constructed. Approximately 490 linear feet of stream channel will be relocated in order to build the ramp; and 0.37 acres of adjacent temporarily disturbed wetlands restored to wetland conditions. Pavement markings, maintenance of traffic and all other work incidental thereto will be completed in accordance with the Plans and Specifications.

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.

An on-line ZOOM pre-bid conference will be held on March 12, 2021 at 1:00 p.m., all registered plan holders will be sent the link for the Zoom pre-bid meeting. The meeting link can also be obtained by contacting Nate Carll, **Purchasing Manager, at (207) 871-7739 or email ncarll@maineturnpike.com.**

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 2021.01

Pavement Rehabilitation and Safety Improvements and Exit 32
Southbound Deceleration Lane Construction
MM 30.0 TO MM 35.5

MAINE TURNPIKE AUTHORITY

PROPOSAL

CONTRACT 2021.01

Pavement Rehabilitation and Safety Improvements and Exit 32
Southbound Deceleration Lane Construction
MM 30.0 TO MM 35.5

TO MAINE TURNPIKE AUTHORITY:

The pavement rehabilitation work consists of milling and filling three 12 foot wide lanes and the median shoulder for both northbound and southbound. Excess material in the median will be removed to restore proper drainage, guardrail height will be adjusted as necessary. A deceleration lane for the Southbound Exit 32 ramp will be constructed. Approximately 490 linear feet of stream channel will be relocated in order to build the ramp; and 0.37 acres of adjacent temporarily disturbed wetlands restored to wetland conditions. Pavement markings, maintenance of traffic and all other work incidental thereto will be completed in accordance with the Plans and Specifications.

This Work will be done under a Contract known as Contract 2021.01 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. 2021.01

Pavement Rehabilitation and Safety Improvements and Exit 32 Southbound Deceleration Lane Construction MM 30.0 to MM 35.5

Item No.	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
201.11	CLEARING	Acre	5.2				
201.241	STUMP GRINDING	Acre	5.1				
202.15	REMOVE MANHOLE OR CATCH BASIN	Each	1				
202.202	REMOVING PAVEMENT SURFACE	Square Yard	242,400				
202.2026	REMOVING PAVEMENT SURFACE - DRAINAGE PATHS	Square Foot	9,600				
202.205	RUMBLE STRIPS	Each	49,000				
203.20	COMMON EXCAVATION	Cubic Yard	3,900				
203.24	COMMON BORROW	Cubic Yard	350				
203.25	GRANULAR BORROW	Cubic Yard	2,000				
203.33	SPECIAL FILL	Cubic Yard	220				

CARRIED FORWARD:		

Item No.	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
211.50	MEDIAN RESTORATION	Linear Foot	21,150				
304.10	AGGREGATE SUBBASE COURSE GRAVEL	Cubic Yard	900				
304.14	AGGREGATE BASE COURSE GRAVEL - TYPE A	Cubic Yard	1,300				
403.207	HOT MIX ASPHALT - 19 MM	Ton	770				
403.2081	HOT MIX ASPHALT - 12.5 MM (POLYMER MODIFIED)	Ton	23,780				
403.2084	HOT MIX ASPHALT - 12.5 MM SIDEWALKS, ISLANDS, DRIVES, INC.	Ton	10				
403.211	HOT MIX ASPHALT (SHIMMING)	Ton	300				
403.213	HOT MIX ASPHALT - 12.5 MM BASE	Ton	740				
409.152	BITUMINOUS TACK COAT TRACKLESS, APPLIED	Gallon	15,490				
419.30	SAWING BITUMINOUS PAVEMENT	Linear Foot	11,860				
424.323	ASPHALT RUBBER MASTIC CRACK SEALER	Pound	29,500				
470.081	BERM CORRECTION	Linear Foot	15,000				
			CARRIED FORWARD:				

Item No.	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
470.08	BERM DROP OFF CORRECTION - GRINDINGS	Ton	275				
511.07	COFFERDAM: UPSTREAM	Lump Sum	1				
511.07	COFFERDAM: DOWNSTREAM	Lump Sum	1				
526.306	TEMP. CONCRETE BARRIER TYPE I, SUPPLIED BY AUTHORITY	Lump Sum	1				
527.341	WORK ZONE CRASH CUSHION - TL-3	Each	1				
603.155	12" RCP CLASS III	Linear Foot	73				
603.175	18" RCP CLASS III	Linear Foot	28				
603.28	CONCRETE COLLAR	Each	4				
604.09	CATCH BASIN TYPE B1	Each	1				
604.182	CLEAN EXISTING CATCH BASIN AND MANHOLE	Each	30				
604.184	REBUILD CATCH BASIN TO GRADE - TYPE II	Each	2				
606.178	GUARDRAIL BEAM	Linear Foot	400				
				CARRIED FORWARD:			

Item No.	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
606.278	TERMINAL END - ANCHORED END	Each	11				
606.352	REFLECTORIZED BEAM GUARDRAIL DELINEATORS	Each	100				
606.353	DELINEATOR POST	Each	9				
606.3561	DELINEATOR POST - REMOVE AND RESET	Each	19				
606.3621	GUARDRAIL ADJUST, SINGLE RAIL	Linear Foot	19,500				
606.3622	GUARDRAIL ADJUST, DOUBLE RAIL	Linear Foot	35,150				
606.471	SINGLE OFFSET BLOCK - W-BEAM	Each	250				
606.48	SINGLE GALVANIZED STEEL POST	Each	10				
610.08	PLAIN RIPRAP	Cubic Yard	350				
610.2122	STREAMBED LOG FEATURES	Each	4				
613.319	EROSION CONTROL BLANKET	Square Yard	18,050				
615.07	LOAM	Cubic Yard	710				
				CARRIED FORWARD:			

Item No.	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
618.14	SEEDING METHOD NUMBER 2	Unit	365				
618.143	SPECIAL SEEDING	Unit	10				
619.1201	MULCH	Unit	375				
619.1202	TEMPORARY MULCH	Lump Sum	1				
620.58	EROSION CONTROL GEOTEXTILE	Square Yard	810				
626.122	QUAZITE JUNCTION BOX	Each	6				
626.22	NON - METALLIC CONDUIT	Linear Foot	1,350				
626.32	24 INCH DIAMETER FOUNDATION	Each	4				
627.73	TEMPORARY PAVEMENT MARKING TAPE	Linear Foot	7,920				
627.78	TEMPORARY PAVEMENT MARKING LINE, WHITE OR YELLOW	Linear Foot	204,000				
627.812	TEMPORARY RAISED PAVEMENT MARKERS	Each	10,200				
627.94	PAVEMENT MARKING TAPE	Linear Foot	4,200				
				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	40				
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	Hour	25				
631.133	SKID STEER (INCLUDING OPERATOR)	Hour	20				
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	Hour	25				
631.32	CULVERT CLEANER (INCLUDING OPERATOR)	Hour	10				
631.36	FOREMAN	Hour	25				
634.208	REMOVE AND RESET LIGHT STANDARDS	Each	4				
645.271	REG WARN CONF RTE SIGNS TYPE 1	Square Foot	12				
645.501	REMOVE AND RESET MAINLINE SIGN NUMBER 1	Lump Sum	1				
652.30	FLASHING ARROW BOARD	Each	9				
652.331	DRUM	Lump Sum	1				
652.35	CONSTRUCTION SIGNS	Square Foot	3,650				
				CARRIED FORWARD:			

Item No.	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	Lump Sum	1				
652.41	PORTABLE - CHANGEABLE MESSAGE SIGN	Each	6				
652.45	TRUCK MOUNTED ATTENUATOR	Cal. Day	134				
652.452	AUTOMATED TRAILER MOUNTED SPEED LIMIT SIGN	Each	2				
656.50	BALED HAY, IN PLACE	Each	240				
656.60	TEMPORARY BERMS	Linear Foot	1,400				
656.632	30 INCH TEMPORARY SILT FENCE	Linear Foot	1,400				
659.10	MOBILIZATION	Lump Sum	1				
830.103	WATERLINE STREAM CROSSING	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)*

_____ _____ *(SEAL)*

_____ _____ *(SEAL)*

SURETY

_____ _____ *(SEAL)*

_____ _____ *(SEAL)*

_____ _____ *(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
http://www.maineturnpike.com/Projects-Planning/Construction-Contracts.aspx

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART II – SPECIAL PROVISIONS

PART II - SPECIAL PROVISIONS

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 pavement rehabilitation work consists of milling and filling three 12 foot wide lanes and the median shoulder for both northbound and southbound. Excess material in the median will be removed to restore proper drainage, guardrail height will be adjusted as necessary. A deceleration lane for the Southbound Exit 32 ramp will be constructed. Approximately 490 linear feet of stream channel will be relocated in order to build the ramp; and 0.37 acres of adjacent temporarily disturbed wetlands restored to wetland conditions. Pavement markings, maintenance of traffic and all other work incidental thereto will be completed 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 2021.01 – Pavement Rehabilitation and Safety Improvements MM 30.0 to MM 35.5 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 2021 (Fourth of July)	12:00 p.m. preceding Thursday to 6:00 a.m. the following Tuesday.

103.4 Notice of Award

The following sentence is added:

The Maine Turnpike Authority Board is scheduled to consider the Contract Award on March 25, 2021.

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 ALL CONSTRUCTION SITES FUNDED IN PART WITH STATE FUNDS

1State of Maine
Department of Labor
Bureau of Labor Standards
Augusta, Maine 04333-0045
Telephone (207) 623-7906

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

2021 Fair Minimum Wage Rates
Highway & Earth York County

Occupation Title	Minimum Wage	Minimum Benefit	Total	Occupation Title	Minimum Wage	Minimum Benefit	Total
Asphalt Raker	$ 19.80	$ 1.01	$ 20.81	Ironworker - Reinforcing	$ 28.36	$ 0.00	$ 28.36
Backhoe Loader Operator	$ 25.46	$ 4.33	$ 29.79	Laborer - Skilled	$ 24.37	$ 0.81	$ 25.18
Boom Truck (Truck Crane) Operator	$ 25.00	$ 5.86	$ 30.86	Laborers (Helpers & Tenders)	$ 19.50	$ 0.94	$ 20.44
Bulldozer Operator	$ 24.97	$ 3.50	$ 28.47	Loader Operator - Front-End	$ 21.00	$ 4.60	$ 25.60
Carpenter - Rough	$ 30.76	$ 19.72	$ 50.48	Mechanic- Maintenance	$ 24.00	$ 4.13	$ 28.13
Cement Mason/Finisher	$ 20.50	$ 1.42	$ 21.92	Millwright	$ 25.75	$ 5.41	$ 31.16
Communication Equip Installer	$ 22.00	$ 0.00	$ 22.00	Painter	$ 19.50	$ 0.00	$ 19.50
Crane Operator =>15 Tons)	$ 29.00	$ 6.68	$ 35.68	Paver Operator	$ 28.52	$ 5.06	$ 33.58
Crusher Plant Operator	$ 20.00	$ 2.43	$ 22.43	Pipelayer	$ 24.75	$ 2.94	$ 27.69
Electrician - Licensed	$ 28.00	$ 5.90	$ 33.90	Reclaimer Operator	$ 26.83	$ 13.25	$ 40.08
Electrician Helper/Cable Puller	$ 18.50	$ 2.39	$ 20.89	Roller Operator - Earth	$ 19.83	$ 0.00	$ 19.83
Excavator Operator	$ 25.00	$ 4.31	$ 29.31	Roller Operator - Pavement	$ 22.77	$ 4.42	$ 27.19
Fence Setter	$ 18.50	$ 2.00	$ 20.50	Screed/Wheelman	$ 24.60	$ 4.02	$ 28.62
Flagger	$ 16.00	$ 0.00	$ 16.00	Stone Mason	$ 25.00	$ 1.88	$ 26.88
Grader/Scraper Operator	$ 27.89	$ 8.90	$ 39.79	Truck Driver - Heavy	$ 20.00	$ 1.83	$ 21.83
Highway Worker/Guardrail Installer	$ 24.87	$ 1.36	$ 26.23	Truck Driver - Light	$ 24.15	$ 0.38	$ 24.53
Hot Top Plant Operator	$ 23.91	$ 13.25	$ 37.16	Truck Driver - Medium	$ 20.91	$ 2.55	$ 23.46
Industrial Truck (Forklift) Operator	$ 26.83	$ 1.48	$ 28.31	Truck Driver - Tractor Trailer	$ 20.25	$ 0.72	$ 20.97

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

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

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

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

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

A true copy

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

Expiration Date: 12-31-2021
Revised 2-25-2021

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:

UNDERGROUND UTILITIES
Maine Water Company
93 Industrial Park Road
Saco, ME 04072
Michael Hall
Office 207-294-6904 Cell 207-615-2518

Maine Water has two watermains that cross the turnpike at exit 32. The approximate locations where they cross the SB Ramp are noted on the plans and are: SB Ramp Stationing, 23+25 and 23+38. The District is relocating the watermain at station 23+38 to increase the depth in the area of the Stream Relocation. The watermain relocation will be performed under this contract – see SP-830 and Appendix C. Coordination between the Prime Contractor, Maine Water, and their subcontractor will need to occur in order that the relocation is complete prior to the start of any excavation or other work related to the Stream Relocation at exit 32 Southbound. The Contractor shall provide a schedule that shows when they intend to start work in this area, so that Maine Water can schedule their work. The locations of the watermains are approximate and must be verified by the water district. The water district must be notified 72 hours in advance of any excavation near the locations listed above.

105.8.2 Permit Requirements

The clearing surrounding southbound Exit 32 and Thatcher Brook associated with this project is being constructed under the Maine Department of Environmental Protection (DEP), and Natural Resources Protection Act Permit by Rule regulations Section 11 – State Transportation Facilities, updated June 8, 2012. The instruction and parameters of the Section 11 – State Transportation Facilities Permit by Rule regulations are attached in **Appendix A.** These parameters apply to the clearing work associated with the exit 32 deceleration lane. Maine Turnpike Authority has completed the necessary agency notifications required under Permit by Rule #11. All tree clearing work will need to be completed by June 1 to comply with federal permit requirements. No soil grubbing or stump removal is permitted in areas where the scope of work is limited to tree and shrub clearing. Soil grubbing, stump removal, excavation, or any construction related to the deceleration lane construction, or stream relocation may not commence until federal permit authorization is received from the Army Corps of Engineers (ACOE), and Natural Resource Protection Act authorization is received from Maine Department of Environmental Protection (Maine DEP), as discussed below.

The Project is being permitted under Section 404 of the Clean Water Act, through the ACOE Maine Programmatic General Permit, Category 2. The Project will be subject to Category 2 General Conditions of the Maine General Permit, and any project-specific conditions required by the ACOE Authorization. A signed copy of the Category 2 Start Work Notification Form must be sent to the Army Corps Maine Project Office by Maine Turnpike Authority, at least two weeks before work relating to the permit commences. The Project also requires issuance of a Tier 3 Maine Natural Resource Protection Act (NRPA) Permit by Maine DEP. The Project will be subject to the conditions specified in the Tier 3 NRPA Permit when it is issued. Maine Turnpike Authority anticipates that the Tier 3 NRPA Permit from Maine DEP and the ACOE Category 2 Maine General Permit Authorization will expand the in-water work window **at the unnamed Tributary to Thatcher Brook** by allowing early in-water work starting on June 1, 2021 and ending on September 30, 2021, provided low flow conditions exist between June 1 and July 15. Maine Turnpike Authority also anticipates that the Tier 3 NRPA Permit and ACOE Category 2 Maine General Permit Authorization will require that the stream be relocated and temporarily disturbed wetlands along the relocated stream be restored per site plans, with no work in flowing stream waters allowed (i.e., cofferdam and pump system needed for in-stream work). A copy of the Tier 3 NRPA Permit and ACOE Category 2 Authorization will be furnished when they are received by Maine Turnpike Authority.

Final Tier 3 NRPA Permit and ACOE Category 2 General Permit authorization is anticipated on or about June 10, 2021, or sooner. A copy of the Maine DEP Tier 3 NRPA Permit and ACOE Category 2 General Permit and associated permit conditions will be provided to the contractor when they are available.

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

The Contractor shall prepare a LOD plan illustrating the Contractor's proposed limit of earthwork disturbance for all disturbed areas not otherwise indicated on the LOD plan for work associated with the Exit 32 Deceleration Lane that is included in the plan set. 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 **13.8** acres, of which **12.2** acres are exempt from the Maine Construction General Permit as it is routine maintenance. The remaining, non-exempt work is subject to the provisions of the Maine Construction General Permit.

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 submit a Maine Construction General Permit 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.

The Contractor shall comply with the conditions outlined in the Army Corps General Permit authorization, Maine Department of Environmental Protection NRPA Permit by Rule, the Maine Department of Environmental Protection Tier 3 NRPA Permit, and the Maine Pollutant Discharge Elimination System General Permit for stormwater discharge associated with construction activity.

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 Special Provision Subsections 105.8.1 and 656.07) and implement measures to reduce pollutants in stormwater runoff from construction activities.

The Contractor shall indemnify and hold harmless the Maine Turnpike Authority or its agents, representatives and employees against any and all claims, liabilities or fines arising from or based on the violation of the above noted permits.

107.1 Contract Time and Contract Completion Date

This Subsection is amended by the addition of the following:

The work shall be substantially completed by September 11, 2021 and all work shall be completed on or before September 25, 2021.

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 paving and line work has been completed.
- All work related to the construction of the deceleration lane at exit 32 southbound has been completed
- All guardrail work has been completed.
- No lane closures, except for demobilization (removal of construction signs, drums, and general clean-up).
- All disturbed slopes, seeded and mulched, temporary erosion control mix and/or blanket are installed where necessary.

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.

107.4.6 Prosecution of Work

The Milling activities shall not begin until the following activities have been completed:

- All guardrail work, excepting that associated with construction of the Exit 32 deceleration lane
- Median Restoration
- Riprap installation

The following activities must be completed by or within the date(s) specified:

a. All clearing for this contract must be completed prior to June 1, 2021.
b. The stream relocation at Southbound Exit 32 cannot commence until June 10, 2021, or as otherwise stipulated in the environmental permit.

The following Subsection is added:

107.4.7 Limitations of Operations:

Roadway and Clear Zone--Traffic Control Requirements

The construction in each location shall proceed expeditiously. Once milling and/or paving operations commence for every day/night not worked (milling or paving) when work is allowed by Contract and weather, the Contractor will be charged a fee in the amount of $1,000 (excluding inclement weather days).

The Contractor will be allowed to work on both bounds at the same time. The Contractor shall complete his milling operation in one location prior to beginning his milling operation in the other location unless otherwise approved by the Resident. The paving operation shall begin within seven calendar days of all milling being complete per location. The Contractor shall complete the paving operation in one location prior to beginning his paving operation in other location. The Contractor will be allowed to work in two separate work areas on each roadway. The work areas are not required to be in the same lane.

The Contractor shall begin the paving operation in Lane 1 (inside passing lane), followed by Lane 2, and then Lane 3 (travel lane).

The Contractor shall secure all catch basin grates with Sikaflex 1a before being allowed to shift traffic onto the outside shoulder. This work will be incidental to Item 652.361.

The Contractor shall limit the milling operations such that temporary pavement markings or pavement markers are applied daily prior to the roadway being open to traffic.

Lane closure(s) will not be allowed over a weekend or Holidays unless approved otherwise by the Resident.

The Contractor shall keep a 12 foot wide lane open for traffic during his milling and paving operations unless approved otherwise by the Resident.

Temporary bituminous ramps will be required at all butt joints.

Traffic will be allowed to traverse the longitudinal joint where the pavement is lower in one lane than the adjacent lane.

110.3.9 Administrative & General Provisions

This Subsection is amended by the addition of the following:

Under Paragraph A, Additional Insured, in addition to the Authority, the Maine Water Company shall also be named as an additional insured.

SPECIAL PROVISION

SECTION 201

CLEARING RIGHT-OF-WAY

(Clearing)

201.3 General

The following paragraphs are added:

The Contractor is advised, that pursuant to Maine State law, the sale of harvested forest products must be reported to the Maine Forest Service at the end of each year. The Contractor is designated as the Authority's agent for reporting such harvesting. The Contractor shall prepare and submit the appropriate forms to the Maine Forest Service and provide 3 copies of these forms and all correspondence related to the project to the Authority.

The Contractor shall replace, at his cost, any boundary markers and/or benchmarks by a Licensed Land Surveyor if any are damaged during the clearing activities.

201.4 Clearing

Delete Section 201.04 and replace with the following:

The areas of clearing shall be as specified in these contract documents. All trees, down timber, brush, bushes, shrubs, plants, and debris not designated to remain shall become the property of the contractor, and shall be removed and disposed of unless otherwise provided.

All stumps, existing or the result of clearing operations, that are located within the roadway clear zone, or that are located in areas that are designated to be left in a mowable state after clearing operations are completed, shall be ground flush with the surrounding grade. Stumps located in back slopes at an elevation of fifteen (15) feet or less above the ditch line shall also be ground flush with surrounding grade. In all other clearing areas, stumps shall be cut as close to the ground as practicable and shall not exceed a height of two (2) inches.

Areas where stumps are not required to be ground flush with grade are shown on the contract plan set. All other areas shall be considered future mowable areas and the ground surface shall be left in a state that allows mowing with flail type mowing equipment. The extent of these areas may be adjusted in the field by the Resident Engineer.

A forestry mulching implement, consisting of a hydraulically powered, horizontally mounted rotating drum affixed with carbide tipped teeth, mounted on a tracked or rubber tired piece of equipment, will be required to finish cleared areas that are intended to be left in a mowable state as noted above. This piece of equipment will have the ability to grind stumps down to surrounding grade, mulch forest debris generated by the operations, and fine grade rough areas, except in wetlands shown on the plan set.

The contractor shall take all precautions to protect traffic from flying debris generated by the operation. The Resident shall approve all protection measures.

Clearing operations may not be contiguous due to the location of streams, bridges, structures, or lack of sufficient vegetation. The Contractor will take all precautions to minimize damage to the pavement when movement of heavy equipment is required across paved areas. At the discretion of the Resident Engineer, the Contractor may be required to protect the pavement with wooden shielding. Movement of heavy equipment on paved areas shall be confined to the roadway shoulder and will require a lane closure as per the requirements of Section 652.

In areas were vegetation is to remain and along the proposed tree line, the surface of the ground will not be unduly disturbed or compacted. Existing ground cover shall be preserved insofar as possible and the area shall be left neat and clean. Ruts, gouges and scrapes of existing vegetated surface shall be repaired by grading to match existing conditions and applying loam, seed and mulch and shall be incidental to Pay Items 201.11 Clearing and 201.23 Removing Single Tree.

Clearing within lowland and wetland areas shown on the plan set shall be performed as approved by The Authority and in accordance with permitting requirements. Vegetation with a diameter of less than two (2) inches and including brush, bushes shrubs, and plants shall remain. Vegetation with a diameter of two (2) inches or greater shall be removed. Vegetation to be removed in these areas shall be cut flush with grade, unless it is located outside of the clear zone and in an area that will not be maintained by mowing operations. The Resident Engineer shall adjust the limits of these areas as warranted by field conditions and shall order the removal of vegetation within lowland and wetland areas as required to meet project goals.

The Contractor shall place clearing limit flags on the proposed clearing limit line at a maximum distance of 50 feet from each other. The Resident Engineer shall approve all clearing limits prior to commencement of the clearing work. The flagged clearing limit line shall remain in place until the work has been accepted as complete. After final acceptance, all flagging shall be removed by the Contractor.

The proposed tree line shall have an aesthetically pleasing appearance as practicable. Trees located within five (5) feet of the proposed tree line and determined to be unsound or unsightly shall be removed and shall be incidental to Pay Item 201.11 Clearing. Trees damaged by the contractor shall be removed as directed by the Resident Engineer and shall be incidental to Pay Item 201.11 Clearing.

201.6 Herbicides

Delete Section 201.06 and replace with the following:

Herbicides shall not be applied to clearing areas addressed under this contract.

201.7 Disposal

Delete Section 201.07 and replace with the following:

All trees, down timber, brush, bushes, shrubs, plants, and debris not designated to remain shall become the property of the Contractor and shall be disposed of by approved methods after removal from Turnpike property. Chipping of material and spreading on site shall not be allowed under the provisions of this contract.

The loading of chips and logs for transport off the Project site shall be conducted on the existing shoulder pavement with a travel lane closure. The Resident may increase the required offset distance if it is determined that debris from wood chipping operations is spraying onto the pavement.

Burning or burying of material on or within the Turnpike right-of-way shall not be allowed under the provisions of this contract.

The Contractor may stockpile material on site prior to removal of processing. Stockpiles shall be more than thirty (30) feet from the edge of the pavement, butt ends of material shall face away from the flow of traffic. All stockpiles shall be removed prior to the final inspection date. The Resident Engineer shall approve the location of all stock piles.

201.10 Basis of Payment

The following paragraphs are added:

Temporary Mulch used will be measured for payment under its respective pay item.

Areas previously cleared where stumps, shrubs, and other small growth that can be ground using methods described in Section 201.04 above shall be paid for separately under Item 201.241 Stump Grinding.

Payment will be made under:

Pay Item	Pay Unit	
201.11	Clearing	Acre
201.241	Stump Grinding	Acre

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Pavement Surface-Mainline)
(Removing Existing Pavement Surface)

202.01 Description

The following sentences are added:

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

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

Removal of approach pavement shall be completed using a milling machine meeting the requirements in the first two paragraphs of section 202.061.

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

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

The following subsection is added:

202.032 Removing Bridge Pavement Surface and Membrane

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

The following paragraph is added:

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

202.061 Removing Pavement Surface

This Subsection is deleted and replaced with the following:

The equipment for removing the bituminous surface, excluding bridge decks, shall be a power-operated milling machine or grinder capable of removing the bituminous concrete pavement to the required depth, transverse cross slope, and profile grade using an automated grade and slope control system. The controls shall automatically increase or decrease the pavement removal depth as required, and readily maintain desired cross slope to compensate for surface irregularities in the existing pavement course. The milling machine shall accurately establish profile grades by referencing from a fixed point such as a 30-foot minimum contact ski (floating beam), 24-foot non-contact ski (floating beam) with 3 or more sensors; or 3 non-contact sensors directly affixed to the fore, mid, and aft points of the milling machine. Systems designed to incorporate a contact sensor located at the mid-point of the milling machine in lieu of a non-contact sensor in conjunction with non-contact sensors at the fore and aft points will be permitted. Grade control sensors shall all be located on the same side. A single sensor, contact or otherwise, shall not be permitted. A copy of the automation operations manual shall be provided to the resident upon request. The equipment shall also have an effective means for removing excess material from the surface and preventing flying material in compliance with Subsections 105.2.5 Compliance with Health and Safety Laws and 105.2.6 Convenience of the Public, of the Specification.

The rotary drum on the machine shall be a minimum of 7 feet in width and utilize carbide tipped tools at a maximum 8mm tooth spacing pattern and a minimum triple wrap configuration. The difference in height from the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed ¼ inch. The carbide tipped tools on the rotary drum shall be continually maintained and shall be replaced as warranted to provide a uniform milled pavement texture. The forward operating speed shall be limited to a maximum speed of 50 feet per minute (fpm). The limited speed is not to be calculated on an average basis over time but shall be the actual limitation at any moment during the milling operation.

The track pads that the machine travel on shall all be of a uniform thickness equal to or exceeding the manufacturers recommendations. A copy of the manufacturers recommendations shall be provided to the resident upon request.

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

The Contractor shall be responsible for the layout of the longitudinal centerline along the crown line. The contractor shall layout the site prior to any milling. Layout shall be achieved by physical measurements obtained every 50’ along the length to be milled from a fixed reference point. The contractor shall transfer the measurements to the pavement surface every 50’ and apply a paint mark at each location. The marks shall then be connected by a smoothed string line and subsequent paint marks applied along the string at no greater than 10’ intervals. The Resident will inspect the layout line before milling activities may begin.

The finished milled surface will be inspected before being accepted, and any deviations in the profile exceeding 3/8 inch under a 16 foot string line or straightedge placed parallel to the centerline will be corrected. Any deviations in the cross slope that exceed 3/8 inch under a 12 foot string line or straightedge placed transversely to the centerline will be corrected. In no case shall the cross slope in a single lane width be inverted resulting in a depression as measured transverse to the direction of travel. Any cross slope inversions or depressions shall be corrected by spot shimming the area with HMA as directed by the resident prior to installing any leveling or wearing course. Any areas requiring corrections will be subject to the same acceptable surface tolerances. These corrections shall

be done with no additional expense to the Authority. Excess material that becomes bonded to the milled surface shall be removed to the Resident's satisfaction before the area is accepted.

If a milled safety wedge is required by the contract, it shall not be removed any sooner than 24 hours prior to paving. In no case will a vertical milled edge be permitted over a weekend or holiday. The contractor shall schedule the wedge removal accordingly.

The Contractor shall deliver the cubic yards of pavement grindings as specified below to the following Maintenance Facilities. The exact location of the stockpile shall be as directed by the Resident.

Name of Facility	Mile Marker	Cubic Yards
Kennebunk Maintenance	Exit 25 Interchange	500 CY
Crosby Maintenance	Mile 45.8 SB	200 CY

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

202.07 Method of Measurement

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

The following sentences are added:

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

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

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

Installation of and removal of longitudinal safety wedges will not be measured separately for payment, but shall be incidental to the Contract.

202.08 Basis of Payment

Removing Pavement Surface – Mainline will be paid for at unit price per square yard which price shall be full compensation for removing and disposing of the bituminous and gravel materials.

Payment will be made under:

Pay Item		Pay Unit
202.202	Removing Pavement Surface – Mainline	Square Yard

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Pavement Surface – Drainage Paths)

202.01 Description

The following paragraphs are added:

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

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

The following Subsection is added:

202.011 Materials

Grinding shall be done in accordance with Section 202.

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

Bituminous tack coat shall conform to Section 409.

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

202.06 Removing Bituminous Concrete Pavement

This Subsection is deleted and replaced with the following:

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

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

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

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

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

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

Vehicles will be permitted to traverse unfilled drainage paths.

202.07 Method of Measurement

The second paragraph is deleted and replaced with the following:

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

202.08 Basis of Payment

The following is added after the last paragraph:

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

Payment will be made under:

Pay Item		Pay Unit
202.2026	Removing Pavement Surface – Drainage Paths	Square Foot

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Rumble Strips)

202.01 Description

The following sentences are added after the first paragraph:

This work shall consist of cutting a pattern of rumble strips from MM 30.0 to MM 35.5 on the northbound and southbound roadways at the locations shown on the Plans. Rumble strips shall not be placed across ramp openings or on bridges.

The following Subsections are added:

202.065 Rumble Strips

The rumble strips shall not be cut until the Contractor has placed the permanent pavement markings at the required locations.

At proposed rumble strip locations, the bituminous concrete paved surface shall be removed by milling in strips as detailed on the Plans and as directed by the Resident. The pattern will be 80 feet of rumble strips followed by a 20 foot space repeated along the entire length on the outside shoulder. The inside shoulder shall be continuous. The rumble strips shall be normal to the baseline of the roadway on tangent sections and radial on curves. The Contractor shall be responsible for the layout of the rumble strips. The milling machines for this type of rumble strip are designed by:

Surface Preparation Technology
81 Texaco Road
Mechanicsburg, PA 17055
Tel. (717) 697-1450

L&C Flashing Barricades
60 Walpole Street
Canton, MA 02021
Tel. (508) 580-6700

Thomas Grinding
110 Fox Lane Southwest
Moore Haven, FL 33471
Tel. (863) 946-1461

The milling machine shall be equipped with a 20 foot pointer to provide longitudinal grade control.

202.07 Method of Measurement

The following paragraph is added:

Rumble Strips will be measured by the actual number cut, completed and accepted.

Layout of rumble strips, disposal of milled bituminous pavement and roadway cleanup will not be measured separately for payment, but shall be incidental to this item.

202.08 Basis of Payment

The following sentences are added:

Rumble Strips will be paid for at the Contract unit price per each, which price shall be full compensation for all labor, materials, equipment and incidental items of work for a complete installation.

Payment will be made under:

Pay Item		Pay Unit
202.205	Rumble Strips	Each

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Rumble Strips)

202.01 Description

The following paragraph is added:

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

The following Subsections are added:

202.011 Materials

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

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

202.025 General

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

202.07 Method of Measurement

The following paragraph is added:

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

202.08 Basis of Payment

The following sentences are added:

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

Payment will be made under:

Pay Item		Pay Unit
202.206	Removing Rumble Strips	Linear Foot

SPECIAL PROVISION
SECTION 203
(Special Fill - Streambed Material)

203.01 Description This work shall consist of furnishing and placing stone and granular material inside, and upstream and downstream of a culvert to form a nature-like streambed.

203.02 Materials Special fill shall be a well graded mix of cobbles, gravel, sand and fines similar in size and shape to those found in natural channels and may be obtained as bank run or screening materials from earth borrow pits. Unwashed stone, and stone with naturally fractured faces will be allowed.

Where applicable, suitable material excavated on-site within the limits of the stream channel in accordance with Special Provision Section 203, Excavation and Embankment - Dredge Materials, may be used to meet the gradation requirements, or as filler material with the approval of the Resident.

Special fill shall conform to the following requirements:

a. Streambed gravel - shall be well graded bank run gravel. The gradation of the part that passes a 3 inch sieve shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
½ inch	35 – 80
¼ inch	25 – 65
No. 40	5.0 – 30
No. 200	5.0 – 12

Streambed gravel shall not contain particles of rock that will not pass a 6 inch square mesh sieve.

b. Small cobbles - shall be a well graded mix of stones with a minimum size of 3/4 inches and a maximum size of 6 inches average dimension. Fifty percent of the stones by volume shall have an average dimension greater than 3 inches. At least ninety percent of the material shall be within the specified minimum and maximum sizes.

c. Filler material - shall consist of a well graded mix of gravel, sand and fines used to fill voids and seal the surface of the streambed. It shall have enough fines, as determined by visual inspection, so that water pools on the surface. Filler material shall be free from vegetable matter, debris, peat and other unsuitable material, and shall not contain oversized stones larger than 6 inches. The material shall be obtained from the on-site excavation of the proposed stream location or other sources approved by the Resident.

Mix Proportions: Special Fill shall be mixed in the following proportions:

Streambed gravel	Small cobbles
1 part	1 part

Mix proportions and material gradations shall be within the above limits or as otherwise adjusted by the Resident to obtain a well graded streambed. Acceptance will be based on the test results, and visual inspection by the Resident. Special fill shall conform to the gradation requirements at the time it is placed to form the streambed.

At least 10 working days prior to the start of streambed construction the Contractor shall identify the source and proposed materials for inspection and shall furnish to the Resident a copy of gradation test results from a certified laboratory for the streambed gravel portion of the mix. The Authority will obtain samples of the streambed gravel for Process Control prior to placement.

The grading of stone shall be determined by the Resident in accordance with the Standard Specifications, Section 610.032.d Inspection.

203.03 Construction Requirements

1. Construct a channel with an approximately trapezoidal surface, as shown on the plans. The Contractor shall construct a test section beginning at the downstream end for review by the Resident.

2. Place special fill in well mixed layers without pockets of either fine or coarse material. The material shall be placed by machine or by hand as necessary to achieve the specified shape and thickness. Larger stones may protrude above the average surface but shall be firmly embedded in the mix.

3. Special fill shall be thoroughly washed-in with water immediately after placement. If voids remain in the streambed after the initial washing-in, filler material shall be spread on the surface as required to fill remaining voids. Wash-in with additional water until water remains on the surface with minimal infiltration.

4. Mechanical methods of compaction may be used with the approval of the Resident. If the Contractor uses mechanical methods the void-filling and washing-in requirements shall still apply.

5. Prior to exposure to natural flow conditions the streambed shall be thoroughly wetted and compacted with voids filled and the surface sealed, checked and approved by the Resident. After washing-in, the minimum thickness of the special fill shall be as called for on the plans with an allowable surcharge of up to 3 inches above the design grade.

203.04 Method of Measurement Special fill will be measured in place by the cubic yard.

203.05 Basis of Payment The accepted quantity of special fill will be paid for at the contract price per cubic yard complete in place. Payment shall be full compensation for furnishing all materials, equipment, and labor and washing-in with water.

Pay Item	Pay Unit
203.33 Special Fill – Streambed Material	CY

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

203.01 Description

The following paragraph is added:

This work shall consist of cutting, removing and disposing of the full depth of existing bituminous concrete pavement at the location for the construction of the exit 32 deceleration lane within the limits of work as shown on the Plans or as approved by the Resident. The pavement shall be sawcut to the full depth of pavement at the limits of the excavation to provide a clean, vertical cut surface.

203.04 General

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

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

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

No grading or grubbing is allowed in wetlands that will be cleared where no other work is proposed.

203.10 Embankment Construction - General

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

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

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

203.16 Winter Construction of Embankments

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

203.18 Method of Measurement

The following paragraphs are added:

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

SPECIAL PROVISION

SECTION 211

DITCH AND INSLOPE EXCAVATION

(Median Restoration)

The following paragraph is added:

211.021 – Median Restoration

This work shall consist of reshaping, removing and disposing of excess material for the full width of the unpaved section of the existing median; including under the guardrail. The median shall be shaped as per the Proposed Section shown under the Median Restoration Detail in the plans. The finished grade of the median shall be shaped to allow sheet flow off the paved shoulders and drain to the existing catch basins. Existing pavement beneath guardrail that needs to be removed to facilitate sheet flow, shall be removed, and is included as part of this item. At a minimum, a walk behind plate compactor shall be used along the edge of pavement for compaction. Other methods may be used upon approval by the Resident.

211.08 Basis of Payment

The following paragraphs are added:

Any saw cutting of bituminous pavement necessary to remove pavement to establish sheet flow to the median will be paid for at the contract unit price under item 419.30 – Sawing Bituminous Pavement.

Payment will be made under:

Pay Item		Pay Unit
211.50	Median Restoration	Linear Foot

SPECIAL PROVISION

SECTION 401

HOT MIX ASPHALT PAVEMENT

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

401.01 Description

The following paragraph is added:

A Quality Control Plan (QCP) is required.

401.02 Materials

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

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

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

Mainline Surface HMA Coarse aggregate: The material retained on the No. 4 sieve, shall consist of angular fragments obtained from crushed quarry stone and be free of dirt or other objectionable materials. Coarse aggregate shall have a Micro-Deval value of 15.0 percent or less as determined by AASHTO T 327. The crushed stone shall have a maximum of 1.5% material finer than the No. 200 mesh when tested in accordance with AASHTO T-11. Flat and elongated particles shall not exceed a maximum of 8% at a 5:1 ratio in accordance with ASTM D-4791. Coarse aggregate angularity shall be a minimum of 95/90 in accordance with AASHTO T-335.

Mainline Surface HMA Fine aggregate: The material passing the No. 4 sieve, shall be crushed manufactured sand free from dirt, clay balls, or other objectionable material. Natural sand may be incorporated into the mix at a rate no greater than 10 percent by weight of total aggregate. The unconfined void content of the fine aggregate blend shall be a 45 minimum value when tested in accordance with AASHTO T-304, method A. AASHTO T-176 sand equivalent value shall be 45 minimum.

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

Cone Penetration	90-150
Flow @ 60°C [140ºF]	3.0mm [1/8 in] max
Bond, non-immersed	Three 12.7mm [½ in] specimens pass 3 cycles @ 200% extension @ -29°C [-20ºF]
Resilience, %	60 min
Asphalt Compatibility, ASTM D5329	pass*

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

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

Section 401.021 Recycled Asphalt Materials

Delete the second paragraph and replace with the following:

In the event that RAP source or properties change, the Contractor shall notify the Authority of the change and submit new documentation stating the new source or properties. A plant produced test batch meeting all requirements including Hamburg Wheel Tracker results.

Section 401.03 Composition of Mixtures

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

HMA pavement mixtures for base, intermediate, shim and local road bridge projects shall be a currently approved MDOT design unless otherwise noted. A maximum of 20% RAP may be used. VMA shall meet the requirements listed in Table 1.

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

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

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

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

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

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

At the time of JMF submittal, the Contractor shall identify and make available the stockpiles of all proposed aggregates at the plant site. There must be a minimum of 150 ton for coarse aggregate stockpiles, 75 ton for fine aggregate stockpiles before the JMF may be submitted. The Authority shall obtain samples for laboratory testing. The Contractor shall also make available to the Authority the PGAB proposed for use in the mix in enough quantity to test the properties of the asphalt and to produce samples for testing of the mixture. Before the start of paving, the Contractor and the Authority's representative shall test a production sample in the Contractor's laboratory for evaluation. If the Authority finds the mixture acceptable, an approved JMF will be forwarded to the Contractor.

The Authority will then notify the Contractor that paving may commence. The first day's production shall be monitored, and the approval may be withdrawn if the mixture exhibits undesirable characteristics such as checking, shoving or displacement. The Contractor shall be allowed to submit aim changes within 24 hours of receipt of the first Acceptance test result for an individual JMF. Adjustments will be allowed of up to 2% on the percent passing the 2.36 mm sieve through the 0.075 mm and 3% on the percent passing the 4.75 mm or larger sieves. Adjustments will be allowed on the %PGAB of up to 0.2 percent. Adjustments will be allowed on GMM of up to 0.010.

Approved mix designs from the previous calendar year may be carried over, however no aim changes will be granted for a carryover mix design and the initial design must not be older than the previous paving season.

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

TABLE 1
VOLUMETRIC DESIGN CRITERIA

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

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

TABLE 1A
HAMBURG WHEEL TRACKER REQUIREMENTS

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

Section 401.031 Warm Mix Technology

Add the following to the end of the first paragraph:

Weather and seasonal limitations as outlined in section 401.06 may be reduced by a maximum 5ºF with the use of WMA except for HMA being placed over bridge deck membrane.

Section 401.04 Temperature Requirements

Add the following line item after the third bullet:

- Any HMA placed over bridge deck membrane shall have a minimum temperature of 300° F measured directly behind the screed in the uncompacted mat.

Add the following paragraph:

No vehicular loads shall be permitted on newly completed pavement until adequate stability has been attained and the material has cooled sufficiently to prevent distortion or loss of fines. The newly paved area may be opened to traffic after the internal temperature of the pavement has cooled to 120° F. The Resident will test the internal temperature of the pavement and shall be the sole judge as to the opening to traffic. The period of time before opening to traffic may be extended at the discretion of the Resident. The lane closure may not be removed until the internal temperature has cooled to 120° F.

Section 401.06 Weather and Seasonal Limitations

The first paragraph shall be deleted and replaced with:

The Contractor may place Hot Mix Asphalt Pavement for use other than a traveled way wearing course, provided that the air temperature as determined by an approved thermometer (placed in the shade at the paving location) is 45°F or higher and the area to be paved is not frozen. The Contractor may place Hot Mix Asphalt Pavement as traveled way wearing course, provided the air temperature determined as above is 50°F or higher. For the purposes of this Section, the traveled way includes truck lanes, ramps, approach roads, shoulders, and auxiliary lanes. The atmospheric temperature for all courses on bridge decks shall be 50°F or higher.

Section 401.08 Hauling Equipment Trucks for Hauling HMA

Add the following paragraphs:

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

The contractor shall supply enough haul units such that paving is continuous and without any stops or paver speed changes during the installation of ramp or mainline wearing courses utilizing an MTV. or any course placed on a bridge deck. The contractor will be charged a fee of $1000 for every occurrence if paving is either stopped or the paver must slow down to avoid stopping due to inadequate number of haul units at the sole discretion of the Authority.

Section 401.09 Pavers

Add the following to the end of the fourth paragraph:

The forward operating speed of the paver shall be limited based on the course being placed. A shim or leveling course shall have a maximum speed of 50 feet per minute (fpm). Any base, intermediate, or surface course shall have a maximum paver speed of 40 fpm. The limited speed is not to be calculated on an average basis over time but shall be the actual limitation at any moment during the paving operation.

Section 401.091 Material Transfer Vehicle (MTV)

The first paragraph shall be deleted and replaced with:

When required by Special Provision Section 403, the paver shall be supplied mixture by a material transfer vehicle (Roadtec SB2500 or approved equal) capable of receiving and storing bituminous mixture from haul trucks, remixing, and delivering the mix to the paver hopper in a consistently uniform manner.

The fourth paragraph shall be deleted and replaced with:

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

Section 401.11 Preparation of Existing Surface

Add the following paragraph:

The contractor will be permitted to be generally innovative in methods to dry existing wet or damp pavement. Any method which causes damage or burning of the existing pavement, or which causes debris to fly into traffic shall be discontinued.

Section 401.111 Layout

The contractor shall layout the site prior to any pavement course or final striping. Layout shall be achieved by physical measurements obtained every 50’ along the length to be paved or striped from a fixed reference point. The contractor shall transfer the measurements to the pavement surface every 50’ and apply a paint mark at each location. The marks shall then be connected by a smoothed string line and subsequent paint marks applied along the string at no greater than 10’ intervals. The Resident will inspect the layout line before associated activities may begin.

Section 401.165 Longitudinal Joint Density

The first paragraph shall be deleted and replaced with:

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

The eighth paragraph shall be deleted and replaced with:

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

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

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

PERCENT COMPACTION	PERCENT PAY
92.0 or greater	100
91.9 to 90.0	95
89.9 to 88.5	90
88.4 or less	80

Section 401.17 Joints

Delete the following sentence from the third paragraph:

"The Authority may allow feathered or "lap" joints on lower base courses or when matching existing base type pavements."

The fourth paragraph shall be deleted and replaced with:

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

Section 401.18 Quality Control

Add the following paragraph v. to the QCP requirements

v. The contractor shall provide a detailed plan outlining how the number of haul units will be determined and supplied to the project to prevent the paver from stopping on mainline wearing course and bridge deck paving over membrane

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

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

Section 401.191 Inspection/Testing

In paragraph nine delete and replace Item #8 with:

8. Secure High-Speed Internet Access

401.21 Method of Measurement

The second paragraph shall be deleted and replaced with:

A reduction in payment will occur when the voids, asphalt content, and density are other than the limits specified below for 100 percent payment. The payment reduction for voids and PGAB content and density will be based upon each sublot (500 tons) of production as specified in Subsections 401.162, 401.163, 401.164, and 401.165. The Contractor may request one retest for each failing sublot for core density only. The original core density and the recut core density shall be averaged together to determine payment for the sublot. No retest will be allowed for voids or asphalt content. The Contractor shall pay $250.00 for each additional core tested. Pavement restoration will not be measured separately for payment but shall be incidental to the respective pay item.

SPECIAL PROVISION

SECTION 401

HOT MIX ASPHALT PAVEMENTS

(HMA using Hydrated Lime)

The following sections of Section 400 have been revised with following additional requirements.

401.01 Description

The Contractor shall compose Hot Mix Asphalt (HMA) Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), hydrated lime, and mineral filler if required. Hydrated Lime shall be utilized in all mixtures so denoted in Special Provision 403 - Hot Mix Asphalt Pavement.

401.02 Materials

Materials shall meet the requirements specified.

Hydrated Lime	AASHTO 216

401.03 Composition of Mixtures

The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), hydrated lime and mineral filler if required. HMA shall be designed and tested according to AASHTO R35 and the volumetric criteria in Table 1. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF).

Hydrated lime shall be used in all HMA at a rate of one percent (1%) by weight of the total dry aggregate including RAP aggregate, if used. The Contractor shall obtain a shipping ticket for each shipment of hydrated lime. The Contractor shall provide the Resident with a copy of each shipping ticket from the supplier, including the date, time and weight of hydrated lime shipped and used in HMA production. The Contractor shall submit a material data sheet for the hydrated lime to the Resident for approval.

The Contractor shall provide the following information with the proposed JMF:
- Safety Data Sheets (SDS) for hydrated lime
- Supplier and source for Hydrated Lime

401.13 Preparation of Aggregates

The Contractor shall add water to the aggregates as required to maintain a minimum total aggregate moisture content of 3 percent. The Contractor shall mix the lime uniformly with the aggregate before introducing the aggregate into the dryer or dryer drum. Hydrated lime introduction systems must be controlled by a proportioning device to the amount required on the JMF plus or minus 0.1% of the target.

The Contractor shall add lime to the aggregate by one of the following methods:

A. The Contractor shall add lime to the combined cold feed aggregate using an enclosed in-line cold feed mechanical pugmill mixer. The Contractor shall use a twin-shaft, continuous mixing pugmill with mixing paddles to thoroughly blend the lime with the aggregate. The Contractor shall adjust the retention time of the mixture in the pugmill so no unmixed lime is visible after the lime and aggregate exit the pugmill.

B. The Contractor shall add lime to the combined cold feed aggregate by introducing the lime between aggregate layers as the aggregate flows from the cold feed bins. The Contractor shall thoroughly mix the lime and aggregate on the conveyor belt. The Contractor shall provide a lime introduction system so that no unmixed lime is visible before the lime and combined aggregate enter the drum.

The cold storage for hydrated lime shall be a separate bulk storage bin with a vane feeder or other approved feeder system which can be readily calibrated. The system shall provide a means for convenient sampling of the hydrated lime additive and verifying the quantity of lime dispensed. If the hydrated lime is to be introduced directly into the plant then the additive equipment shall be synchronized with the cold feed controls to operate concurrently with the cold feed operation. The system will be configured to automatically adjust the hydrated lime feed to variations in the cold aggregate feed. The hydrated lime system shall have out-of-tolerance sensing ability by weight, and have a means to indicate the out–of–tolerance condition.

401.14 Mixing

Hydrated lime shall be added into the HMA aggregate mixture prior to the aggregate blend mixing with the PGAB. Aggregate feed rate, or pugmill mixing times shall be adjusted to ensure complete blending of Hydrated Lime and aggregate before the PGAB is added.

401.18 Quality Control

The Contractor shall provide a written supplement to the project specific QCP outlining the proposed methods of adding and mixing the hydrated lime for approval by the Authority. This written summary shall also provide information describing how the Contractor will perform quality control on the addition of hydrated lime, specifically the method of introduction and how the lime use will be measured to assure that the specified percentage is consistently added, and appropriately mixed. The supplemental QCP covering hydrated lime introduction shall be provided to the Authority at least one week prior to the prepave meeting.

SPECIAL PROVISION

SECTION 403

HOT MIX ASPHALT PAVEMENT

403.01 Description

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

403.02 General

The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. The Performance Graded Asphalt Binder (PGAB) shall be polymer modified as detailed in this special provision and shall conform to the requirements of AASHTO M 332 (including Appendix 1). The PG64E-28 Binder shall contain a minimum of 2.25% Styrene-Butadiene-Styrene (SBS) polymer {BWT} in a homogeneous blend with a minimum average percent recovery of 75% as determined by AASHTO T350 @ 3.2 kPA (R3.2) on RTFO residue at 64ºC to assure significant polymer load and performance. The stability of the modified binder shall be verified in accordance with ATSM D7173 using the Dynamic Shear Rheometer (DSR). The DSR G*/sin(δ) results from the top and bottom sections of the ATSM D7173 test shall not differ by more than 10%. The results of ASTM D7173 shall be included on the Certified Test Report.

When required PG70E-34 Binder shall be modified with Styrene-Butadiene-Styrene (SBS) polymer {BWT} in a homogeneous blend with a minimum average percent recovery of 75% as determined by AASHTO T350 @ 3.2 kPA (R3.2) on RTFO residue at 70ºC to assure significant polymer load and performance. The stability of the modified binder shall be verified in accordance with ATSM D7173 using the Dynamic Shear Rheometer (DSR). The DSR G*/sin(δ) results from the top and bottom sections of the ATSM D7173 test shall not differ by more than 10%. The results of ASTM D7173 shall be included on the Certified Test Report.

403.03 Construction

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

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

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

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

403.04 Method of Measurement

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

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

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

403.05 Basis of Payment

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

The following pay items are added:

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

SPECIAL PROVISION

SECTION 403

HOT MIX ASPHALT PAVEMENT

Course	HMA Grading	Item Number	Total Thickness	No. of Layers	Complimentary Notes
Mainline Mill and Fill and Shoulder Reconstruction					
Wearing	**12.5 mm**	**403.2081**	**1.75”**	**1**	**A,D,E,F,G,H,I,J,K**
Base	**12.5 mm**	**403.213**	**2.25”**	**1**	**C,I**
Exit 32 S.B. Deceleration Lane					
Wearing	**12.5 mm**	**403.2081**	**1.75”**	**1**	**A,D,E,F,G,H,I,J,K**
Binder	**12.5 mm**	**403.213**	**1.75”**	**1**	**C,I**
Base	**19 mm**	**403.207**	**2.25”**	**2**	**C,I**
Base	**19 mm**	**403.207**	**2.50”**	**1**	**C,I**
Spot Shims/Delaminated Areas/Incidentals (As Directed by the Resident)					
Shim	**9.5 mm**	**403.211**	**variable**	**1**	**C,I**
Incidentals	**12.5 mm**	**403.2084**	**variable**	**1**	**C,I**

COMPLEMENTARY NOTES

A. The required PGAB for this mixture shall be **64E-28.**
B. RAP may not be used.
C. The Maine DOT will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. Minimum and Maximum PGAB content limits from 401.21 shall not apply.
D. The MTA will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 10 to <30 million ESALS for mix placed under this contract. The design verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**. (N design)
E. A material transfer vehicle (MTV) shall be used for the placement of Hot Mix Asphalt wearing surface on all roadways including acceleration and deceleration lanes and all ramps.
F. Joints shall be constructed as the “notched wedge” type in accordance with Subsection 401.17.
G. Joint density will be measured in accordance with Subsection 401.165.
H. PGAB shall conform to the provisions of 403.02 – Polymer Modified PGAB for HMA
I. The contractor shall furnish a quality control technician equipped with an approved densometer to ensure density requirements are met.
J. Hydrated Lime shall be incorporated into the mixture.
K. The antistrip additive Zycotherm SP manufactured by Zydex Industries shall be incorporated into the PGAB at a rate of 0.1%.

SPECIAL PROVISION

SECTION 409

BITUMINOUS TACK COAT

409.01 Description

This Subsection is deleted and replaced with the following:

This work consists of furnishing and applying one uniform application of UltraTack (NTSS-1HM) by Blacklidge as indicated in this specification and as per manufacturers' recommendation. The application rate shall be 0.06 gal/yd^2

409.05 Equipment

Add "or as determined by the Resident", after the words "gal/yd^2]" in the fourth line of the second paragraph of this Subsection.

409.06 Preparation of Surface

The following paragraph is added:

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

409.08 Method of Measurement

The following paragraphs are added:

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

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

Cleaning of the surface area where tack coat is to be applied shall be incidental to Item 409.152, Bituminous Tack Coat - Applied.

409.09 Basis of Payment

The following pay items are added:

Pay Item		Pay Unit
409.152	Bituminous Tack Coat NTSS-1HM Trackless– Applied	Gallon

SPECIAL PROVISION

SECTION 419

SAWING AND SEALING JOINTS IN BITUMINOUS PAVEMENT

(Sawing Bituminous Pavement)

419.01 Description

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

419.02 General

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

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

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

419.03 Method of Measurement

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

419.04 Basis of Payment

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

Payment will be made under:

Pay Item		Pay Unit
419.30	Sawing Bituminous Pavement	Linear Foot

SPECIAL PROVISION

SECTION 424

ASPHALT RUBBER MASTIC CRACK SEALER

424.01 Description

This work shall consist of the furnishing and placement of a mastic material in the longitudinal, transverse and random cracks of the milled bituminous concrete pavement in accordance with these Special Provisions.

Placement shall consist of:

1. Crack cleaning and drying
2. Material preparation and application
3. Material finishing and shaping.

424.02 Materials

Elastoflex CA Type 4 shall be supplied by Maxwell Products or an approved equal designed especially for improving the strength and performance of the base asphalt cement with sealant.

424.03 Weather

Mastic shall not be applied on a wet surface or when the atmospheric temperature is below 45°F as determined by an approved thermometer (placed in the shade at the crack sealing location), or when weather conditions are otherwise unfavorable for proper construction procedures.

424.04 Equipment

Equipment used in the performance of the work shall be subject to the Resident's or authorized representative's approval and shall be maintained in a satisfactory working condition at all times.

(a) Air Compressor: Air compressors shall be portable and capable of furnishing not less than 4 yd^3 of air per minute at not less than 90 psi pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water.

(b) Sweeper: Manually operated, gas powered air-broom or self-propelled sweeper designed especially for use in cleaning pavements shall he used to remove debris, dirt, and dust from the cracks.

(c) Hot Air Lance: Should operate with propane and compressed air in combination at 2000°F - 3000°F, exit air heated at 310 m/s [1000 ft/s]. The lance should draw propane from no smaller than a 100 pound tank using separate hoses for propane and air draw. The hoses shall be wrapped together with reflectorized wrap to keep them together and to protect workers in low light situations.

(d) Hand Tools: Shall consist of a square shaped box screed, brooms, shovels, metal bars with chisel shaped ends, and any other tools which may be satisfactorily used to accomplish this work. The joints shall be raked open.

(e) Melting Kettle: The unit used to melt the joint sealing compound shall be a double boiler. indirect fired type. The space between inner and outer shells shall be filled with a suitable heat transfer oil or substitute having a flash point of not less than 320°C [608°F]. The kettle shall be equipped with a satisfactory means of agitating and mixing the mastic. This may be accomplished by continuous stirring with mechanically operated paddles and/or a continuous circulating gear pump attached to the heating unit. The kettle must be equipped with thermostatic control calibrated between 200°F and 550°F.

424.05 Preparations of Cracks

All cracks 1/2 of an inch and larger shall be blown free and raked off of loose material, dirt, vegetation, and other debris by high pressure air. Material removed from the crack shall be removed from the pavement surface by means of a power sweeper or appropriate hand tools as required. Cracks showing evidence of vegetation after being blown out shall be additionally cleaned by appropriate hand tools and additionally blown out. All cracks must be blown and heated via the hot air lance 10 minutes prior to the crack being sealed. Distance between the hot air lance and the crack sealing unit should be no more than 50 ft to eliminate reinvasion of water. debris, and other incompressibles. All debris, vegetation, and water shall be removed to enhance adhesion of the crack sealing material. This work shall not be done in inclement weather.

424.06 Preparation and Placement of mastic

The mastic material shall be heated and applied at the temperature specified by the manufacturer and approved by the Resident or authorized representative. Any material that has been heated above the manufacturer's specification longer than thirty minutes shall not be used. Material that is reheated or held at temperature for an extended period of time may be used as allowed by the manufacturer's specification and approval of the Resident or authorized representative. The Contractor shall provide the Resident or authorized representative with a suitable device for verifying the mastic temperature in the kettle and at the application site.

Any over application or spills are to be removed to the satisfaction of the Resident or authorized representative. Any sealed areas with damaged or contaminated sealer or visible voids are to be removed, prepared and resealed.

Mastic shall be delivered to the crack while the cracks are still hot from the hot air lance preparation through a pressure hose line and applicator shoe. The applicator shall be controlled by the operator so that crack is not over-filled with mastic material and followed by a V-shaped squeegee to eliminate any overband. A heated steel hotplate may be used on the surface of the repair area after the mastic has been applied. Any loose material on the surface or in the crack, which may contaminate the crack sealer or impede bonding of the sealant to the pavement, is to be removed by hand tools prior to crack filling. No crack filling material shall be applied in a crack that is wet or where frost, snow, or ice is present.

Crack sealing operations shall not occur directly following milling operations. Crack sealing shall be conducted in such a manner to minimize the time the traffic will be allowed to travel directly across the crack sealer.

424.07 Quality of Work

A Maxwell Products representative shall be present to verify the proper application, installation, material and pavement preparation on the first days' production. Excess of spilled mastic shall be removed from the pavement by approved methods and discarded. Any quality of work determined to be below normal acceptable standards will not be accepted and will be corrected and/or replaced as directed by the Resident or authorized representative at no additional expense to the Authority.

424.08 Method of Measurement

Asphalt Rubber Mastic Crack Sealer - Applied will be measured by the pound of mastic used. The manufacturer's weights of the mastic will be accepted as the basis for measurement.

424.09 Basis of Payment.

Asphalt Rubber Mastic Crack Sealer – Applied will be paid for at the contract unit price per pound complete in place. This price shall be full compensation for furnishing and placing crack sealer, including cleaning and drying cracks; and furnishing all labor, materials, tools, equipment and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
424.323	Asphalt Rubber Mastic Crack Sealer - Applied	Pound

SPECIAL PROVISION

SECTION 470

BERM DROP OFF CORRECTION

(Berm Dropoff Correction - Grindings)
(Berm Correction)

470.01 Description

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

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

470.02 Bituminous Materials

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

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

470.03 Method of Construction

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

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

470.04 Method of Measurement

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

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

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

470.05 Basis of Payment

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

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

Payment will be made under:

Pay Item		Pay Unit
470.08	Berm Dropoff Correction – Grindings	Ton
470.081	Berm Correction	LF

SPECIAL PROVISION

SECTION 511

COFFERDAMS

511.1 Description

This section is amended by the addition of the following:

This work shall consist of the complete design, construction, maintenance and removal of cofferdams and other related work, including dewatering, bypass pumping, and inspection, required to allow for the relocation of the stream on the westerly side of the MTA Exit 32 SB deceleration lane.

The contractor shall prepare a cofferdam and in-stream work plan for MTA review and approval. The plan shall include proposed cofferdam system, how downstream flows will be maintained, proposed system for 'dirty' water dewatering between the two cofferdams, contingency plans for cofferdam failure, and spill control and countermeasure plan for activities near the stream (pump and equipment refueling, monitoring equipment operation, fuel/oil storage). This plan must be approved in writing by MTA prior to starting any cofferdam related work.

511.5 Method of Measurement

Cofferdams will be measured as one lump sum unit, as indicated on the Plans or called for in the Contract.

511.6 Basis of Payment

The accepted quantity of cofferdam will be paid for at the Contract lump sum price for the respective cofferdam items, which price shall be full compensation for, design, construction, maintenance, inspection and removal.

All costs for sedimentation control practices, including, but not limited to, constructing, maintaining, and removing sedimentation control structures, and pumping or transporting water and other materials for sedimentation control and to maintain stream flow will not be paid for directly, but will be considered incidental to the cofferdam Pay Item(s).

All costs for related temporary soil erosion and water pollution controls, including inspection and maintenance, will be considered incidental to the cofferdam Pay Item(s).

All costs associated with preparation of the Cofferdam and In-stream Work Plan, Working Drawings, design calculations, written procedure for sediment shall be considered incidental to the cofferdam Pay Item(s).

All costs for cofferdams and related temporary soil erosion and water pollution controls, including inspection and maintenance, will be considered incidental to related Pay Items, when a specific Pay Item for cofferdams is not included in the Contract.

Payment will be made under:

Pay Item		Pay Unit
511.07	Cofferdam: Upstream	Lump Sum
511.07	Cofferdam: Downstream	Lump Sum

SPECIAL PROVISION

SECTION 526

CONCRETE BARRIER

(Temporary Barrier Markers)

526.1 Description

The following paragraphs are added:

This work shall consist of furnishing, installing and maintaining temporary barrier markers on all temporary barrier supplied by the Contractor and the Authority.

526.2 Materials

The following paragraphs are added:

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

526.3 Construction Requirements

The following paragraphs are added:

Temporary barrier markers shall be mounted as follows:

1. One on every fourth barrier in tangents and one on every two barriers in tapers, including all barrier furnished by the Contractor.

2. Delineators shall be physically adhered so as to withstand the force of throw from a snow plow.

3. If more than 25% of delineators in any 200 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.

4. Contractor is required to submit the installation method for review and approval to the Resident.

526.4 Method of Measurement

The following paragraphs are added:

Temporary barrier markers shall not be measured for payment separately but shall be

incidental to the temporary barrier item.

526.5 Basis of Payment

The following paragraphs are added:

Temporary barrier markers shall not be paid for separately but shall be incidental to the temporary barrier item.

SPECIAL PROVISION

SECTION 526

CONCRETE BARRIER

(Temporary Concrete Barrier Type I - Supplied by Authority)

526.01 Description

The following paragraphs are added:

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

The work also includes supplying connecting pins and furnishing 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):

Maintenance Area	Linear Feet of Barrier
MM 98 NB Or West Gardiner Maintenance MM 102	1450

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

526.02 Materials

The following paragraphs are added:

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:

Pay Item		Pay Unit
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 MASH 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 MASH 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 MASH Crash Test Results prior to installation at the jobsite.

527.03 Construction Requirements

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

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

527.04 Method of Measurement

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

527.05 Basis of Payment

Payment will be made under:

Pay Item		Pay Unit
527.341	Work Zone Crash Cushions – TL-3	Unit
527.3411	Work Zone Crash Cushions – TL-3, Left in Place	Unit

SPECIAL PROVISION

SECTION 603

PIPE CULVERTS AND STORM DRAINS

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

603.01 Description

The following paragraphs are added:

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

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

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

603.02 Materials

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

603.11 Method of Measurement

The following paragraph is added:

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

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

603.12 Basis of Payment

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

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 604

MANHOLES, INLETS AND CATCH BASINS

604.01 Description SPECIAL PROVISION

This Subsection is amended by the addition of the following:

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

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

604.02 Materials

The following sentences are added:

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

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

The third paragraph should be deleted and replaced with:

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

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

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

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

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

5520M5 Grate Product Number 00552060 (170 pounds)

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

5520M8 Product Number 00552084 or 5520M8 Product Number 00552085

604.04 Altering, Adjusting, and Rebuilding Catch Basins and Manholes

This Subsection is deleted and replaced with the following:

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

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

Rebuild Catch Basin to Grade – Type II

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

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

604.05 Method of Measurement

The following are added after Subsection e. Grate:

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

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

604.06 Basis of Payment

The following paragraphs are added after the first paragraph:

The accepted quantity of Rebuild Catch Basin to Grade – Type II will be paid for at the Contract unit price each. This price shall be full compensation for removing existing frame and grate, rebuilding

the catch basin top to grade, reinstalling the existing frame, cleaning the horizontal surface, applying the elastomeric sealer, reinstalling the existing grate, and all other labor, equipment and materials required to complete the work.

The second paragraph is deleted and replaced with the following:

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

Payment will be made under:

Pay Item		Pay Unit
604.184	Rebuild Catch Basin to Grade – Type II	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Terminal End - Anchored End)
(Terminal End - Anchored End, Thrie Beam)

606.01 Description

The following sentence is added:

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

606.02 Materials

The following sentences are added:

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

The following Subsection is added:

606.042 Terminal End - Anchored End

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

Height of installation of Terminal End – Anchored End units shall be 27.5-inches to the top of rail, transitioning to the standard height of 30-inches over a 25-foot length of Type 3d rail located immediately after the last post of the Anchored End unit.

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

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

606.08 Method of Measurement

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

606.09 Basis of Payment

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

Payment will be made under:

Pay Item		Pay Unit
606.278	Terminal End - Anchored End	Each
606.279	Terminal End - Anchored End, Thrie Beam	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Reflectorized Beam Guardrail Delineator)

606.01 Description

The following paragraphs are added:

Reflectorized beam guardrail delineators shall be installed on existing guardrail to remain in place, guardrail noted to be removed, modified and reset (single and/or double rail) or new guardrail, at the locations noted on Maintenance of Traffic plans or as approved by the Resident. The delineators shall be installed prior to traffic being shifted closer to the identified guardrail run. The color for the reflective sheeting shall be silver (white) when installed on the outside shoulder and yellow when installed on the inside shoulder.

Reflectorized beam guardrail delineators shall be mounted as follows:

1. Delineators on guardrail adjacent to a shifted detour should be spaced every other guardrail post and located at the bolt in the valley of the guardrail beam.

2. On existing steel bridge rail, the delineators shall be mechanically attached towards the top, every 10 feet, and bottom, every 20 feet. Delineators shall also be mechanically attached in a similar pattern to concrete endposts that are 10 feet or longer.

3. If more than 25% of delineators in any 50 feet of guardrail, bridge rail, or endposts fall off for any reason, the Contractor will be responsible for reinstalling all delineators in that run at that their own cost.

4. In no instance shall delineators be installed on guardrail which deviates substantially from the alignment (horizontal or vertical) of the roadway or which is located more than eight feet from the edge of pavement.

5. On Tangents, mount delineators every 62.5-feet or every 10^{th} post.

6. On Curves, mount delineators every 31.25-feet or every 5^{th} post.

Exceptions and/or modifications will only be made with the approval of the Resident.

Contractor is required to submit installation method for review and approval to the Resident.

606.02 Materials

The fourth paragraph is deleted and replaced with the following:

The reflectorized beam guardrail delineators shall be fabricated from galvanized steel.

Reflective sheeting shall meet the requirements of Subsection 719.01, Reflective Sheeting – minimum ASTM Type XI; 3M™ Diamond Grade™ DG³ Reflective Sheeting Series 4000 or approved equal.

606.08 Method of Measurement

The following paragraph is added:

Reflectorized Beam Guardrail Delineators will be measured by each unit of the kind specified and installed. Maintenance and replacement of delineators will not be measured separately for payment unless otherwise approved by the Resident.

606.09 Basis of Payment

The second and third sentences in the first paragraph are deleted and replaced with the following:

Reflectorized Beam Guardrail Delineators will be paid for at the Contract unit price each when installed on existing guardrail, complete in place, which price shall be full payment for furnishing and installing all components and for all incidentals necessary to complete the installation. Reflectorized Beam Guardrail Delineators will not be paid for on new guardrail.

Payment will be made under:

Pay Item		Pay Unit
606.352	Reflectorized Beam Guardrail Delineator	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Delineator Post – Remove and Reset)

606.01 Description

The following paragraphs are added:

This work shall also consist of furnishing and installing new delineator posts and/or removing and resetting existing delineator posts within the Contract limits. The existing reflectorized delineator panels shall be removed and replaced with new reflectorized delineator panels as required by the Resident.

Existing and new delineator posts shall be located as follows, with the indicated panel:

Outside Shoulder:

- One at guardrail trailing ends (green delineator).
- Two at guardrail approach ends (one red delineator on first post and one red delineator on angle points.)

Median:

- One at guardrail trailing ends (green delineator, facing traffic).
- Two at guardrail approach ends (one red delineator on first post of CAT units, green on guard rail side, red on median opening side; and one red (both sides) delineator at angle point.)
- One at all other median guardrail angle points (red on both sides)

Other Locations:

- One at culvert outlets (green delineator).
- Twenty per mile evenly spaced at the edge of outside shoulder (white delineator).
- One at electrical junction boxes not associated with another item (red delineator).
- One at communication only junction boxes not associated with another item (orange delineator).

Delineator posts that do not exist in the locations described above, shall be supplied and installed by the Contractor. The installation of the delineator post shall include the demountable reflectorized delineator panel.

White edge delineators shall not be installed on any portion of the widened shoulder for Guardrail Flared Terminal installations, and shall not be installed behind the Guardrail Flared Terminal rail segments.

1. 606.02 Materials

The following paragraphs are added:

Non-guardrail Delineator Posts shall conform to Subsection 606.02 paragraph 3.

The seventh through ninth sentences of the fourth paragraph are deleted and replaced with the following:

Reflectorized flexible guardrail markers shall be a minimum of 2-inches in diameter, a maximum of 36" in length, ovalized at the top of the post to allow application of 3 inch by 9 inch high intensity reflective sheeting, and shall be capable of recovering from repeated impacts. The flexible guardrail delineator markers shall be grey and capped at the top with a flexible rubber cap; Safe-Hit Flexible Guardrail Delineator or approved equal. Reflective material shall meet the requirements of ASTM Type IX Diamond Grade VIP (Visual Impact Performance).

The demountable reflectorized delineator panels shall meet the material requirements of Subsection 719.06. The delineator panel shall be rectangles measuring 9" x 3".

606.03 Posts

The following paragraphs are added:

The top of delineator posts shall be installed 4' - 6" (54")) above edge of pavement elevation. Delineators shall be installed four feet from edge of pavement except those delineating end treatments, culverts and electrical items.

Mile marker posts shall be mounted on breakaway supports. The bottom of the sign shall be 5' - 0" (60") above the pavement at the solid white line and shall be offset five feet from the edge of pavement.

A mock-up of the guardrail delineator posts shall be submitted to the Resident for approval prior to installation.

Any materials damaged by the Contractor's operations shall be replaced at no additional cost to the Authority.

Top of the delineator panel shall be flush with the top of post.

606.08 Method of Measurement

The following paragraphs are added:

Delineator Posts shall be measured by each unit satisfactorily installed. Delineator Post-Removed and Reset will be measured by each unit satisfactorily removed and reset or disposed; including installation of new panel. All delineator posts not suitable for reuse, as determined by the

Resident, shall become the property of the Contractor and (disposed) removed from the MTA property.

Mile Marker post shall be measured for payment as Underdrain Delineator Post. The breakaway supports shall be incidental to the Underdrain Delineator Post pay item.

606.09 Basis of Payment

The following sentences are added:

The accepted quantity of Delineator Posts will be paid for under the Underdrain Delineator Post item, at the Contract unit price per each which price shall be full compensation for the post and specified delineator or mile marker panel, complete in place.

The accepted quantity of Delineator Post - Removed and Reset will be paid for at the Contract unit price each, which price shall be full compensation for removing and resetting the delineator panel or mile marker panel and post, including new delineator panel, and all incidentals necessary to complete the work.

Disposal of unused delineator posts shall be incidental to Delineator Post - Remove and Reset pay items.

Payment will be made under:

Pay Item		Pay Unit
606.3561	Delineator Post - Remove and Reset	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Guardrail – Remove, Modify and Reset, Single Rail)
(Guardrail – Remove, Modify and Reset, Double Rail)
(Guardrail - Remove and Stack)
(Guardrail Adjust – Single Rail)
(Guardrail Adjust – Double Rail)

606.01 Description

The following paragraphs are added:

This work shall also consist of adjusting the height of the existing single and double rail guardrail in locations where the existing height of rail is not 30 inches. The guardrail shall be adjusted to a height of 30 inches. Existing single and double rail shall also be adjusted for lean.

The guardrail adjustment shall take place at all necessary locations; approximate locations are listed in the schedule of guardrail limits both median and outside shoulder. Exact locations for adjustment shall be determined by the Resident. If, during the course of the work, the contractor finds additional rail to be adjusted, then he shall notify the Resident, and the Resident determine if the rail is to be adjusted.

This work shall also consist of removing, stockpiling and stacking of existing single and double guardrail elements, component parts and hardware suitable for replacement as approved by the Resident. At the completion of the Contract, any unused guardrail elements, posts, component parts and hardware suitable for reuse shall remain the property of the Authority. Any guardrail elements, posts, component parts and hardware unsuitable for reuse shall become property of the Contractor.

Stockpiled materials, suitable for reuse, shall be utilized on Remove, Modify and Reset items prior to new materials being paid for.

This work shall consist of removing, disposing of existing guardrail elements, component parts and hardware, as directed by the Resident. All materials shall become the property of the Contractor and shall be removed from the site at the completion of the Project. The Contractor shall provide the Resident with an affidavit stating the final location of all disposed material and that the material was disposed of in accordance with the Maine Department of Environmental Protection Solid Waste Regulations.

606.02 Materials

The following paragraph is added at the end of the subsection:

New non-wood offset blocks conforming to NCHRP 350 Test Level 3 shall be installed on all guardrail being reset. The existing steel offset brackets and backup plates shall become the property of the contractor.

The following Subsection is added:

606.021 General

All existing guardrail to be raised or lowered shall be completed prior to new guardrail or end treatments being attached.

606.036 Adjusting Existing Guardrail

Any materials or galvanizing damaged by the Contractor's operations shall be replaced or touched-up at no additional cost to the Authority.

Guardrail posts shall be raised to a minimum of five inches above final elevation prior to driving post to final elevation; this applies to both raising and lowering rail.

Any given length of guardrail to be adjusted shall be done in such a way that top of rail elevations do not vary drastically between each section of guardrail. Rail height tolerance shall be 30 inches, plus 0 inches, minus 1/2 inch. The 30 inches shall be measured from the Solid Yellow Line; with consideration of the distance from the Solid Yellow Line to the face of guardrail and the slope requirement of the shoulder.

Rail shall be adjusted for lean where needed. All posts shall be plumb after adjusting for lean.

When the rail tapers from one bound to the other the rail shall be adjusted to the correct height on the farthest ends and shall be adjusted towards the center of the median to create a smooth line.

Earth around each adjusted or reset post shall be raked and compacted with a minimum 8 pound hand tamper or an approved device. Holes created due to adjusting or resetting a post shall be filled with a similar surrounding material and compacted.

606.08 Method of Measurement

The following paragraphs are added:

Adjusting of both single and double rail guardrail shall be measured by the linear foot of Guardrail adjusted and accepted.

Raking and compacting the earth around each reset post with a minimum 8 pound hand tamper or an approved device, and infilling and compacting holes created due to resetting posts with a similar surrounding material will not be paid separately, but shall be incidental to the Guardrail - Remove, Modify and Reset Pay or Guardrail - Adjust pay items.

Guardrail Remove and Stack will be measured on a linear foot basis of guardrail satisfactorily removed and stockpiled whether single rail or double rail. Single and double twisted end sections will be measured for payment on a linear foot basis as 25 feet of guardrail removed.

Guardrail removed and not reset or stacked shall be incidental to Contract Items and include all removal, disposal, equipment and labor necessary to satisfactorily complete the work.

Steel posts to replace damaged posts shall come from the stockpile of guardrail components to be disposed of, from this Contract and will not be measured separately for payment. If, in the opinion of the Resident, there are no suitable steel posts in the stockpile then steel posts will be measured for payment.

W-beam rail elements to replace damaged rail elements shall come from the stockpile of guardrail from the Remove and Stack or the guardrail to be disposed of from this Contract and will not be measured separately for payment. If, in the opinion of the Resident, there are no suitable W-beam rail elements in the stockpile then the W-beam rail elements will be measured for payment.

606.09 Basis of Payment

The following paragraphs are added:

Adjusting of single and double rail guardrail will be paid for at the Contract unit price per linear foot and shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work. Guardrail Adjust will not be measured for payment until all compaction has been completed.

The accepted quantity of guardrail removal will be paid for at the Contract unit price bid, which price shall be full compensation for removing, transporting and stacking all guardrail elements, component parts and hardware, equipment, labor and all incidentals necessary to complete the work. No additional payment will be made for double rail.

Payment will be made under:

Pay Item		Pay Unit
606.3605	Guardrail – Remove, Modify, and Reset Single Rail	Linear Foot
606.3606	Guardrail – Remove, Modify, and Reset Double Rail	Linear Foot
606.369	Guardrail - Remove and Stack	Linear Foot
606.3621	Guardrail Adjust, Single Rail	Linear Foot
606.3622	Guardrail Adjust, Double Rail	Linear Foot

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Single Offset Block – W-Beam)
Single Offset Block - Thrie-Beam)
(Asymmetrical Thrie Beam Transition)

606.01 Description

The following paragraph is added:

This work shall consist of furnishing and installing single offset blocks at all existing guardrail beam locations that are not part of a new or remove, modify and reset location and as shown on the Contract Documents. New NCHRP 350 compliant offset block shall be installed on existing galvanized steel posts and connected to Guardrail Type 3d and Thrie Beam Rail.

This work shall consist of removing and stacking existing Thrie Beam Transition panels, furnishing and installing the Asymmetrical Thrie beam to W-beam Transition panels, single rail - modified section and double rail modified section, connecting it to the existing or proposed W-Beam guardrail and Thrie Beam modified at locations on the Maine Turnpike, as shown on the Plans or as approved by the Resident. All guardrail components shall have passed the NCHRP 350 Test Level 3. Composite offset blocks shall be used.

606.02 Materials

The following sentences are added:

Offset blocks shall have passed NCHRP 350 Test Level 3 and shall not be wood.

The following Subsection is added:

606.021 General

The existing median guardrail posts have four off-center bolt holes used to attach the existing steel offset blocks. The new offset blocks have two bolt holes centered on the W-beam section. The existing posts must be retrofitted to receive the new non-wood offset block assembly. Additional bolt holes required in the existing posts shall be drilled or punched but the size shall not exceed the dimension given by the manufacturer. Metal around the holes shall be cleaned and painted with a cold-applied zinc-rich paint. The holes shall not be burned with a torch.

The completed guardrail system shall be in conformance with the NCHRP 350 Test Level 3 requirements.

606.08 Method of Measurement

The following paragraphs are added:

Single Offset Block - W-Beam and Single Offset Block - Thrie Beam shall be measured per each unit installed and accepted.

Asymmetrical Thrie Beam Transition shall be measured by each unit installed and accepted.

606.09 Basis of Payment

The following paragraphs are added:

New Single Offset Block - W-Beam and Single Offset Block - Thrie Beam furnished and installed at specified locations will be paid for at the Contract unit price each complete in place and accepted. Payment shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work including, but not necessarily limited to, removal of existing rail beam, removal and disposal of existing offset block, drilling new holes in existing post, application of galvanized paint, furnishing and installing new non-wood offset block, removal and disposal of back-up plates, and resetting the rail beam.

Asymmetrical Thrie Beam Transition will be paid for at the Contract unit price each complete in place, and shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work consisting of, but not necessarily limited to, furnishing and installing the Asymmetrical Thrie Beam to Existing W-beam Transition, Single Rail - Modified Section and Existing Double Rail – Modified Section, and all detailed accessories; furnishing and installing all required posts, composite offset blocks, cables, nuts, bolts, washers, and all other items necessary to complete the installation and connection to the existing or proposed W-Beam and the Thrie Beam – Modified.

Payment will be made under:

Pay Item		Pay Unit
606.471	Single Offset Block – W-Beam	Each
606.472	Single Offset Block – Thrie Beam	Each
606.701	Asymmetrical Thrie Beam Transition	Each

SPECIAL PROVISION

SECTION 610

STREAMBED LOG FEATURES

610.01 Description

This work consists of furnishing and placing log sections embedded in the special fill of the relocated streambed to simulate naturally occurring features.

610.02 Materials

Material for streambed log features shall consist of solid, sound, durable logs that have not been debarked. Logs shall be of a common hardwood species indigenous to Southern Maine.

Log sections will typically be between 12" and 18" inches in diameter, and 8' to 16' in length, such that they may be adequately buried in the side slopes of the trapezoidal stream channel in a manner that will provide stability of the log and prevent it from moving with the flow of water.

610.03 Construction Requirements

Log Sections will be placed in relatively straight sections of the proposed stream. Precise placement of Log Sections will be at the location and direction of the Authority. Some sections may be skewed across the Stream Channel to facilitate flow and better simulate natural stream conditions. The Log Sections shall be placed such that approximately 6" to 8" of the log is above the proposed streambed elevation. Precise placement will be determined in the field.

610.04 Method of Measurement

Streambed Log Features will be measured by the Each, complete and in place.

610.05 Basis of Payment

The accepted quantity of streambed log features will be paid for at the contract unit price per each complete, in place. Payment shall be full compensation for furnishing all materials, equipment, and labor and any necessary excavation to embed the sections into the stream channel.

Payment will be made under:

Pay Item	Pay Unit
610.2122 Streambed Log Features	EA

SPECIAL PROVISION

SECTION 613

EROSION CONTROL BLANKET

613.01 Description

This work shall also include seeding, mulching and watering the median swale and/or longitudinal flow line to the limits and width as shown on the Plans or as directed by the Resident.

613.02 Materials

The following sentences are added:

Seeding shall meet the requirements of Section 618, Seeding, Method Number 2.

Mulch shall meet the requirements of Section 619.

The following Subsection is added:

613.041 Maintenance and Acceptance

See Section 618.10 for maintenance and acceptance of seeding.

613.042 Mulch

All mulch shall be placed after the area has been seeded and prior to the installation of the Erosion Control Blanket.

613.09 Basis of Payment

The following "and mulch" is added after the words "initial seeding" in the second sentence.

SPECIAL PROVISIONS

SECTION 618

SEEDING

(Special Seeding)

618.02 Materials

The following paragraph is added:

Special Seed (wetland seed mix-moist) shall be "New England Erosion Control/Restoration Mix for the Detention basins and Moist Sites" as supplied by New England Wetland Plants, Inc., Amherst, MA or an approved equal. All fertilizers, soil conditioners, limestone and other materials required to germinate, initiate and sustain seed growth shall be materials recommended by New England Wetland Plants, Inc. or other approved seed manufacturer as determined by the MTA Environmental Staff.

618.03 Rate of Application

Subsection (a) is deleted and replaced with the following:

(a) Except for Special Seed mix, agricultural ground limestone shall be applied at the rate of 33 pounds per unit for all seeding methods. Liquid lime shall be applied at the rate of 1/2 pint per unit for hydraulic method. A 1/2 pint of liquid lime shall be mixed with five pints of water.

Subsection (g) is added:

g. The Special Seeding shall be applied at a rate of 1 Unit per 1,250 SF. Fertilizers, limestone and other soil conditioners shall be applied at the manufacturers recommended rate. All seed shall be covered by a temporary erosion Control blanket immediately after seeding.

618.10 Maintenance and Acceptance

The second paragraph is deleted and replaced with the following:

The Contractor shall water the special seed as necessary and shall insure the continued growth of the special seed. The Authority will accept areas sown with Special Seed upon attainment of a reasonably thick stand of grass with at least 90 percent coverage, free from sizable thin or bare spots. Areas not meeting this requirement shall be reseeded and shall comply with Subsections 618.03 through 618.09.

618.12 Basis of Payment

The first paragraph is deleted and replaced with the following:

The Authority will pay for the accepted quantity of Special Seed at the Contract price per unit, which price shall be full compensation for furnishing and spreading seed, limestone fertilizer, and inoculants. The price shall also include any reseeding, watering, and maintenance necessary to meet the requirements of Section 618.10, Maintenance and Acceptance.

Payment will be made under:

Pay Item		Pay Unit
618.143	Special Seeding	Unit

SPECIAL PROVISION

SECTION 619

MULCH

(Mulch – Plan Quantity)
(Temporary Mulch)

619.01 Description

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

"as a temporary or permanent erosion control measure" after the word "mulch".

Add the following sentence at the end of the first paragraph:

Refer to Section 656 Temporary Soil and Water Pollution Control, for more information on Temporary Mulch.

619.03 General

The first paragraph is deleted and replaced with the following:

Cellulose fiber mulch shall not be used within 200 feet of a wetland or stream. The limits shall be 200 feet up station and down station of the wetland or streams as well as the slopes adjacent to the stream. The application of hay or straw mulch with an approved binder shall be used at these locations to prevent erosion.

The use of cellulose fiber mulch will only be allowed at other areas with the approval of the Resident. The Contractor may be required to demonstrate that the material may be applied in a manner that will prevent erosion and will aid in the establishment of permanent vegetation. The Resident reserves the right to require the use of hay or straw mulch at all locations if he determines that the cellulose mulch is ineffective. Cellulose fiber mulch is not acceptable for winter stabilization.

610.06 Method of Measurement

The following sentence is added:

Temporary Mulch will be paid for by the lump sum.

656.10 Basis of Payment

Temporary Mulch will be paid for at the Contract price per lump sum which shall be full compensation for furnishing and spreading the Temporary Mulch as many times as necessary as determined by the Contractor's operations and staging. The price shall also include the additional mulch netting and snow removal necessary during the winter months.

Payment will be made under:

Pay Item		Pay Unit
619.1201	Mulch – Plan Quantity	Unit
619.1202	Temporary Mulch	Lump Sum

SPECIAL PROVISION

SECTION 626

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

626.031 Conduit

The following paragraph shall be added:

All conduit provided under this contract shall be Schedule 80 PVC.

The third paragraph shall be deleted and replaced with:

Junction boxes for the electrical associated with highway lighting shall be polymer concrete as manufactured by QUAZITE® a division of Hubbell Power Systems or an approved equal. The boxes shall be 18" x 11" and 18" deep. New boxes shall have the word LIGHTING stamped on the cover as noted in the Plans or directed by the Resident. The boxes shall have an 15,000 lb. load rating.

The fourth paragraph shall be deleted and replaced with:

Where conduits enter exposed junction boxes, they shall be sloped to drain towards the conduit entrance holes, unless otherwise directed. All conduit ends in exposed junction boxes or in concrete foundations shall be fitted with bell ends. Weep holes of ¼ inch diameter shall be placed in all pull boxes, junction boxes, and fuse boxes. A 3-inch PVC drain pipe shall be installed projecting 3" into the gravel bedding and extend until daylight at a minimum of 0.5% slope draining away from the junction box.

626.033 Polyvinylchloride Conduit Installation

The following paragraph shall be added:

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

626.034 Concrete Foundations

The following paragraphs shall be added after the 10th paragraph:

The above grade portion of concrete foundation surfaces shall receive an application of Type 1C penetrating silane concrete sealer from the MaineDOT Qualified Products List. The application rate and method of application shall be in accordance with manufacturer's published recommendations.

On surfaces to be treated, all voids shall be filled with mortar and the entire surface shall be dressed by dry rubbing to remove marks and blemishes to present a neat appearance. The silane application shall not be done until 14 days minimum after casting. Surfaces shall be free from laitance, oil, dirt, grease, dust, curing compound or any other deleterious material. The temperature of the concrete shall be above 40 degrees F and below 90 degrees F at the time of application or per manufacturer's published recommendations.

Any concrete foundation that is damaged during placement or doesn't meet design requirements will be replaced. No repairs to the foundations will be allowed.

All precast foundations in satisfactory condition as determined by the Resident shall be stacked at the MTA Crosby Maintenance Area. All cast in place foundations, and precast foundation in unsatisfactory condition shall become property of the contractor and disposed of by the Contractor off the turnpike right-of-way.

626.035 Wiring

This item shall include the providing and installation of the AWG wire, as described herein grounding wires (where applicable) and other locations called for in the plans/specifications. All wire installed in conduit must be copper and burial grade, suitable for wet locations.

626.04 Method of Measurement

The following sentence is added:

Quazite junction box shall be measured by each unit in place and accepted existing or new and shall include 3-inch pvc drain pipe as shown in the plans.

Precast junction box shall be measured by each unit in place and accepted existing or new plans.

626.05 Basis of Payment

The following sentence shall be added to the third paragraph:

Payment of non-metallic conduit shall also include furnishing, installation, routing, termination, splices and connection of the wire per the plans and specifications. Payment for non-metallic conduit shall include furnishing and installing all wire required to complete the work as designated on the plans.

The words, "polymer concrete" shall be added after the words, "precast concrete" in the second sentence of the second paragraph.

Payment will be made under:

Pay Item		Pay Unit
626.122	Quazite Junction Box (18X11)	Each

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary 6 Inch Pavement Marking Tape)
(Temporary 6 Inch Black Pavement Marking Tape)

627.01 Description

The following sentence is added:

This work shall also consist of furnishing, placing, maintaining and removing temporary pavement marking tape at locations shown on the Plans or as directed by the Resident.

This work shall also consist of furnishing, placing, maintaining and removing temporary black pavement marking tape at locations shown on the Plans or as directed by the Resident. Temporary 6 Inch Black Pavement Marking Tape shall be used to cover conflicting existing pavement marking paint.

627.02 Materials

The following paragraph is added:

Temporary pavement marking tape shall be Stamark Wet Reflective Removable Pavement Marking Tape Series 710 as manufactured by 3M of St. Paul, Minnesota or an approved equal.

Temporary pavement marking tape shall be Stamark Removable Black Line Mask Tape Series 715 as manufactured by 3M of St. Paul, Minnesota or an approved equal.

627.04 General

The following paragraphs are added:

Work under this item shall be in accordance with the manufacturer's recommendations. A factory representative from 3M shall be present for the first application of all temporary pavement marking tape to insure proper application and product performance.

The pavement markings shall be applied mechanically to clean dry pavement as recommended by the manufacturer and approved by the Resident.

Temporary pavement markings shall consist of applying six inch solid white, six inch broken white, and six inch yellow reflectorized pavement marking tape for traffic maintenance during construction as shown on the Plans or as directed by the Resident.

Temporary pavement marking tape that loses reflectivity, becomes broken, dislodged or missing during the life of the Contract shall be replaced by the Contractor at no additional cost to the Authority.

627.06 Application

The following paragraphs are added:

For application of the tape, when the pavement temperature is below 50°F, heat shall be applied to the pavement surface, if deemed necessary by the factory representative or as directed by the Resident, at no additional cost to the Authority. Proper primer for the temperatures shall be used as directed by the manufacture.

The pavement mark tape shall be rolled over with a vehicle once application is complete and then scored every 20 feet when placed in long runs to prevent full length unraveling.

627.08 Removing Lines and Markings

The following sentence is added:

Removal of temporary pavement marking tape shall be accomplished without the use of heat, solvents, grinding or sandblasting and in such a manner that no damage to the pavement results.

627.09 Method of Measurement

The following paragraph is added:

Temporary Pavement Markings - Tape will be measured for payment by the linear foot. The measurement of broken lines will not include the gaps.

627.10 Basis of Payment

The following paragraphs are added:

Payment for the Temporary Pavement Markings - Tape will be made at the Contract bid price per linear foot, which price shall include furnishing, installing, maintaining and removing the temporary tape and all materials, labor, equipment and incidentals necessary to accomplish the work. Replacement of Temporary Pavement Markings - Tape, as described above, will be incidental and no separate payment will be made.

Payment for the Temporary 6 Inch Black Pavement Marking Tape will be made at the Contract bid price per linear foot installed, which price shall include furnishing, installing, maintaining and removing the temporary tape and all materials, labor, equipment and incidentals necessary to accomplish the work. Replacement of 6 Inch Black Temporary Pavement Marking Tape, as described above, will be incidental and no separate payment will be made.

Payment will be made under:

Pay Item		Pay Unit
627.73	Temporary 6 Inch Pavement Marking Tape	Linear Foot
627.731	Temporary 6 Inch Black Pavement Marking Tape	Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary Raised Pavement Markers)

627.01 Description

The following sentence is added:

This work shall consist of furnishing, placing and removing temporary raised pavement markers at locations as shown on the Plans or as directed by the Resident.

627.02 Materials

The second paragraph is deleted and replaced with the following:

The temporary raised pavement markers shall be white or yellow one way markers (Type Tom W-1, Y-1, Grade WZ) as distributed by Davidson Plastics Co. (DAPCO), Kent, WA, or an approved equal. Colors shall conform to 2009 MUTCD requirements.

627.04 General

The following sentences are added:

Temporary raised pavement markers shall only be used be used to delineate edge lines (SWEL and SYEL) only after placement of the surface course (HMA 12.5 mm).

Temporary raised pavement marker that lose 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.

The spacing and number of temporary pavement markers installed as edge lines shall be the same as shown for the BWLL on the Plans for Temporary Pavement Marking.

627.09 Method of Measurement

The following sentence is added:

Temporary Raised Pavement Markers will be measured by each unit, complete in place, maintained and accepted.

627.10 Basis of Payment

The following paragraphs are added:

The accepted quantity of Temporary Raised Pavement Markers white and/or yellow will be paid for at the Contract price each. This price shall include all labor and materials to furnish, install, maintain, and remove the markers.

Payment will be made under:

Pay Item		Pay Unit
627.812	Temporary Raised Pavement Markers	Each

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Pavement Marking Tape)
(Pavement Marking Tape – Dotted White Lane Line, 6-inch Width)

627.01 Description

The following sentence is added:

This work shall consist of furnishing and placing reflective pavement marking tape in conformity with the Plans, as specified herein and as directed by the Resident.

The pavement marking tape shall be installed at all locations.

627.02 Materials

The following sentence is added:

For the Broken White Lane Line (BWLL), Pavement Marking Tape shall be 3M Stamark™ High Performance Tape Series 380AW – High Performance pavement marking tape, color- white, six (6) inch width, as manufactured by 3M of St. Paul, Minnesota.

For the Dotted White Lane Line (DWLL), Pavement Marking Tape shall be 3M Stamark™ High Performance Tape Series 380I ES – High Performance pavement marking tape, color- white, six (6) inch wide and twelve (12) inch wide, as manufactured by 3M of St. Paul, Minnesota.

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627.04 General

The following paragraphs are added:

The tape shall be used as a supplemental broken white lane line. The tape shall be installed between the painted Broken White Lane Line (BWLL) spaced eighty (80) foot center to center as shown on the Plans. The length of the tape shall be three (3) feet.

The tape shall also be used to mark a Dotted White Lane Line (DWLL) and shall be installed on parallel deceleration and acceleration lanes at locations as noted in the Plans. On deceleration lanes, the tape shall be installed from the beginning of the full width deceleration lane and shall extend to the theoretical gore markings. On acceleration lanes, the DWLL shall extend from the theoretical gore markings to a point one-half of the total length of the acceleration lane (including the lane taper length). Layout data is noted on the Plans. Dotted White Lane Line tape shall be three (3) foot in

length and shall be spaced nine (9) feet apart. Spacing from the Solid White Lane Line (SWLL) or the Theoretical Gore Markings shall be nine (9) feet.

627.05 Preparation of Surface

The following paragraph is added:

The Contractor shall mill a groove in the pavement for each tape length to be placed ("in-and-out" pattern). Continuous grooving for installation of the tape shall not be allowed. The groove length shall be the required tape length plus 12 inches on both ends. Tape length spacing shall be as shown on the plans. The groove width for inlaid tape pavement marking shall be the pavement marking width plus 1 inch, with a tolerance of ± ¼ inch. The groove shall have a uniform depth of 150 Mils (±20 Mils). Groove position shall be a minimum of 2 inches from the edge of the pavement marking to the longitudinal pavement joint. The bottom of the groove shall have a smooth, flat finished surface. The use of gang stacked Diamond cutting blades is required for asphalt pavement surfaces. The spacers between blade cuts shall be such that there will be less than a 10 mil rise in the finished groove between the blades.

Grooves shall be clean, dry and free of laitance, oil, dirt, grease, paint or other foreign contaminants. The Contractor shall prevent traffic from traversing the grooves, and re-clean grooves, as necessary, prior to application of the primer and pavement marking tape. Depth plates shall be provided by the contractor to assure that desired groove depth is achieved.

Reference is made to 3M Information Folder 5.18 Grooving Applications, May 2011, "Application Guidelines for Pavement Marking in Grooved Pavement Surfaces."

627.09 Method of Measurements

The following paragraph is added:

The quantity of Pavement Marking Tape measured for payment will be the linear feet of tape in place and accepted. The measurement will not include the gaps.

627.10 Basis of Payment

The following paragraphs are added:

The accepted quantity of pavement marking tape will be paid for at the Contract unit price per linear foot which price shall include all material, pavement grooving, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
627.94	Pavement Marking Tape	Linear Foot
627.941	Pavement Marking Tape – Dotted White Lane Line, 6-inch Width	Linear Foot

SPECIAL PROVISION

SECTION 634

HIGHWAY LIGHTING

(Remove and Reset Light Standard)

634.01 Description

The following paragraphs are added:

The work shall consist of removing existing light standards with bracket arms and luminaires. All existing standards, LED luminaires, and associated appurtenances, removed shall be handled with care and stored securely to prevent damage, until reinstalled by the Contractor.

The work shall also consist of resetting the light standards with bracket arms and luminaires, resetting with associated appurtenances, and wiring systems on new concrete foundations as shown on the Plans.

The work shall also consist of furnishing and installing disconnect fuse kits in the pole base of light standards without a disconnect fuse kit, or with a damaged disconnect fuse kit.

The work shall also consist of furnishing and installing new wire(s) from the (existing or new) disconnect fuse kit to the existing LED fixture, should the existing wire(s) at the luminaire be brittle and there be insufficient slack in the wire(s) to cut out the brittle wire(s) and properly connect the existing LED fixture.

Existing or temporary lighting is intended to remain operational until new conduit, junction boxes, wire, and foundations are installed, and the existing light standards are reset and functioning. Any temporary lighting that may be needed during removing and resetting of existing light standards shall be incidental to the 634 items.

634.02 General

The following paragraphs are added:

All Contract work shall be overseen by a Maine licensed Master Electrician. The lead person for the field installations shall be either a Maine licensed Master Electrician, or a Maine licensed Journeyman Electrician. Apprentice Electricians, Helper Electricians, Journeyman-In-Training Electricians, and helpers may work under the Master or Journeyman Electrician as permitted under the law.

The Contractor shall comply with National Electrical Code (NFPA 70) as applicable to construction and installation of electrical cable, wire and connectors; provide electrical cable, wire

and connectors, which have been listed and labeled by Underwriters Laboratories, and comply with National Electrical Manufacturers Association/Insulated Power Cable Authorities Association Standards publications pertaining to materials, construction and testing wire cable, where applicable.

At a minimum the Contractor shall provide the following field quality control:

- Prior to energizing, check wire for continuity of circuitry and for short circuits with ohmmeter type testing equipment. Correct malfunction when detected.
- Subsequent to wire hook-ups, energize circuitry and demonstrate functioning in accordance with requirements.

634.021 Materials

The following paragraphs are added:

Disconnect fuse kits in pole bases shall be Ideal SLK Disconnect Fuse Kit 30-S2212, or similar approved Ideal SLK Disconnect Fuse Kit, matched to the pole wiring configuration.

Splices in junction boxes shall be made with Burndy UGS350ULDB Direct Burial/Submersible Splice Wire Range #12 AWG – 350KCMIL connectors for the appropriate wire count only.

634.04 Cable Installation

The reset light standards that do not have a disconnect fuse kit or have a damaged or un-suitable disconnect fuse kit in the pole base, shall have a new disconnect fuse kit installed. The work will be included in the payment for reset light standard.

The reset light standards where the existing wire(s) at the luminaire or base are brittle and there is insufficient slack in the wire(s) to cut out the brittle portions of wire(s) and properly reset the light standard, shall have new wire(s) installed from the LED fixture to the (existing or new) disconnect fuse kit in the pole base. The work will be included in the payment for reset light standard.

Splices in junction boxes shall be made with Burndy UGS350ULDB Direct Burial/Submersible Splice Wire Range #12 AWG – 350KCMIL connectors for the appropriate wire count only.

634.051 Removing Light Standards

The Contractor will not be allowed to remove the existing light standards until all new foundations, wiring, conduits and junction boxes have been installed. Existing light levels shall be maintained while new light standards are being installed and made fully operational. New breakaway devices and mounting hardware shall be required on all reset light standards. If breakaway devices do not exist on the existing light standard, new breakaway devices shall be supplied and installed.

634.06 Luminaires

The second paragraph is revised to read:

The connections between the luminaires and connector kits shall be made with number 10 wires AWG copper stranded XHHW, minimum size. A 14 inch long Teflon sleeve shall be placed over each end of each conductor in the luminaire.

634.092 Method of Measurement

The following sentence is added:

Confirming if the existing pole(s) have a disconnect fuse kit in the base will not be paid separately, but shall be incidental to the Remove and Reset Light Standard pay item.

Remove and Reset Light Standard will be measured by the single unit, complete in place and accepted.

634.093 Basis of Payment

The following paragraphs are added:

Payment for Remove and Reset Light Standard will be paid at the Contract unit price each for the number of units that are removed and reset. Payment shall be full compensation for the removal and resetting of the light standard, including luminaires, new breakaway device installed, new pole wires, new disconnect fuse kit, new ground rods, removal of existing foundations, abandoned conduit, and all incidentals necessary to provide a complete and working light standard as shown on the plans.

Payment will be made under:

Pay Item		Pay Unit
634.208	Remove and Reset Light Standard	Each

SPECIAL PROVISION
SECTION 645

HIGHWAY SIGNING
(Remove and Reset Mainline Sign)

645.01 Description

The following paragraphs are added:

This work shall consist of removing and resetting the existing highway guide signs as shown on the Plans. The work includes a combination of the following: removal, resetting, modifying, furnishing, and disposal of concrete foundations, steel posts, and breakaway foundations. Existing materials from the existing sign installation may be reused to reset the existing sign or another sign.

The signs' message shall remain visible to turnpike drivers at all times unless other provisions have been approved.

645.02 General

The following sentences are added:

New concrete foundations shall conform to the requirements of Section 626 and shall be in conformance with the Maine Department of Transportation Standard Details in conjunction with the information shown on the Plans.

Breakaway devices shall be B525 or B650 as manufactured by Transpo Industries, Inc. (www.transpo.com).

645.05 Signs

The following paragraphs are added:

The removal and resetting of the mainline signs shall be completed in accordance with the details as shown on the Plans. The Contractor shall keep all signs visible to turnpike drivers except for the period of time necessary to actually complete the relocation. The sign panel shall not be removed and relocated until after the proposed sign support system (foundation and posts) have been installed in the final location. One (1) working day is allowed for the sign relocation.

The Contractor may elect to utilize all new materials or reuse materials from other sign locations that have previously been reset. The cutting of structural steel post shall be accomplished by mechanical means. The use of burning to cut shall not be allowed. Any damaged area shall be repaired with two coats of zinc-rich chromium paint. Material removed from an existing sign location and not reused at a proposed sign location shall become the property of the Contractor.

All signs posts on breakaway foundations shall be installed in accordance with the Specifications for breakaway devices.

645.08 Method of Measurement

The following sentence is added:

Remove and Reset Mainline Sign shall be measured for payment as one lump sum for each sign number as shown on the Plans.

645.09 Basis of Payment

The payment for Remove and Reset Mainline Sign shall be at the Contract lump sum price for each sign number. This payment shall be full compensation for furnishing all new materials, removing, modifying resetting existing material and signs, and all labor and equipment necessary to complete the installation in accordance with the manufacture's recommendations. This includes furnishing and installing new materials such as structural steel, concrete foundations, and single and multipole breakaway devices. Compensation for the excavation and backfill for the concrete foundation, as well as removal of the concrete foundation, shall be included in this item.

Payment will be made under:

Pay Item		Pay Unit
645.501	Remove and Reset Mainline Sign No. 1	Lump Sum

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Specific Project Maintenance of Traffic Requirements)

This Specification describes the specific project maintenance of traffic requirements for this Project.

The following minimum traffic requirements shall be maintained. These requirements may be adjusted based on the traffic volume when authorized by the Authority.

Temporary lane closures that would restrict travel to one lane in each direction shall be conducted at night between the times presented in the table below. Liquidated damages shall be assessed at $1,000/minute for every minute that a temporary lane closure is in place outside the times presented in the table below.

During milling and paving operations, the lane(s) adjacent to the lane in which work is being performed shall also be closed to traffic.

The following shall dictate at what rate speed shall be reduced when work is being performed.

50 MPH Speed Limit – for all Paving and Milling Operations
60 MPH Speed Limit – for all other Operations

A Spotter shall be required at the front and rear of the paving operation on the mainline or as approved by the Resident and shall not be measured for payment. All spotters shall be equipped with handheld radios and spare batteries. The spotters will be required to move and maintain drums during the mobile paving operation.

652.62 Patrol Vehicle

The Contractor shall provide one traffic control vehicle(s) dedicated for traffic control only, with traffic coordinator(s) to be used for erecting, maintaining and dismantling lane closures as directed by the Resident. The traffic control vehicle(s) shall provide continuous patrolling (24-hours/seven days a week) when lane closures are installed (during non-work and work hours) to replace any and all damaged traffic control devices (arrow boards, variable message signs, barrels, signs, etc.). The traffic coordinator(s) shall report any and all disabled motorists, accidents or other unusual occurrences to the Resident, his representative or the Turnpike Authority's communication dispatcher throughout the duration of any and all lane closures.

The traffic control vehicle shall meet the following requirements:

a. In good mechanical condition, clean and presentable at all times.

b. Be equipped with a cellular phone capable of communicating with the Resident, his representative or the Turnpike Authority's communication dispatcher.

c. Be equipped with a mounted revolving amber light or amber strobe light capable of 360-degree visibility to meet all lighting requirements.

d. Be equipped with a light bar (arrow board).

Spotters will not be measured separately for payment except as noted, but shall be incidental to Item 652.361, Maintenance of Traffic Control Devices.

The patrol vehicle(s), driver(s), assistant(s) and cellular phone(s) will not be measured separately for payment, but shall be incidental to Item 652.361.

Northbound Mainline Closure from Start Date to June 19th, 2021					
		Temporary Double Lane Closure	Temporary Single Lane Closure	Equipment Moves	Temporary Shoulder Closures
Days of Week:	**Sunday night through Friday Morning**				
Time of Day:	9:00 p.m. to 6:00 a.m.	Allowed	Allowed	Allowed	Allowed
Time of Day:	6:00 p.m. to 6:30 a.m.		Allowed	Allowed	Allowed
Time of Day:	9:00 a.m. to 6:00 a.m.		Allowed		Allowed
Days of Week:	**Friday night to Saturday morning**				
Time of Day:	10:00 p.m. to 6:30 a.m.	Allowed	Allowed	Allowed	Allowed
Time of Day:	7:30 p.m. to 8:30 a.m.		Allowed	Allowed	Allowed

Northbound Mainline Closure from June 20th, 2021 to September 11, 2021					
		Temporary Double Lane Closure	Temporary Single Lane Closure	Equipment Moves	Temporary Shoulder Closures
Days of Week:	**Sunday night through Monday Morning**				
Time of Day:	9:00 p.m. to 6:00 a.m.	Allowed	Allowed	Allowed	Allowed
Time of Day:	5:00 p.m. to 6:30 a.m.		Allowed	Allowed	Allowed
Days of Week:	**Monday night to Friday morning**				
Time of Day:	10:00 p.m. to 6:00 a.m.	Allowed	Allowed	Allowed	Allowed
Time of Day:	7:00 p.m. to 6:30 a.m.		Allowed	Allowed	Allowed
Days of Week:	**Friday night to Saturday morning**				
Time of Day:	11:00 p.m. to 6:30 a.m.	Allowed	Allowed	Allowed	Allowed

Time of Day:	9:00 p.m. to 8:00 a.m.		Allowed	Allowed	Allowed
Southbound Mainline Closure from Start Date to June 19th, 2021					
		Temporary Double Lane Closure	Temporary Single Lane Closure	Equipment Moves	Temporary Shoulder Closures
Days of Week:	**Sunday night through Monday Morning**				
Time of Day:	9:00 p.m. to 6:00 a.m.	Allowed	Allowed	Allowed	Allowed
Time of Day:	7:30 p.m. to 2:30 p.m.		Allowed	Allowed	Allowed
Days of Week:	**Monday night to Friday morning**				
Time of Day:	8:00 p.m. to 6:00 a.m.	Allowed	Allowed	Allowed	Allowed
Time of Day:	7:00 p.m. to 2:30 p.m. (1:00 p.m. Fridays)		Allowed	Allowed	Allowed
Days of Week:	**Friday night to Saturday morning**				
Time of Day:	9:00 p.m. to 6:30 a.m.	Allowed	Allowed	Allowed	Allowed
Time of Day:	7:00 p.m. to 10:00 a.m.		Allowed	Allowed	Allowed

Southbound Mainline Closure from June 20th, 2021 to September 11					
		Temporary Double Lane Closure	Temporary Single Lane Closure	Equipment Moves	Temporary Shoulder Closures
Days of Week:	**Sunday night through Monday Morning**				
Time of Day:	10:00 p.m. to 6:00 a.m.	Allowed	Allowed	Allowed	Allowed
Time of Day:	9:00 p.m. to 10:00 a.m.		Allowed	Allowed	Allowed
Days of Week:	**Monday night to Friday morning**				
Time of Day:	10:00 p.m. to 6:00 a.m.	Allowed	Allowed	Allowed	Allowed
Time of Day:	7:00 p.m. to 10:00 a.m.		Allowed	Allowed	Allowed
Days of Week:	**Friday night to Saturday morning**				
Time of Day:	10:00 p.m. to 8:00 a.m.	Allowed	Allowed	Allowed	Allowed
Time of Day:	7:00 p.m. to 9:00 a.m.		Allowed	Allowed	Allowed

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC
(October 8, 2020)

MaineDOT Standard Specification 2014 Edition Section 652 – Maintenance of Traffic and the Maine Turnpike Authority 2016 Supplemental Specification Section 652 – Maintenance of Traffic are deleted in their entirety and replaced with the following:

652.1 Description

This work shall consist of furnishing, installing, maintaining and removing traffic control devices necessary to provide reasonable protection for motorists, pedestrians and construction workers in accordance with these Specifications, the applicable provisions of Section 105.4.5 - Special Detours, and the plans.

Traffic control devices include signs, signals, lighting devices, markings, barricades, channelizing, and hand signaling devices, portable light towers, truck mounted impact attenuators, traffic officers, and flaggers.

652.2 Materials

All traffic control devices shall conform to the requirements of the latest edition of the MUTCD, NCHRP 350 guidelines **and all Traffic control devices shall meet Manual for Assessing Safety Hardware (MASH) 16 guidelines if date of manufacture was after December 31, 2019**.

All signs shall be fabricated with high intensity fluorescent retroreflective sheeting conforming to ASTM D 4956 - Type VII, Type VIII, or Type IX (prismatic). All barricades, drums, and vertical panel markers shall be fabricated with high intensity orange and white fluorescent retroreflective sheeting conforming ASTM D 4956 - Type VII, Type VIII, or Type IX (prismatic).

Construction signs shall be fabricated from materials that are flat, free from defects, retroreflectorized, and of sufficient strength to withstand deflections using a wind speed of 80 miles/hr.

652.2.2 Signs

Only signs with symbol messages conforming to the design of the Manual of Uniform Traffic Control Devices(MUTCD) shall be used unless the Resident approves the substitution of word messages.

Any proposed use of temporary plaques to cover text or to change text shall be approved by the resident. All signs or proposed plaques shall have a uniform face and be constructed from similar sheeting.

All signs shall be new, or in like new condition and maintained in like new condition throughout the project duration. Signs shall be cleaned just prior to installation and throughout the project utilizing a method that will not damage the reflective sign sheeting.

652.2.3 Flashing Arrow Board

Flashing Arrow Boards must be of a type that has been submitted to AASHTO's National Transportation Product Evaluation Program (NTPEP) for evaluation and placed on the Maine Department of Transportations' Approved Products List of Portable Changeable Message Signs & Flashing Arrow Panels.

Flashing Arrow Boards units shall meet requirements of the current Manual on Uniform Traffic Control Devices (MUTCD) for Type "C" panels as described in Section 6F.56 - Temporary Traffic Control Devices. Flashing Arrow Boards shall have matrix of a minimum of 15 low-glare, sealed beam, Par 46 elements capable of either flashing or sequential displays as well as the various operating modes as described in the MUTCD, Chapter 6-F. If an Flashing Arrow Board consisting of a bulb matrix is used, each element should be recess-mounted or equipped with an upper hood of not less than 180 degrees. The color presented by the elements shall be yellow.

Flashing Arrow Board elements shall be capable of at least a 50 percent dimming from full brilliance. Full brilliance should be used for daytime operation and the dimmed mode shall be used for nighttime operation. Flashing Arrow Board shall be at least 96 inches x 48 inches and finished in non-reflective black. The Flashing Arrow Board shall be interpretable for a distance not less than 1 mile.

Operating modes shall include, flashing arrow, sequential arrow, sequential chevron, flashing double arrow, and flashing caution. In the three arrow signals, the second light from the arrow point shall not operate.

The minimum element on-time shall be 50 percent for the flashing mode, with equal intervals of 25 percent for each sequential phase. The flashing rate shall be not less than 25 nor more than 40 flashes per minute. All on-board circuitry shall be solid state.

Primary power source shall be 12 volt solar with a battery back-up to provide continuous operation when failure of the primary power source occurs, up to 30 days with fully charged batteries. Batteries must be capable of being charged from an onboard 110 volt AC power source and the unit shall be equipped with a cable for this purpose.

Controller and battery compartments shall be enclosed in lockable, weather-tight boxes.

The Flashing Arrow Board shall be mounted on a pneumatic-tired trailer or other suitable support for hauling to various locations, as directed. The minimum mounting height of an arrow panel should be 7 feet from the roadway to the bottom of the panel.

The face of the trailer shall be delineated on a permanent basis by affixing retro-reflective material, known as conspicuity material, in a continuous line as seen by oncoming drivers.

A portable changeable message sign may be used to simulate an arrow panel display.

652.2.4 Other Devices

Vertical panel markers shall be orange and white striped, 8 inches wide by 24 inches high. On the Interstate System, vertical panel markers shall be orange and white striped, 12 inches wide by 36 inches high.

Cones shall be orange in color, a minimum of 28 inches high, and retro-reflectorized. Retro-reflection shall be provided by a white bands of retro-reflective sheeting conforming to the MUTCD. **All cones utilized on the project shall be new or in like new condition and shall have a consistent design/appearance.**

Drums shall be of plastic or other yielding material, and shall be a minimum of 36 inches high and a minimum of 18 inches in diameter. There shall be at least two retro-reflectorized orange and at least two retro-reflectorized white stripes a minimum of 4 inches wide on each drum. **All drums utilized on the project shall be new or in like new condition and shall have a consistent design/appearance.**

Flaggers shall use a STOP / SLOW hand held paddle as the primary and preferred hand signaling device. Flags shall only be limited to emergencies. STOP / SLOW paddles shall have high intensity prismatic retro reflective sheeting, have an octagonal shape on a rigid handle and shall be at least 18 inches wide with letters at least 6 inches high and shall be constructed from light semi-rigid material. The STOP (R1-1) face shall have white letters and a white border on a red background. The SLOW (W20-8) face shall have black letters and a black border on an orange background.

STOP / SLOW paddles shall also incorporate either white or red flashing lights on the STOP face and white or yellow flashing lights on the SLOW face of the paddle and always be in use.

Paddles must conform to any of the following patterns:

A. Two white or red lights (colors shall be all white or all red), one centered vertically above and one centered vertically below the STOP legend; and/or two white or yellow lights (colors shall be all white or all yellow), one centered vertically above and one centered vertically below the SLOW legend;

B. Two white or red lights (colors shall be all white or all red), one centered horizontally on each side of the STOP legend; and/or two white or yellow lights (colors shall be all white or all yellow), one centered horizontally on each side of the SLOW legend;

C. One white or red light centered below the STOP legend; and/or one white or yellow light centered below the SLOW legend;

D. A series of eight or more small all white or all red lights no larger than 1/4 inch in diameter along the outer edge of the paddle, arranged in an octagonal pattern at the eight corners of the border of the STOP face; and/or a series of eight or more small all white or

all yellow lights no larger than 1/4 inch in diameter along the outer edge of the paddle, arranged in a diamond pattern along the border of the SLOW face; or

E. A series of white lights forming the shapes of the letters in the legend. Flashing light patterns shall be compliant with Section 6E.03 Hand Signaling Devices in the most current version of the Manual on Uniform Traffic Control Devices.

All flashing light patterns on the STOP / SLOW paddle shall be visible from a minimum distance of 1000 feet.

Type I barricades shall be 2 feet minimum, 8 feet maximum in length with an 8 inch wide rail mounted 3 feet minimum above the ground. Type II barricades shall be 2 feet in length with two 8 inch wide rails, and the top rail shall be mounted 3 feet minimum above the roadway. Type III barricades shall be 8 feet in length with three 8 inch wide rails, and the top rail shall be mounted 5 feet minimum above the roadway. The cross members of all barricades shall be of ½ or ⅝ inch thick plywood or other lightweight rigid material such as plastic, fiberglass or fiber wood as approved by the Resident. The predominant color for supports and other barricade components shall be white, except that unpainted galvanized metal or aluminum components may be used.

652.2.5 Portable Changeable Message Sign

Portable-Changeable Message Signs (PCMS) will be furnished by the Contractor and shall be Ver-Mac PCMS-1210 or an approved equal. **The face of the PCMS trailer shall be delineated on a permanent basis by affixing retro-reflective material, known as conspicuity material, in a continuous line as seen by oncoming drivers.** PCMS's shall be located and relocated to locations approved by the Resident within the Project limits for the duration of the Project.

Features to the Ver-Mac PCMS shall include:

- An all LED display.
- Be legible from a distance of 1,000 feet.
- Have three (3) lines available for messages.
- Be NTCIP compliant (NTCIP 1203 & 1204).
- Be capable of being programmed by a remote computer via a data (IP over Cell) cellular modem connection.
- Have GPS location capability by adding on a GPS device capable of providing GPS location remotely to the MTA Communications' Center.
- Be programmable by Vanguard Software by Daktronics.

The Contractor shall complete and/or provide the following:

- Submit a catalog cut shop drawing to the Resident of all proposed equipment for review and approval.

- Establish and pay for a data cellular account so that PCMS may be remotely programmed and operated from the MTA Communications' Center.

- Provide to the Authority technical support from the PCMS manufacturer that may be necessary to integrate the PCMS into the MTA software platform (Vanguard Software by Daktronics).

- Provide the manufacturer's software necessary to change the PCMS messages remotely from the MTA Communications' Center and the Resident's computer if necessary or requested.

- Provide training on the operation of the PCMS to the Resident and the MTA Communications' Center representative.

- Make all PCMS on the Project work site available to the MTA for any/all emergency situations as defined by the MTA. This shall include the preemption of any messages running at the time of need as approved by the MTA and the Resident.

The Contractor shall also:

- Furnish, operate, relocate and maintain the PCMS as approved or requested by the Resident.

- Be responsible for the day to day programming and operation of the PCMS for Project purposes.

The PCMS(s) shall be on-site, with data cellular account established, GPS location capable, and all training required complete within one month after mobilization or seven days prior to implementing traffic shifts, detours or stoppages, whichever is sooner. Implementation of traffic shifts, detours, or stoppages of traffic will not be allowed without PCMS boards on-site with the specified MTA Communications' Center Software Platform integration and training.

652.2.5 Truck Mounted Attenuator

When a pay item for a Truck Mounted Attenuator (TMA) is included in the contract or otherwise required in contract at least one TMA will be required in use on the project. 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.

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 **or MASH if manufactured after 2019**.
- Amber strobe lights 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.
- **The attenuator shall be mounted to a vehicle with a minimum weight of 24,000 lbs. for Items 652.4501 – Truck Mounted Attenuator – 24, 000 LB.**

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. The shadow vehicle shall have its front wheels turned away the work area and from traffic, have parking brake set, and be put in park if an automatic transmission; or if a manual transmission it shall have its front wheels turned away the work area and from traffic, have parking brake set and should be placed in gear and shut off if possible while still maintaining warning lights. If length of time or weather are a concern for the battery since the warning lights must be maintained the engine should be started and run periodically for battery recharging. No other vehicles or equipment shall park in front of the shadow vehicle or within the buffer space behind the shadow vehicle. 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

652.2.6 Sequential Flashing Warning Lights

When included in contracts as a bid item Sequential Flashing Warning Lights on drums used for merging tapers and shifting tapers during night time operation for project use. The purpose of these lights is to assist the motorist in determining which direction to merge or shift and to reduce the number of late merges resulting in devices being struck and having to be reset to maintain positive guidance at the merge point. The successive flashing of the lights shall occur from the upstream end of the taper to the downstream end of the taper in order to identify the desired vehicle path.

The Sequential Flashing Warning Lights shall meet all of the requirements for warning lights within the current edition of the MUTCD. Each light unit shall be capable of operating fully and continuously for a minimum of 500 hours when equipped with a standard battery set. Each light in sequence shall be flashed at a rate of not less than 55 times per minutes and not more than 75 times per minute. The flash rate and flash duration shall be consistent throughout the sequence.

Sequential Flashing Warning Lights shall be "Pi-Lit" Sequential Barricade Warning Lamps or an approved equal.

Sequential Flashing Warning lights are to be used for merging and shifting tapers that are in place during the night time hours (12-hours when ambient light is dimmed). These lights shall flash sequentially beginning with the first light and continuing until the final light at the beginning of a tangent section.

The Sequential Flashing Warning Lights shall automatically flash in sequence when placed on the drums that form the merging or shifting tapers.

The number of lights used in the drum taper shall equal one half the number of drums used in the taper.

Drums are the only channelizing device permitted for mounting the Sequential Flashing Warning Lights.

The Sequential Flashing Warning Lights shall be weather independent and visual obstruction shall not interfere with the operation of the lights.

The Sequential Flashing Warning Lights shall automatically sequence when placed in line in an open area with a distance between lights of 25 to 150 feet. A 10 foot stagger in the line of lights shall have no adverse effect on the operation of the lights.

If one light fails, the flashing sequence shall continue. Non-sequential flashing is prohibited.

652.2.7 Automated Trailer Mounted Speed Sign

When included in the contract as a pay item Automated Trailer mounted speed signs requires 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

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”.

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 attached graphic details).

Signs and secondary signs shall follow the MUTCD for minimum mounting heights.

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.

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 shall be a minimum of **8 inch diameter**, either LED, halogen, or incandescent lamps, and 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.

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 thresh hold. **Speed data shall be recorded and stored on the sign and must be made available to the Authority as requested.**

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.

652.2.8 Temporary Portable Rumble Strips

If a pay item is included in the contract or the Contract desires to utilize Temporary Portable Rumble Strips this work consists of furnishing and placing temporary portable rumble strips RoadQuake 2F TPRS or an approved equal. Furnishing a temporary portable rumble strip system 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.

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.

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.

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.

652.3.1 Responsibility of the Authority

The Authority will provide Project specific traffic control requirements and traffic control plans for use by the Contractor. The specific traffic control requirements for the Project are identified in Special Provision Section 652, Maintenance of Traffic (Specific Project Maintenance of Traffic Requirements). No revisions to these requirements or Plans will be permitted unless the Contractor can thoroughly demonstrate an overall benefit to the public and a Contract Modification is approved.

The Maine Turnpike Authority may erect lane closures on the mainline within the Project area to collect survey, provide layout, and for any other reasons deemed necessary by the Authority.

.3.2 Responsibility of the Contractor

The Contractor shall provide continuous and effective traffic control and management for the Project that is appropriate to the construction means, methods, and sequencing allowed by the Contract and selected by the Contractor:

The Contractor shall ensure all jobsite personnel shall wear a safety vest labeled as ANSI 107-2004 standard performance for Class 3 risk exposures at all times. This requirement also applies to truck drivers and equipment operators when out of an enclosed cab.

652.3.3 Submittal of Traffic Control Plan

The Contractor shall provide continuous and effective traffic control and management for the Project that is appropriate to the means, methods and sequencing allowed by the Contract; and consistent with the Traffic Control Plans and Maintenance of Traffic Specifications. The Contractor is responsible for ensuring a safe environment for the Contract workforce, local road users, and turnpike users; and maintaining the safe efficient flow of traffic through the construction zone at all times during the Contract. The protocols and requirements outlined in the Contract shall be strictly enforced. The Contractor shall submit, at or before the Preconstruction Meeting, a Traffic Control Plan (TCP) that provides the following information to the Authority:

a. The name, telephone number, and other contact numbers (cellular phone, pager, if any) of the Contractor's Traffic Control Supervisor (TCS). The TCS is the person with overall responsibility for insuring the contractor follows the TCP, and who has received Work Zone Traffic Control Training commensurate with the level of responsibility shown in the requirements of the Contract, and who is empowered to immediately resolve any work zone traffic control deficiencies or issues. Provide documentation that the Traffic Control Supervisor has completed a Work Zone Traffic Control Training Course (AGC, ATSSA, or other industry- recognized training), and a Supervisory refresher training every 5 years thereafter. Submit training certificates or attendance roster that includes the course name, training entity, and date of training. **State how the traffic control devices will be maintained including a frequency of inspection for both temporary and permanent traffic control devices.**

Traffic Control Training Course curriculum must be based on the standards and guidelines of the MUTCD and must include, at a minimum, the following:

1. Parts of Temporary Traffic Control Zone
2. Appropriate use and spacing of signs
3. Use and spacing of channelizing devices
4. Flagging basics
5. Typical examples and applications

The Traffic Control Supervisor, or designee directly overseeing physical installation, adjustment, and dismantling of work zone traffic control, will ensure all personnel performing those activities are trained to execute the work in a safe and proper manner, in accordance with their level of decision-making and responsibility. The emergency contact list shall contain a listing of individuals who may be contacted during non-work hours and shall adequately respond to the request.

b. Proposed revisions to the construction phasing or sequencing that reasonably minimizes traffic impacts.

c. A written narrative and/or plan explaining how traffic and pedestrians will be moved through the Project Limits, including transitions during the change from one phase of construction to the next, as applicable.

d. Temporary traffic control treatments at all intersections with roads, rail crossings, businesses, parking lots, pedestrian ways, bike paths, trails, residences, garages, farms, and other access points, as applicable.

e. A list of all Contractor or Subcontractor certified flaggers to be used on the Project, together with the number of flaggers which will be used for each type of operation that flagging is needed. If the Contractor is using a flagging Subcontractor, then the name and address of the Subcontractor may be provided instead of a list of flaggers.

f. A procedure for notifying the Resident of the need to change the traffic control plan or the need to remove a lane restriction.

g. A description of any special detours including provisions for constructing, maintaining, signing, and removing the detour or detours, including all temporary bridges and accessory features and complete restoration of the impacted land.

h. The maximum length of requested contiguous lane closure. The Contractor shall not close excessive lengths of traffic lane to avoid moving traffic control devices.

i. The proposed temporary roadway surface conditions and treatments. The Contractor shall provide an adequate roadway surface at all times; taking into account traffic speed, volume, and duration.

j. The coordination of appropriate temporary items (drainage, concrete barriers, barrier end treatments, impact attenuators, and traffic signals) with the TCP.

k. The plan for unexpected nighttime work, the contractor shall provide a list of emergency nighttime lighting equipment and safety personnel available on-site or have the ability to have them on site within an hour of the time of need.

l. The plan for meeting any project specific requirements contained in special provision 105 and/or 107, and/or Section 656

m. The lighting plan if night work is anticipated.

The Authority will review the TCP for completeness and conformity with Contract provisions, the current edition of the MUTCD, and Authority policy and procedures. The Authority will review and provide comments to the Contractor within 14 days of receipt of the TCP. No review or comment by the Authority, or any failure to review or comment, shall operate to absolve the contractor of its responsibility to design and implement the plan in accordance with the Contract, or to shift any responsibility to the Authority. If the TCP is determined by the Authority to be operationally ineffective, the Contractor shall submit modifications of the TCP to the Authority for review, and shall implement these changes at no additional cost to the Contract. Nothing in this Section shall negate the Contractor's obligations set forth in Section 110 - Indemnification, Bonding, and Insurance. The creation and modification of the TCP will be considered incidental to the related 652 items.

652.3.4 General

Prior to starting any work on any part of the project adjacent to or being used by the traveling public, the Contractor shall install the appropriate traffic control devices in accordance with the plans, specifications and the latest edition of Manual of Uniform Traffic Control Devices, Part VI. The Contractor shall continuously maintain the traffic control devices in their proper position, and they shall be kept clean, legible and in good repair throughout the duration of the work. If notified that the traffic control devices are not in place or not properly maintained, the Contractor may be ordered to immediately suspend work until all deficiencies are corrected.

No equipment or vehicles of the Contractor, their subcontractors, or employees engaged in work on this contract shall be parked or stopped on lanes carrying traffic, or on lanes or shoulders adjacent to lanes carrying traffic, at any time, except as required by ongoing work operations. Contractor equipment or vehicles shall never be used to stop, block, or channelize traffic.

Vehicles parked on the shoulder shall be located so all portions of the vehicle(s) are a minimum of one foot from the traveled way. No operation shall be conducted on or near the traveled lanes or shoulders without first setting up the proper lane closure and traffic control devices. These precautions shall be maintained at all times while this Work is being performed. The Contractor shall keep all paved areas of the highway as clear as possible at all times. No materials shall be stored on any paved area of the highway or within 30 feet of the traveled way (unless protected by concrete barriers and specifically approved by the Resident). Private vehicles owned by Contractor's employees shall be parked close together in a group no closer than 30 feet from the traveled way in pre-approved areas.

Channelization devices shall include Vertical Panel Markers, Barricades, Cones, and Drums shall be in accordance with the MUTCD. These devices shall be installed and maintained at the spacing determined by the MUTCD through the work area.

The Contractor shall maintain existing guardrails and/or barriers until removal is necessary for construction. The Contractor shall use a temporary barrier or appropriate channelizing devices, as approved by the Resident, while the guardrails and/or barriers are absent. Permanent guardrails and barriers shall be installed as soon as possible to minimize risk to the public.

When Contractor operations or shoulder grading leave a continuous 3 inch or less exposed vertical face at the edge of the traveled way, **including the shoulder, or when traffic is shifted into the shoulder adjacent to the edge of pavement where an existing 3 inch or less exposed vertical face creates a safety hazard**, channelization devices should be placed 2 feet outside the edge of the pavement at intervals not exceeding 600 feet and, depending on type and location of the exposed vertical face, a 48 inch by 48 inch W8-9 Low Shoulder, or W8-11 Uneven Lane, and/or a W8-17P Shoulder Drop-Off sign should be placed at a maximum spacing of ½ mile. When Contractor operations or shoulder grading leave greater than a 3 inch exposed continuous vertical face at the edge of the traveled way, **including the shoulder, or when an existing condition of an exposed vertical face of 3 inches or more is adjacent to active traffic shifted into shoulder**, the Contractor shall place shoulder material at a slope not exceeding 3 horizontal to 1 vertical to meet the pavement grade, before the lane is opened to traffic.

Special Detours and temporary structures, if used, shall meet applicable AASHTO standards, including curve radii and grade.

Maine Turnpike Traffic Control Requirements

This Section outlines the minimum requirements that shall be maintained for working on, over, or adjacent to the Maine Turnpike roadway.

General

Two travel lanes in each direction (each direction being 24 feet wide including/excluding shoulder) in the two lane portion of the turnpike, and three travel lanes in each direction (each direction being 36 feet wide including/excluding shoulder) in the three lane portion of the turnpike (Mile 0.0 to mile 44.3) shall be maintained at all times except while performing work in a designated lane, directly over or adjacent to traffic, and during the placement and removal of traffic control devices.

Unless otherwise specified in the contract documents the minimum main line width for a single travel lane shall be 14 ft and minimum ramp widths of 16 ft which must be maintained at all times, from ½ hour before sunrise and ½ hour after sunset as indicated on the Sunrise/Sunset Table at: http://www.sunrisesunset.com/usa/Maine.asp . If the Project town is not listed, the closest town on the list will be used as agreed at the Preconstruction Meeting.

Shoulder closures, lane closures, and lane shifts meeting the MUTCD guidelines, other than those shown in the plans, must be submitted for approval from the MTA prior to use in the construction operations.

No lane closures will be allowed during non-working hours, weekends and/or holiday periods unless included in the Contract as long-term traffic control requirement as outlined in Section 652 – Specific Project Maintenance of Traffic Requirements **unless written permission is obtained from the Authority.**

Any special signs, barricades or other devices deemed necessary by the Resident shall be furnished and maintained by the Contractor. Extra care shall be taken so that the traffic flow will not be disturbed. The use of construction signs and warning devices not shown on the Plans or in the MUTCD is prohibited unless approved by the Resident

The Contractor's personnel and equipment shall avoid crossing traffic whenever possible. No Contractor's vehicle may slow down or stop in a traffic lane unless said lane has previously been made safe with signs and barricades as required by the Resident.

No vehicle will move onto the traveled way at such a time or in such a manner so as to cause undue concern or danger to traffic approaching from either direction. The Contractor or his employees are not empowered to stop traffic.

The Contractor shall take necessary care at all times, in all operations and use of his equipment, to protect and facilitate traffic. During periods of idleness, the equipment shall not be left in a way to obstruct the traffic artery or to interfere with traffic.

The Contractor shall furnish approved signs reading "Construction Vehicle - Keep Back" to be used on trucks hauling to the Project. The signs shall be a minimum of 30 inch by 60 inch, Black and Orange, and meet construction sign retro reflectivity requirements

All vehicles used on the Project shall be equipped with amber flashing lights, by means of a single or multiple, flashing LED or strobe lights mounted so as to be visible 360 degrees. **In addition, vehicles operating under direction of the Maine Turnpike Authority may be equipped with auxiliary lights that are green, white or amber or any combination of green, white or amber.** Auxiliary lighting shall have sufficient intensity to be visible at 500 feet in normal daylight and a flash rate between 1Hz and 4Hz. The vehicle flashing system shall be in continuous operation while the vehicle is on any part of the project and positioned or mounted in such a way to not be obstructed by vehicle mounted or other equipment. Dump trucks, **concrete trucks** and utility trucks **at a minimum** shall have a strobe light mounted on each side of the vehicle. **The use of motorcycles is not permitted within a construction site or as a means to arrive at or leave a work zone**.

Where space is available pavement striping for all tapers shall create a minimum buffer of 250 feet to the point where the temporary concrete barrier taper ends and becomes parallel to the travelway. Temporary concrete barrier shall be tapered at a minimum 8:1 unless space is available and then it should be tapered at 15:1 or 100 feet whichever is longest.

Milling and paving of interchange ramps shall be done between 9:00 p.m. and 5:00 AM, unless otherwise shown on the Maintenance of Traffic Phasing Plans or as directed by the MTA. Only a single ramp at an interchange may be closed at once. Ramp closures will not be permitted the day before or after holidays, on holidays, or on Saturdays or Sundays. The Contractor shall request approval from the Resident/Authority two weeks prior for all ramp closures. Portable changeable message signs shall be used to provide advance notice and warning of the ramp closure. PCMS's shall be operational a minimum of 1 week prior to ramp closure to notify Patrons. The contractor shall coordinate PCMS locations with the Resident and the MTA.

Access to, and egress from, the construction area shall be with the direction of travel without crossing traffic. Construction vehicles are prohibited from merging with mainline traffic during the AM and PM peak traffic hours unless approved in writing from the MTA. The contractor shall develop work zone access/egress with acceleration and deacceleration areas and should utilize interchange ramp areas whenever feasible.

Temporary Mainline Lane Closures

A lane closure may be required whenever personnel will be actively working within four feet of a travel lane.

Loading/unloading trucks shall not be closer than six feet from an open travel lane. Temporary lane closures will only be allowed at the times outlined in Special Provision, Section 652, Specific Project Maintenance of Traffic Requirements. These hours may be adjusted based on the traffic volume each day by the Resident.

A lane closure is required when a danger to the traveling public may exist. The following is a partial list of activities requiring lane closures. Lane closures may be required for other activities as well:

- Milling and Paving Operations
- Bridge work
- Drainage Installation and/or Adjustment
- Clear Zone Improvements
- Pavement Markings Layout and Placement
- **Work directly over traffic 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. **Unbolting structural steel**
    2. **Removing structural steel**
    3. **Erecting structural steel**
    4. **Erecting or moving sign panels on bridges or sign structures**
    5. **Bolting structural steel**
    6. **Loading and unloading trucks**
    7. **Light pole removal or installation**
    8. **Snow fence installation**

Lane closures shall be removed if work requiring the lane closure is not ongoing unless included in the Contract as a long-term traffic control requirement or approved by the Resident.

During adverse weather condition when the speed limit on the Maine Turnpike has been reduced to 45 MPH, or during fog or when there is less than ½ mile of visibility, shoulder/lane closures cannot be set up and any currently in place shall be removed. Only work on the turnpike mainline that is behind temporary concrete barrier will be allowed when speed is reduced to 45 MPH or fog/visibility conditions exist.

Daytime lane closures shall be a maximum of three (3) miles. Only one daytime lane closure will be permitted per direction. Nighttime lane closures may extend through the entire length of the Project.

Temporary single lane closures are allowed upon approval of the Resident. **Lane and/or ramp** closure setup may not begin until the beginning time specified. Closures that are setup early or that remain in place outside of the approved time period shall be subject to a lane rental fee of **$1,000** per five minutes for every five minutes outside of the approved time. The installation of the construction signs will be considered setting up the lane closure. Removal of the last construction sign will be considered removal of the closure. Construction signs shall be installed immediately prior to the start of the closure and shall be promptly removed when no longer required. The installation and removal of a closure, including signs, channelizing devices, and arrow boards shall be a continuous operation. The Authority reserves the right to order the removal of an approved closure.

The Authority desires to minimize the number of daytime lane closures and the number of times that a complete stoppage of traffic is required. The Contractor is encouraged to schedule work so that the interference with the flow of traffic will be minimized. Lane closures will not be allowed until traffic associated with complete stoppages of traffic has cleared. Complete stoppages of traffic or lane closures may not be allowed on a particular day if another complete stoppage of traffic has been previously approved for another project.

The Resident is required to receive approval from the Maine Turnpike Authority for all lane closures. **The Resident is required to submit a request for lane closures by noon on Thursday for any lane closures needed for the following week.** The Contractor shall plan the work accordingly.

Mainline Shoulder Closures

Shoulder closures are anticipated at locations where Contractor access to the mainline is required.

Shoulder closures with plastic drums shall be removed at the end of the workday. Temporary shoulder closures with plastic drums will not be allowed during periods of inclement weather as determined by the Authority.

The location (limits) of shoulder closures with concrete barrier are shown on the Plans. The barrier must be placed prior to the start of the work requiring concrete barrier and shall remain in place until the work activity is complete.

Equipment Moves

The complete stoppage of traffic for an equipment move (including delivery of materials to the median) will be considered for approval if the action cannot reasonably be completed with the erection of a lane closure. Contractor shall be responsible for the installation of Signs CS-3, "Expect Stopped Traffic" and Signs W3-4 "Be Prepared to Stop", in accordance with the Single Lane Closure Detail immediately prior to the equipment move. **Signs will be required on any adjacent ramps within proximity to the stoppage**. These signs shall be covered when not applicable.

State Police will be used to stop traffic. Cost for State Police will be the responsibility of the Authority. The times requested for trooper assisted equipment moves by on-duty troopers cannot be guaranteed. The MTA will not be held responsible for any delays or costs associated with the delay, postponement or cancellation of an on-duty trooper assisted equipment move.

The maximum time for which traffic may be stopped and held for an equipment move at any single time shall be five (5) minutes. The duration shall be measured as the time between the time the last car passes the Resident until the time the Resident determines that all travel lanes are clear. The traffic shall only be stopped for the minimum period of time required to complete the approved activity. The Contractor shall reimburse the Authority at a rate of $500 per minute for each minute in excess of the five-minute allowance.

Unapproved movement of equipment or materials across the travel lanes shall be considered a violation of the Maintenance of Traffic Requirements and is subject to a minimum fine of $500 per occurrence with an additional $500 per minute thereafter.

Request for Complete Stoppage of Traffic

A request for a complete stoppage of traffic must be submitted to the Resident for approval. The Resident is required to receive approval from the Maine Turnpike Authority for all stoppages. The request shall be submitted to the Authority by the Resident at least five (5) working days prior to the day of the requested stoppage of traffic and two (2) days for a stoppage less than five minutes. All requests must be received by 12:00 p.m. noon to be considered as received on that day. Requests received after 12:00 p.m. shall be considered as received the following day. The Contractor shall plan the work accordingly.

During the erection or removal of overhead structures or signs traffic shall be stopped and may be held for periods of up to 25 minutes during these operations. Before the roadway is reopened, all materials shall be secured so they will not endanger traffic passing underneath. The Contractor will reimburse the Authority at the rate of $2,500.00 per five-minute period for each roadway not reopened (northbound and southbound), in excess of the 25 minute limit. Total penalty shall be deducted from the next pay estimate.

Blasting of Ledge The maximum time for which traffic may be stopped at any single time shall be six (6) minutes. This duration shall be measured as the time between the time that the last car passes the Resident, until the time the Resident determines that all travel lanes are cleared of blast debris. The Contractor shall reduce the size of the blast, change the design and method of the blast, use more mats, or otherwise alter the blasting so that the traffic is not stopped for more than six minutes. If, due to the throw of rock onto the highway

or other blasting related activities, traffic is stopped for more than six minutes, the Contractor shall pay a penalty of $1,000.00 per minute for every minute traffic is stopped in excess of the six-minute limit. The penalty shall be measured separately on the northbound and southbound roadway (or eastbound and westbound roadway). Total penalties will be deducted from the next pay estimate. Whenever the volume of traffic is excessive such that a six-minute interruption would cause objectionable congestion, in the opinion of the Authority, the hours during which blasting may occur may be further restricted. A detailed blasting plan shall be submitted as required in Supplemental Specific or Special Provision Sections 105 or 107.

652.3.5 Installation of Traffic Control Devices

All traffic control devices shall be in conformance with NCHRP 350 requirements **and MASH 16 requirements if manufactured after December 31, 2019** and installed as per manufactures recommendations.

Portable signs shall be erected on temporary sign supports approved crashworthy devices so that the bottom of the sign is either 1) 12 inches or 2) greater than 5 feet above the traveled way. **The bottom of all regulatory signs and ramp exit signs shall be a minimum of 5 feet above the traveled way.** Post-mounted signs shall be erected so the bottom of the sign is no less than 5 feet above the traveled way, and 7 feet above the traveled way in business, commercial, and residential areas. Post-mounted signs must be erected so that the sign face is in a true vertical position. All signs shall be placed so that they are not obstructed in any manner and immediately modified to ensure proper visibility if obstructed.

The bottom of mainline and ramp traffic control signs intending to remain longer than 3 days, except as provided in 2009 MUTCD Section 6F.03 paragraph 12, shall be mounted 5 feet or greater above the edge of pavement on posts or portable sign supports.

The Resident will verify the exact locations of the construction signs in the field.

Construction signs behind guardrail shall be mounted high enough to be visible to traffic.

Vertical panel markers shall be mounted with the top at least 4 feet above the traveled way.

Drums shall not be weighted on the top. Drain holes shall be provided to prevent water from accumulating in the drums During winter periods, drums shall be placed on the grass shoulder or removed from the roadway so winter maintenance operations will not be impacted. This requires the placement of drums behind the median guardrail. Drums shall not be placed on snow banks.

The Contractor shall operate and maintain the flashing arrow board unit and for dependable service during the life of the contract. The units shall remain in continuous night and day service at locations designated until the Resident designates a new location or discontinuance of service.

The Contractor shall maintain the devices in proper position and clean them as necessary. Maintenance shall include the covering and uncovering of all signs when no longer applicable (even if for a very short duration). The sign shall be considered adequately covered when no part of the sign face is visible either around or through the covering.

The Contractor shall replace damaged traffic control devices with devices of acceptable quality, as directed by the Resident.

The Contractor is required to cover all existing signs, including regulatory and warning signs, within the Work zone which may conflict with the proposed construction signs. The Contractor is also required to cover all permanent construction signs when they conflict with a daily traffic control setup. The method of covering existing signs must be approved by the Resident. The use of adhesives on the sign face is prohibited.

Work Zone Speed Limits

Work Zone Speed (Fines Doubled) is a regulatory speed limit that indicates the maximum legal speed through a work zone which is lower than the normal posted speed. The speed limit shall be displayed by black on white speed limit signs in conjunction with a black on orange "Work Zone" plate. Speed limit signs shall be installed at each mile within the work zone. Any existing regulatory speed limit signs within the reduced speed zone shall be covered once the reduced speed signs have been erected.

Two orange fluorescent flags shall be attached to all speed limit signs that are uncovered for a period of time exceeding one week. This work shall be incidental. Signs that are covered and uncovered on a regular basis are not required to have the supplemental flags.

The reduced speed limit signs shall be used when workers are adjacent to traffic, when travel lane(s) are closed, when indicated on Maintenance of Traffic Control Plans provided or other times as approved by the Resident:

The signs shall be covered or removed when not applicable. The covering and uncovering of signs shall be included for payment under Maintenance of Traffic. Signs relating to reduced speed shall be installed in accordance with the details. **The Contractor shall note that all signs including those behind concrete barrier or guardrail are required to be clearly visible to all drivers at all times.**

Lane Closure Installation and Removal Procedure

The Contractor will follow the following procedures when closing any travel lanes on the turnpike roadways:

1. The sign package shall be erected starting with the first sign and proceeding to the start of the taper. The sign crew shall erect signs with the vehicle within the outside shoulder;

2. Position the arrow board with the proper arrow at the beginning of the taper; and,

3. When arrow board is in place, continue with the drums/cones to secure the work area.

To dismantle the lane closure, start with last drums/cone placed and work in reverse order until all the drums are removed. The arrow board which was installed first shall be the final traffic control device removed, excluding the sign package. The remaining sign package shall be picked-

up starting with the first sign placed and continuing in the direction of traffic and with the vehicle in the outside shoulder.

Trucking Plan

The Contractor shall submit a trucking plan to the Resident within 10 working days of the award of the Contract. The trucking plan shall consist of at least the following:

- Date of anticipated start of work per each location.
- Haul routes from plant/pit to work area and return.
- Haul routes from work area to disposal area and return.
- Entering / exiting the work area.
- Vehicle safety equipment and Vehicle inspection.
- Personal safety equipment.
- Communications equipment and plan.

The trucking plan will not be paid for separately, but shall be incidental to the Contract.

652.3.6 Traffic Control

The existing travel way width shall be maintained to the maximum extent practical.

Vertical panel markers, drums, cones, or striping shall be used to clearly delineate the roadway through the construction area. Two-way traffic operation shall be provided at all times that the Contractor is not working on the project. One- way traffic shall be controlled through work areas by flaggers, utilizing radios, field telephones, or other means of direct communication.

The traffic control devices shall be moved or removed as the work progresses to assure compatibility between the uses of the traffic control devices and the traffic flow.

Pavement markings shall be altered as required to conform to the existing traffic flow pattern. Repainting of pavement marking lines, if required to maintain the effectiveness of the line, shall be considered **incidental to the** maintenance of traffic control devices, no separate payment will be made. Inappropriate pavement markings shall be removed whenever traffic is rerouted, and temporary construction pavement markings shall be placed. Removal of non-applicable markings and **initial** placement of temporary construction pavement markings will be paid for under the appropriate Contract items. Traffic changes shall not be made unless there is sufficient time, equipment, materials, and personnel available to complete the change properly before the end of the workday. This provision will not be required when traffic is rerouted for brief periods and the route can be clearly defined by channelizing devices, or flaggers, or both.

All vehicles used during the installation and removal of traffic control devices, including lane closures, shall be equipped with a vehicle-mounted lighted arrow board **or high intensity LED full width light bar** acceptable to the Resident. The arrow board **or full width light bar** shall be capable of displaying a left arrow, right arrow, double arrow, and light bar **patterns**.

652.4 Flaggers

The Contractor shall furnish flaggers as required by contract documents or as otherwise specified by the Resident. **Flaggers shall not stop traffic on Turnpike mainline or interchange ramps. Only State Police are allowed to stop traffic on mainline or interchange ramps.**

All flaggers must have successfully completed a flagger test approved by the Maine Department of Transportation and administered by a Maine Department of Transportation approved Flagger-Certifier. All flaggers must carry an official certification card with them at all times while flagging.

For daytime conditions, flaggers shall wear a top (vest, shirt or jacket) that is orange, yellow, yellow-green, or fluorescent versions of these colors meeting ANSI 107-2004, Class 3, along with a hat with 360 ˚ retro-reflectivity.

For nighttime conditions, flaggers shall wear all Class 3 apparel, meeting ANSI 107-2004, including a Class 3 top (vest, shirt or jacket) and a Class E bottom (pants or coveralls), shall be worn along with a hardhat with 360 ˚ retro-reflectivity and shall be visible at a minimum distance of 1000 ft. Flagger stations must be illuminated in nighttime conditions to assure visibility and will be specifically addressed in detail in the Contractor's TCP.

Flagger stations shall be located far enough in advance of the workspace so that approaching road users will have sufficient distance to stop at the intended stopping point. While flagging, the flagger should stand either on the shoulder adjacent to the traffic being controlled, or in the closed lane. At a spot obstruction with adequate sight distance, the flagger may stand on the shoulder opposite the closed sections to operate effectively. Under no circumstances shall the flagger stand in the lane being used by moving traffic or have their back to oncoming traffic. The flagger should be clearly visible to approaching traffic at all times and should have a clear escape route.

When conditions do not allow for proper approach sight distance of a flagger or storage space for waiting vehicles, additional flaggers shall be used at the rear of the backlogged traffic or at a point where approaching vehicles have adequate stopping sight distance to the rear of the backlogged traffic. All flagger stations shall be signed, even when in close proximity. The signs shall be removed or covered when flagger operations are not in place, even if it is for a very short duration.

Flaggers shall be provided as a minimum, a 10 minute break, every 2 hours and a 30 minute or longer lunch period away from the work station. Flaggers may only receive 1 unpaid break per day; all other breaks must be paid. Sufficient certified flaggers shall be available onsite to provide for continuous flagging operations during break periods. If the flaggers are receiving the appropriate breaks, breaker flagger(s) shall be paid starting 2 hours after the work begins and

ending 2 hours before the work ends. A maximum of 1 breaker per 6 flaggers will be paid. (1 breaker flagger for 2 to 6 flaggers, 2 breaker flaggers for 7 to 12 flaggers, etc). If a flagger station is manned for 10 hours or more, then ½ hour for lunch will be deducted from billable breaker flagger hours.

652.41 Traffic Officers

Local road traffic officers, if required, shall be uniformed police officers. State Police officers and vehicles shall be used to warn and stop traffic on the Maine Turnpike. All State Police shall be scheduled through the Maine Turnpike Authority. The Authority will make payment for the State Police officers and vehicles directly to the State Police.

The Contractor will not be entitled to additional compensation if scheduled Work is not completed due to the unavailability of State Police.

652.5.1 Rumble Strip Crossing

When lane shifts or lane closures require traffic to cross a permanent longitudinal rumble strip for 7 calendar days or less, the Contractor shall install warning signs that read "RUMBLE STRIP CROSSING" with a supplemental Motorcycle Plaque, (W8-15P).

When lane shifts or lane closures require traffic to cross a permanent longitudinal rumble strip for more than 7 calendar days, the Contractor shall pave in the rumble strips in the area that traffic will cross, unless otherwise directed by the Resident. Rumble strips shall be replaced prior to the end of the project, when it is no longer necessary to cross them.

652.6.1 Daylight Work Times

Unless otherwise described in the Contract, the Contractor is allowed to commence work and end work daily according to the Sunrise/Sunset Table at: http://www.sunrisesunset.com/usa/Maine.asp . If the Project town is not listed, the closest town on the list will be used as agreed at the Preconstruction Meeting. Any work conducted before sunrise or after sunset will be considered Night Work.

652.6.2 Night work

When Night Work occurs (either scheduled or unscheduled), the Contractor shall provide and maintain lighting on all equipment, at all work stations, and all flagger stations.

The lighting facilities shall be capable of providing light of sufficient intensity to permit good workmanship, safety and proper inspection at all times. The lighting shall be cut off and arranged on stanchions at a height that will provide perimeter lighting for each piece of equipment and will not interfere with traffic, including commercial vehicles, approaching the work site from either direction.

The Contractor shall have available portable floodlights for special areas.

The Contractor shall utilize padding, shielding or other insulation of mechanical and electrical equipment, if necessary, to minimize noise, and shall provide sufficient fuel, spare lamps, generators, etc. to maintain lighting of the work site.

The Contractor shall submit a lighting plan prior to any night work for review showing the type and location of lights to be used for night work. The Resident may require modifications be made to the lighting set up in actual field conditions.

Prior to beginning any Night Work, the Contractor shall furnish a light meter for the Residents use that is capable of measuring the range of light levels from 5 to 20 foot-candles.

Horizontal illumination, for activities on the ground, shall be measured with the photometer parallel to the road surface. For purposes of roadway lighting, the photometer is placed on the pavement. Vertical illumination, for overhead activities, shall be measured with the photometer perpendicular to the road surface. Measurements shall be taken at the height and location of the overhead activity.

Night Work lighting requirements:

Mobile Operations: For mobile-type operations, each piece of equipment (paver, roller, milling machine, etc) will carry indirect (i.e. balloon type) lights capable of producing at least 10 foot- candles of lighting around the work area of the equipment.

Fixed Operations: For fixed-type operations (flaggers, curb, bridge, pipes, etc.), direct (i.e. tower) lighting will be utilized capable of illuminating the work area with at least 10 foot- candles of light.

Hybrid Operations: For hybrid-type operations (guardrail, sweeping, Inslope excavation, etc.), either direct or indirect lighting may be utilized. The chosen lights must be capable of producing at least 10 foot-candles of light around the work area of the equipment

Inspection Operations: Areas required to be inspected by the Authority will require a minimum of 5 foot-candles of lighting. This may be accomplished through direct or indirect means.

The Contractor shall apply 2- inch wide retro-reflective tape, with alternating red and white segments, to outline the front back and sides of construction vehicles and equipment, to define their shape and size to the extent practicable. Pickup trucks and personal vehicles are exempt from this requirement.

The Resident or any other representative of the Authority reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Authority shall not be held responsible for any delay in the work due to any suspension under this item.

Failure to follow the approved Lighting Plan will result in a Traffic Control violation.

Payment for lighting, vehicle mounted signs and other costs accrued because of night work will not be made directly but will be considered incidental to the related contract items.

652.6.3 Traffic Coordinator and Personnel

The Contractor shall submit to the Resident for approval a list of traffic control personnel assigned to the Project including qualifications, certifications and experience.

The Traffic Coordinator duties shall include, but are not necessarily limited to:

a. Developing, in conjunction with the Resident and Project superintendent, a traffic control program for the days' work activities which will facilitate traffic in a safe and efficient manner;

b. Insure that all traffic control implements (signs, arrow boards, barrels, etc.) are on-site so the traffic program can be implemented effectively;

c. Insure a safe and effective setup or take-down of all signing implements to least impact the traveling motorist; and,

d. Working knowledge of construction signing/traffic control requirements in conformance with the latest issued Manual on Uniform Traffic Control Devices.

e. The Contractor shall supplement the traffic control plan with a daily plan, which includes schedules for utilizing traffic coordinators and flaggers. This plan shall be submitted daily and agreed upon cooperatively with the Resident.

652.7 Method of Measurement

Signs, signs supplied by the Authority, and panel markers will be measured by the square foot for all signs authorized and installed. Flashing arrow boards, portable-changeable message signs, and flashing and steady burn lights, will be measured by each unit authorized and installed on the project. Barricades and cones will be measured by each unit authorized. Drums will be measured by each or as a lump sum authorized and installed, as indicated on the plans and specifications. No additional payment will be made for devices that require replacement due to poor condition or inadequate retroreflectivity.

Flaggers or traffic officers used during the Contract, for the convenience of the Contractor, will not be measured separately for payment, but shall be incidental to the various pay items. **This includes use of Flaggers for the delivery of materials and equipment to the project or other Flagger use that is for the Contractor's convenience, as determined by the Resident Engineer. If flaggers are required to maintain traffic and there is not a pay item in the contractor for flaggers then flaggers shall be incidental to the other Section 652 contract items and no separate payment shall be made.**

The accepted quantity of traffic officer and flagger time will be the number of hours the designated station is occupied. The number of hours authorized for payment, **if any**, will be measured to the nearest ¼ hour.

The Authority will make payment for the State Police officers and vehicles directly to the State Police when utilized for mainline traffic control activities. State Police escorts, if required to move oversize material or equipment loads to the jobsite, will not be paid separately, but shall be incidental to the various pay items.

Maintenance of traffic control devices will be measured by the calendar day or as one lump sum, as indicated in the plans and specifications, for all authorized and installed traffic control devices. Traffic control devices will only be measured for payment the first time used. Subsequent uses shall be incidental to Item 652.36 or 652.361.

The vehicle mounted arrow board, mounted on trucks used for installation and removal of lane closures, will not be measured separately for payment, but shall be incidental to Item 652.36 or 652.361.

The traffic coordinator(s) will not be measured separately for payment, but shall be incidental to Item 652.36 or 652.361.

Portable light towers, lighting on equipment and lighting plan will not be measured separately for payment, but shall be incidental to the related Contract items.

Truck mounted attenuator 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, as approved by the Resident.

Sequential Flashing Warning Lights shall be measured for payment by the maximum number of sequential flashing warning lights satisfactorily installed and properly functioning at any one time during the life of the project. Payment shall include all materials and labor to install, maintain and remove all Sequential Flashing Warning Lights.

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.

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.

652.8 Basis of Payment

The accepted quantity of signs, signs supplied by the Authority, and panel markers will be paid for at the contract unit price per square foot. Such payment will be full compensation for furnishing (or retrieving from the Authority) and installing all signs, sign supports, and all incidentals necessary to complete the installation of the signs.

The accepted quantity of flashing arrow boards, barricades, battery operated flashing and steady burn lights, and cones will be paid for at the contract unit price each for the actual number of devices authorized, furnished, and installed. Such payment shall be full compensation for all incidentals necessary to install and maintain the respective devices.

The Sequential Flashing Warning Lights will be paid for at the Contract unit price per each. This price shall include all costs associated with furnishing, installing, operating, maintaining, relocating, and removing the Sequential Flashing Warning Lights.

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.

Failure by the contractor to reinstall cones, barrels, signs, covered/uncovered signs and similar traffic control devices within an hour of them being displaced, moved, knocked over, un-covered and etc. will result in a $150 fine per traffic control device if the issues is not resolved within 1 hour of notification by the resident. An additional $150 will be assessed for each additional hour that the device has not been corrected. If the traffic control device is critical to the maintenance of traffic creating an actual or potential safety issue with traffic and is not corrected immediately then it will result in a violation letter as described below.

Failure by the contractor to follow the Contracts 652 Supplemental Specifications, Special Provisions and Standard Specification and/or the Manual on Uniform Traffic Control Devices (MUTCD) and/or the Contractors own Traffic Control Plan, or failure to correct a violation, will result in a violation letter and result in a reduction in payment as shown in the schedule below. The Resident or any other representative of the Authority reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Authority shall not be held responsible for any delay in the work due to any suspension under this item. Any reduction in payment under this Special Provision will be in addition to forfeiting payment of maintenance of traffic control devices for that day.

Amount of Penalty Damages per Violation		
1st	2nd	3rd & Subsequent
$500	$1,000	$2,500

652.8.1 Maintenance of Traffic Control Devices

Maintenance of Traffic Control Devices will be paid at the contract unit price per calendar day or lump sum price, as indicated in the plans and specifications. Such payment will be full compensation for all days that the Contractor maintains traffic as specified herein, and for moving devices as many times as necessary; for replacing devices damaged, lost, or stolen; and for cleaning, maintaining, and removing all devices used for traffic control, including replacing temporary pavement marking lines.

The contract price for Maintenance of Traffic Control Devices shall be full compensation for all days for such maintenance, encompassing all areas of the contract, regardless of whether or not the work areas or projects are geographically separated.

652.8.2 Other Items

The accepted quantities of flagger hours will be paid for at the contract unit price per hour for each flagging station occupied excluding lunch breaks, and for each approved breaker flagger. Overtime hours, as reported on the certified payrolls, will be paid an additional 30% of the bid price for 652.38. The computation and additional payment for overtime hours will occur during the project close-out process and will be paid as additional hours of 652.38 to the nearest ¼ hour. The contract unit price shall be full compensation for hiring, transporting, equipping, supervising, and the payment of flaggers and all overhead and incidentals necessary to complete the work.

There will be no payment made under any 652 pay items after the expiration of the adjusted total contract time.

The accepted quantities of traffic officer hours will be paid for at the contract unit price per ¼ hour for each station occupied, with no additional payment for overtime. This price shall be full compensation for supplying uniformed officers with police cruisers, and all incidentals necessary to complete the work; including transportation, equipment, and supervision.

Payment for temporary pavement marking lines and pavement marking removal will be made under the respective pay item in Section 627 - Pavement Markings.

Payment for temporary traffic signals will be made under Section 643 - Traffic Signals.

The accepted quantity of Portable Changeable Message Signs will be paid for at the Contract unit price each. This price shall be full compensation for furnishing, relocating, maintaining and removing the PCMS. The price also includes all costs associated with setting-up and paying for a data cellular account, technical support, training and any costs associated with the GPS location device.

Progress payment of each PCMS shall be pro-rated over the duration of the Contract. Contract duration shall be from the specified Contract start date to substantial completion or Contract completion, whichever is sooner.

For a PCMS that fails to operate when required, the Contractor will be given 24-hours to repair or replace the PCMS. For periods longer than 24-hours, payment will be reduced based on the pro-rated time that the PCMS is out of service.

Drums will be paid for at the contract unit price each, or at the Contract lump sum price, as designated in the Plans and specifications. Such payment shall be full compensation for all drums as shown on the Plans or required to complete the work.

The Truck Mounted Attenuator(s) will be paid for at the Contract unit price per calendar day. 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.

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.

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.

Payment will be made under:

Pay Item		Pay Unit
652.30	Flashing Arrow	Each
652.31	Type I Barricade	Each
652.311	Type II Barricade	Each
652.312	Type III Barricades	Each
652.32	Battery Operated Light	Each
652.33	Drum	Each
652.331	Drum	Lump Sum
652.34	Cone	Each
652.35	Construction Signs	Square Foot
652.351	Construction Signs-Supplied by Authority	Square Foot
652.36	Maintenance of Traffic Control Devices	Calendar Day
652.361	Maintenance of Traffic Control Devices	Lump Sum
652.38	Flaggers	Hour
652.381	Traffic Officers	Hour
652.41	Portable-Changeable Message Sign	Each
652.45	Truck Mounted Attenuator	Calendar Day
652.4501	**Truck Mounted Attenuator – 24,000 LB**	**Calendar Day**
652.451	**Automated Trailer Mounted Speed Limit Sign**	**Calendar Day**
652.452	**Automated Trailer Mounted Speed Limit Sign**	**Each**
652.46	**Temporary Portable Rumble Strips**	**Unit**
652.47	**Sequential Flashing Warning Lights**	**Each**

SPECIAL PROVISION

SECTION 719

SIGNING MATERIAL

Section 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 XI (Prismatic) manufactured by 3M Company, for all signs.

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.

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 box.

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 that shall meet at a minimum the requirements for ASTM 4956 – Type XI (Prismatic) sheeting. The sheeting material used for the direct applied legend shall be the same type as used for the background.

SPECIAL PROVISION

SECTION 830

WATERLINE RELOCATION

830.01 Description

The following paragraph is added:

This work shall consist of relocation of the existing waterline as generally depicted on the sketch in Appendix C. Maine Water Company shall be responsible providing all pipe materials, fittings, bends, cutting existing pipe, connecting proposed pipe to existing pipe and other incidental work related directly to the pipe. The Maine Water Company will hire a contractor directly to complete the HDPE pipe fusing.

Contractor shall be responsible for all necessary excavation, trench boxes, dewatering, erosion control measures, backfilling, removal and disposal of old pipe, unloading and setting new section of pipe, holding in place while it is secured, providing pipe bedding material, compaction, and miscellaneous pipe materials. Contractor shall dig two test pits a minimum of 48 hours in advance of the relocation work to locate each end of the existing waterline where the proposed connections will be made. Contractor shall coordinate with the Maine Water Company in regards to scheduling of the work.

830.02 Materials

The Maine Water Company shall supply all pipe, fittings and other incidental pipe materials. Contractor shall supply pipe bedding, backfill, trench boxes and other necessary incidentals for the excavation and backfill of the water pipe.

830.03 Method of Measurement

The following paragraphs are added:

Water line relocation shall be measured by the lump sum.

830.04 Basis of Payment

The accepted quantities for water relocation shall be paid for at the contract unit price per lump sum, which shall be full compensation for excavations, shoring and bracing, dewatering, bedding, removing and disposing of existing, lifting the proposed pipe and setting in place, backfilling, compaction, and other associated work.

Payment will be made under:

Pay Item		Pay Unit
830.103	Waterline Stream Crossing	Lump Sum

APPENDIX A

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

(1) **Cross-sectional area**. The cross-sectional area of a stream channel is determined by multiplying the stream channel width by the average stream channel depth. The stream channel width is the straight line distance from the normal high water line on one side of the channel to the normal high water line on the opposite side of the channel. The average stream channel depth is the average of the vertical distances from a straight line between the normal high water marks of the stream channel to the bottom of the channel.

(2) **Crossing**. Any activity extending from one side to the opposite side of a protected natural resource, or to an island or upland within a protected natural resource whether under, through or over that resource. Such activities include, but are not limited to roads, fords, bridges, culverts, utility lines, water lines, sewer lines and cables, and the clearing and removal of vegetation necessary to install and maintain these crossings.

(3) **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 adjacent to a water body or wetland.

(4) **Ford**. A permanent crossing of a stream utilizing an area of existing, non-erodible substrate of the stream, such as ledge or cobble, or by placing non-erodible material such as stone or geotextile on the stream bottom.

(5) **Perennial watercourse**. A river, stream or brook depicted as a solid line on the most recent edition of a United States Geological Survey 7.5 minute series topographic map, or if not available, a 15 minute series topographic map.

(6) **Riprap.** Heavy, irregularly-shaped rocks that are fit into place, without mortar, on a slope. Square or rectangular rocks with flat faces, such as quarry stone or manufactured blocks, do not qualify as “irregularly-shaped”.

(7) **Used for navigation**. Those rivers, streams or brooks used by motorized watercraft.

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.

12. Restoration of natural areas

A. Applicability

(1) This section applies to the restoration of an altered portion of a coastal wetland, freshwater wetland, great pond, river, stream or brook to its pre-existing natural condition through the removal of fill, structures or debris which is located in, on over, or adjacent to the natural resource.

APPENDIX B

Contract 2021.01

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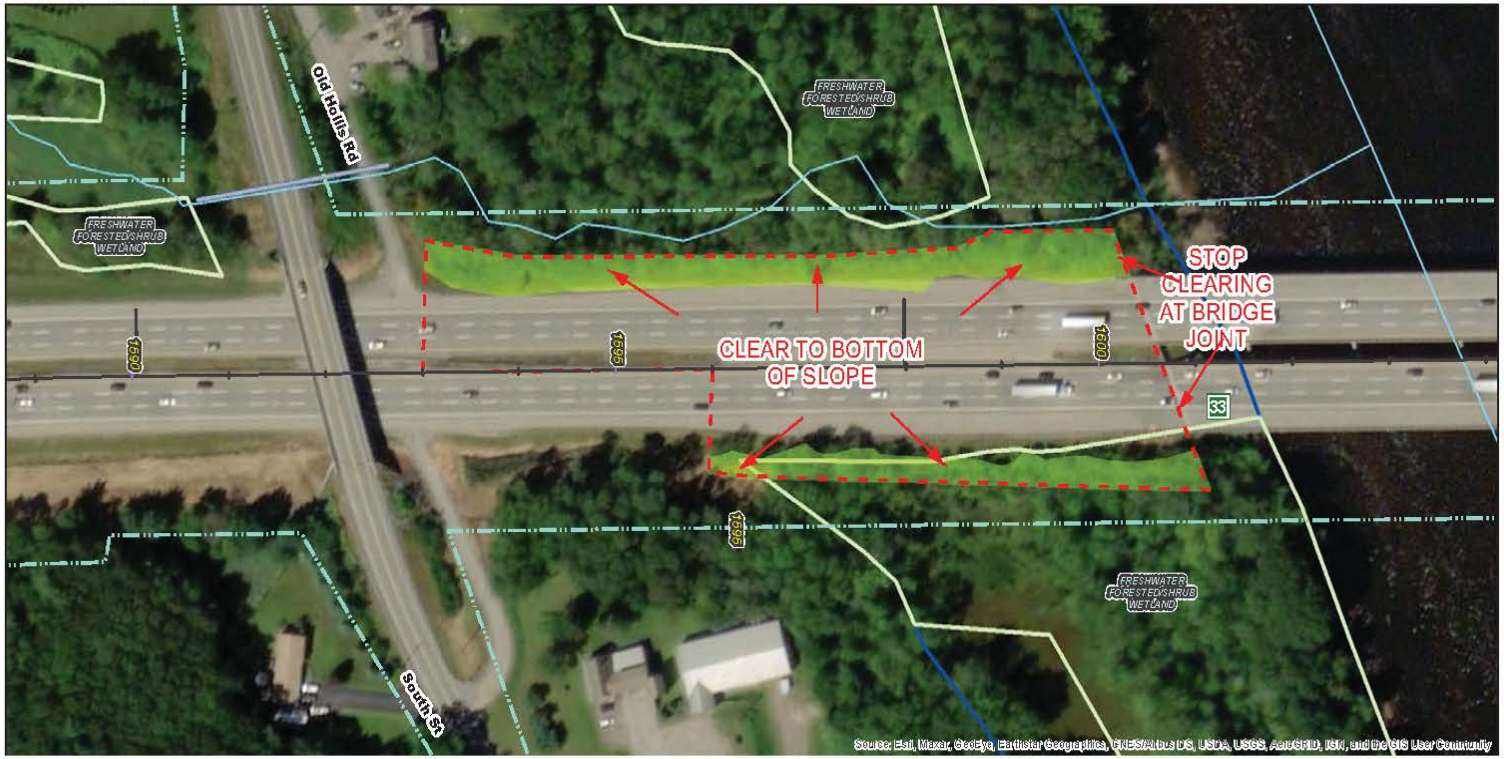


Date: 08/24/2020

Notes:

1. All trees, down timber, brush, bushes, shrubs, plants and debris not designated to remain shall be removed from the clearing areas shown on these plans.
2. All stumps, whether existing or resulting from the clearing operation, that are located within the roadway clear zone or within areas that can be mowable after clearing operations are completed, shall be ground flush with the surrounding grade. All other stumps shall be cut as close as practicable to the surrounding grade, maximum height of 3-inches.
3. Stumps located in back slopes and within 15-vertical feet of the ditch line shal be ground flush.
4. Contractor shall take all precautions to protect traffic from flying debris generated by the operation.
5. All vegetated areas to remain that are damaged by the clearing operation shall be repaired at no cost to the Authority.
6. Mechanized clearing operations shall maintain a 25-foot setback from all streams and sensitive environmental areas.

Legend:

- ROW Boundary
- Clearing Limit Line
- Vegetation To Be Removed
- No Stump Grinding Required
- Do Not Remove Vegetation
- Stump Grind
- Culverts
- Streams
- NWI Wetland Type
  - Freshwater Emergent Wetland
  - Freshwater Forested/Shrub Wetland
  - Water Body
  - Conservation Lands

50 0 50 100 Feet

No.	Revision	By	Date
1	Updated Clearing Limits	JT	8-24-20

Designed By:

MAINE TURNPIKE AUTHORITY

	By	Date		By	Date
Designed	JT	8/14/20	Checked	BT	8/14/20
Drawn	JT	8/14/20	In Charge of	ST	8/14/20

MAINE TURNPIKE
2360 CONGRESS STREET
PORTLAND, ME 04102
TEL (207) 871-7771
FAX (207) 879-5567

MAINE TURNPIKE

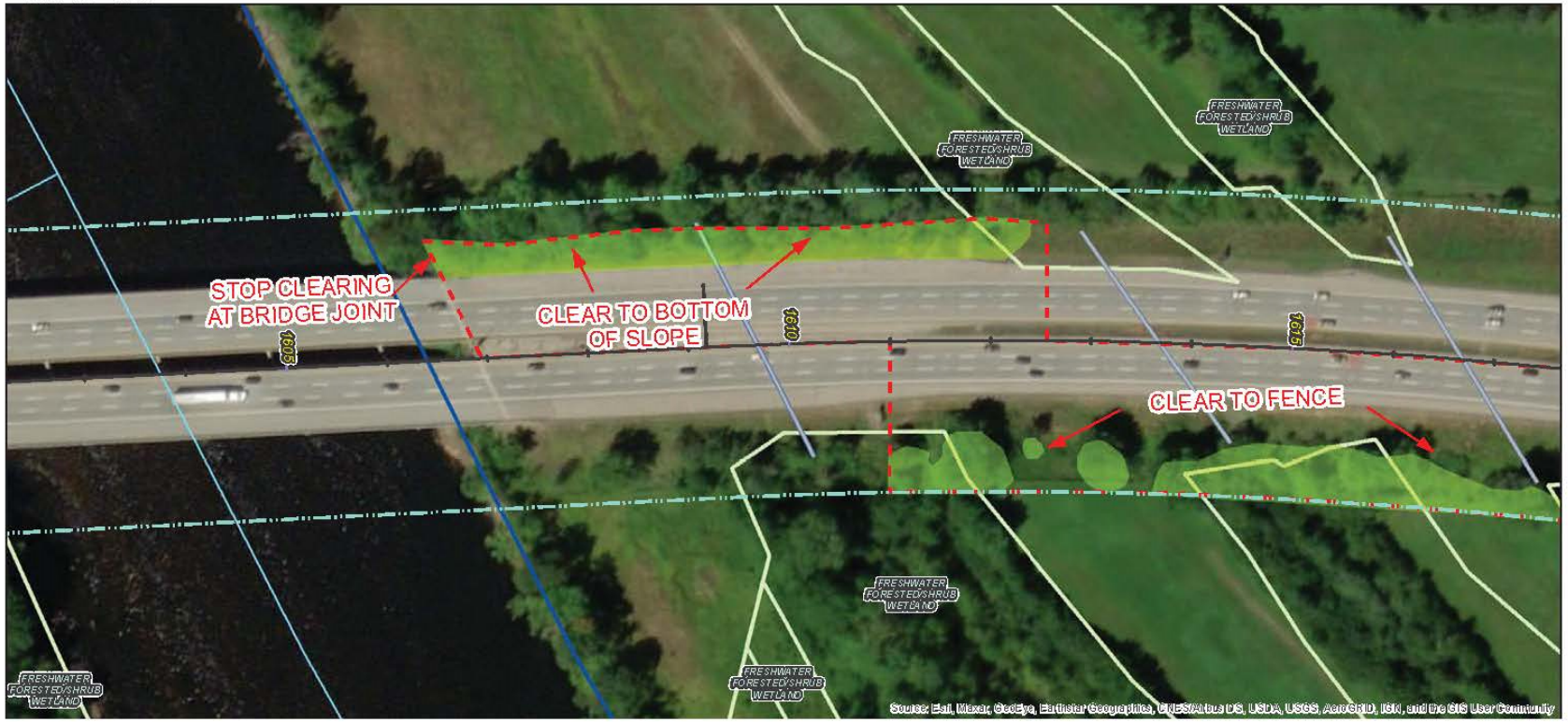
THE GOLD STAR MEMORIAL HIGHWAY

CONTRACT: 2020.XX - ROADSIDE CLEARING
MILE 32.8 TO MILE 33.4

CONTRACT: 2020.XX

SHEET NUMBER: 127 of 433

Date: 08/24/2020



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CONTRACT: 2020.XX

SHEET NUMBER: 128 of 433

Contract 2021.01

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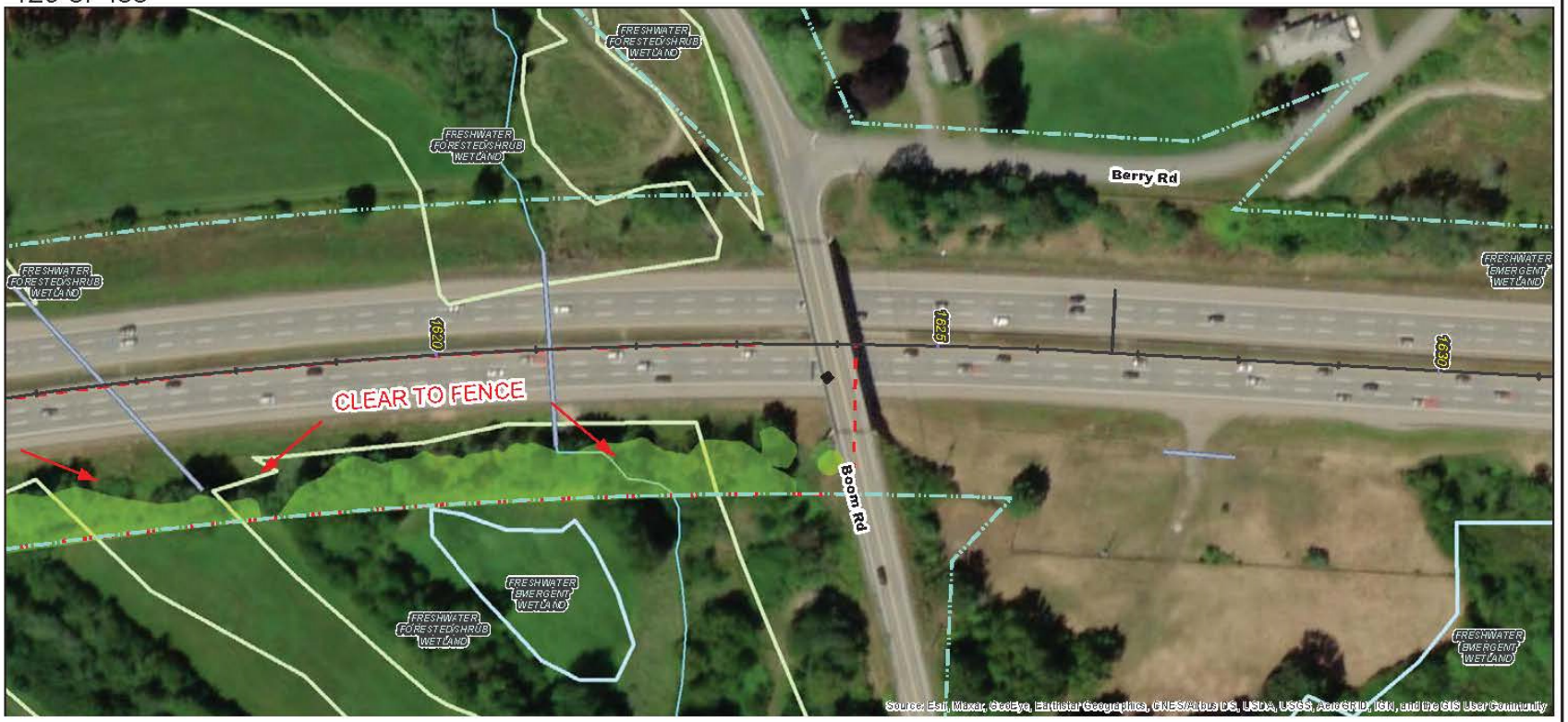

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NWI Wetland Type

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No.	Revision	By	Date
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Designed By:

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	By	Date		By	Date
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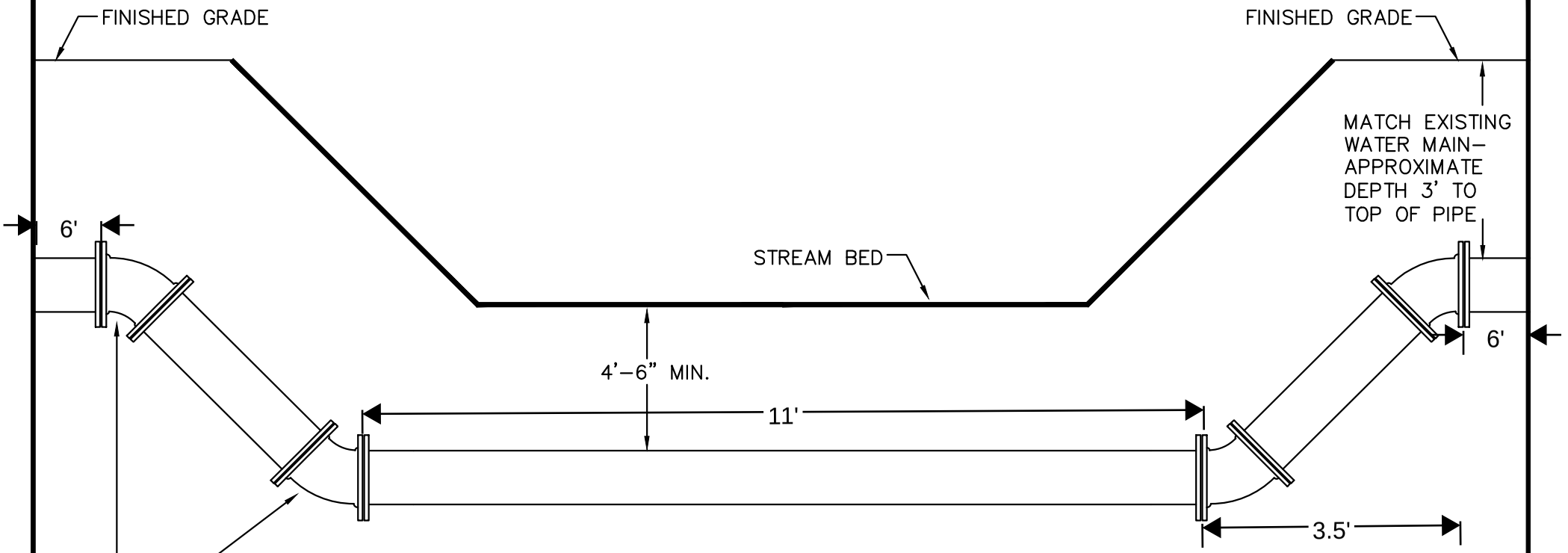
CONTRACT: 2020.XX - ROADSIDE CLEARING
MILE 32.8 TO MILE 33.4

CONTRACT: 2020.XX SHEET NUMBER: 129 of 433

APPENDIX C

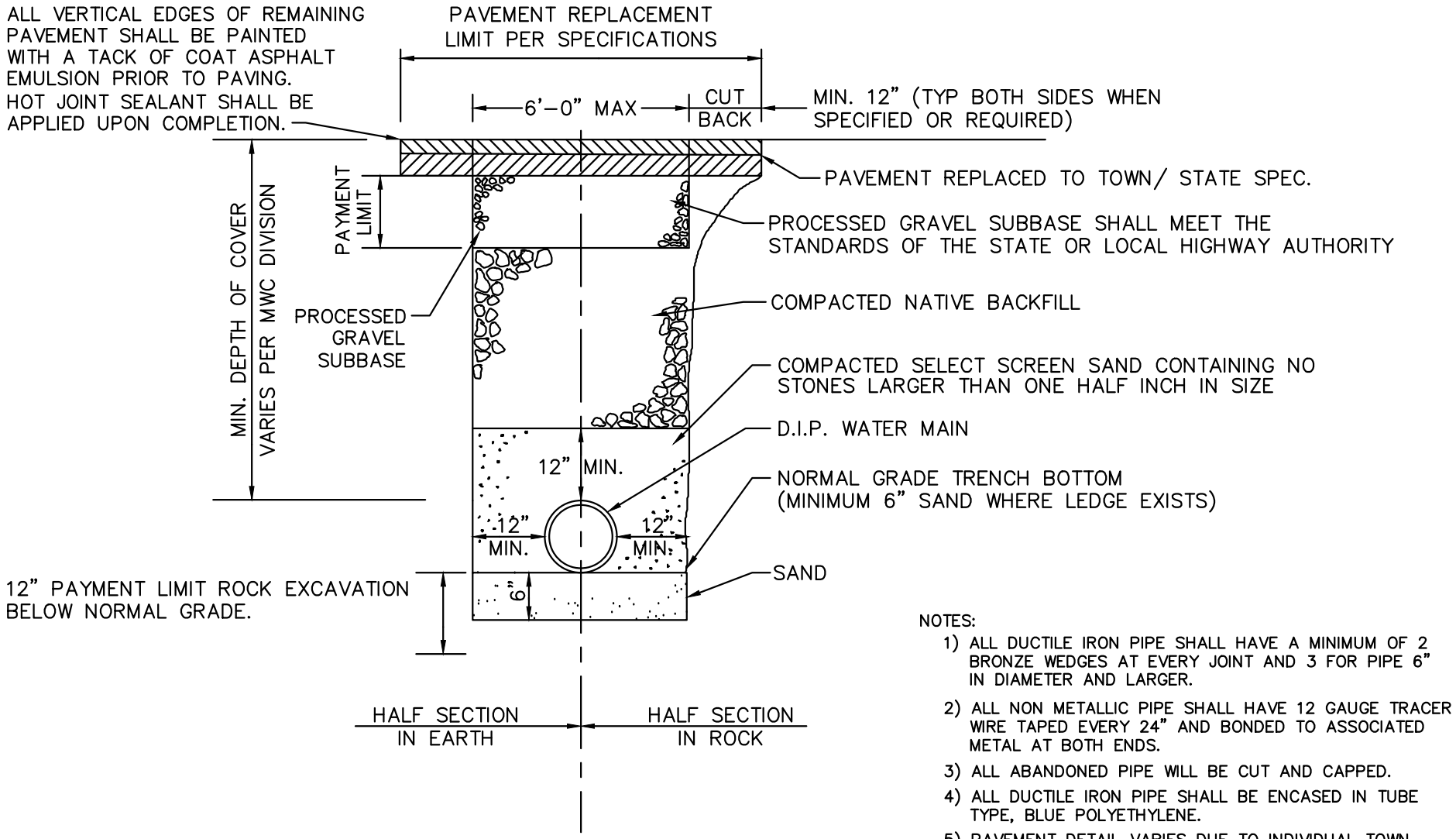


NOTES:

1.) PREFABRICATED, CONTINUOUSLY FUSED HDPE 3608 SDR–11 WATER PIPE RATED FOR 200 PSI TO BE REVIEWED, APPROVED AND SUPPLIED BY MAINE WATER COMPANY BEFORE CONSTRUCTION OR INSTALLATION.
2.) CLOSEST END TO HIGHWAY TO BE ELECTRO FUSE WELDED TO EXISTING SDR–17 HDPE WATER MAIN. FARTHEST END FROM HIGHWAY TO BE CONNECTED TO DUCTILE IRON PIPE TO BE FIELD VERIFIED AND ACCEPTED BY MAINE WATER COMPANY.
3.) FIELD VERIFICATION OF LENGTH TO TIE INTO EXISTING WATER MAIN REQUIRED PRIOR TO INSTALLATION.
4.) FIELD VERIFICATION OF STREAM BED WIDTH AND DEPTH REQUIRED PRIOR TO INSTALLATION.
5.) RECONNECTION TO EXISTING WATER MAIN TO MATCH EXISTING DEPTH.

STATE OF MAINE
JONATHAN ROBERT EARLE
No. 10905
LICENSED PROFESSIONAL ENGINEER
3/31/2021

Drawn By: FHG Date: 2/24/21 Approved by: Title: DIRECTOR OF ENGINEERING Title: SUPERVISOR OF ENGINEERING SERVICES	MaineWater 93 INDUSTRIAL PARK ROAD SACO, ME. 04072 PH: (207) 282–1543 FAX: (207) 282–1544 www.mainewater.com	**VERTICAL STREAM CROSSING DETAIL**	Scale: NTS BU Number – Sheet 1 of 1



NOTES:

1) ALL DUCTILE IRON PIPE SHALL HAVE A MINIMUM OF 2 BRONZE WEDGES AT EVERY JOINT AND 3 FOR PIPE 6" IN DIAMETER AND LARGER.
2) ALL NON METALLIC PIPE SHALL HAVE 12 GAUGE TRACER WIRE TAPED EVERY 24" AND BONDED TO ASSOCIATED METAL AT BOTH ENDS.
3) ALL ABANDONED PIPE WILL BE CUT AND CAPPED.
4) ALL DUCTILE IRON PIPE SHALL BE ENCASED IN TUBE TYPE, BLUE POLYETHYLENE.
5) PAVEMENT DETAIL VARIES DUE TO INDIVIDUAL TOWN SPECIFICATIONS. DIMENSIONS MAY BE ALTERED DUE TO SPECIFIC REQUIREMENTS OF TOWN IN WHICH PROJECT IS LOCATED.

STATE OF MAINE
JONATHAN ROBERT EARLE
No. 10905
LICENSED PROFESSIONAL ENGINEER
3/3/2021

Drawn By: LRS/LMM
Date: 3/9/16
Approved by:
Title:
Title: CHIEF OF ENGINEERING

MaineWater
93 INDUSTRIAL PARK RD.
SACO, ME 04072
PH: (207) 282-1543
FAX: (207) 282-1544
www.mainewater.com

WATER MAIN TRENCH DETAIL

Scale: NTS

Drawing Number
MWC SD-4

BU Number –
Sheet 1 of 1

Maine Water Company
Field Notes Requirements

The CONTRACTOR will be responsible for providing "As Built" information for the COMPANY's installation records in the form of high accuracy GPS points and physical as built measurements. The information below shall be provided to MWC upon completion of the project and should be provided in a neat and legible format.

As Built Drawings

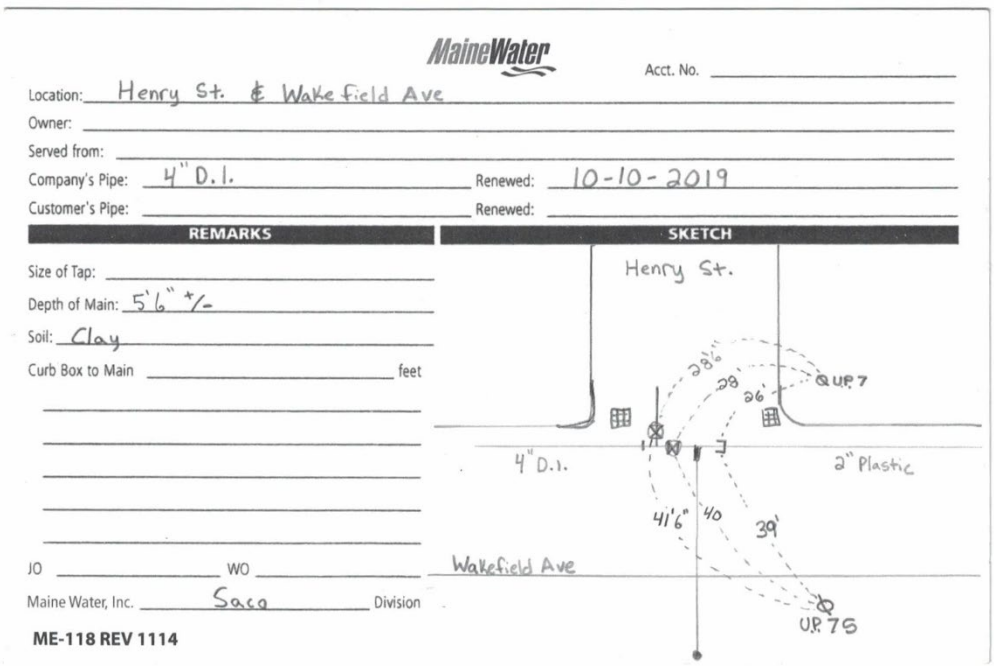
All project reference points shall each contain two swing ties, which may include but are not limited to, building corners, hydrants, utility poles, manhole covers, or other permanent structures. Examples are included on the following pages.

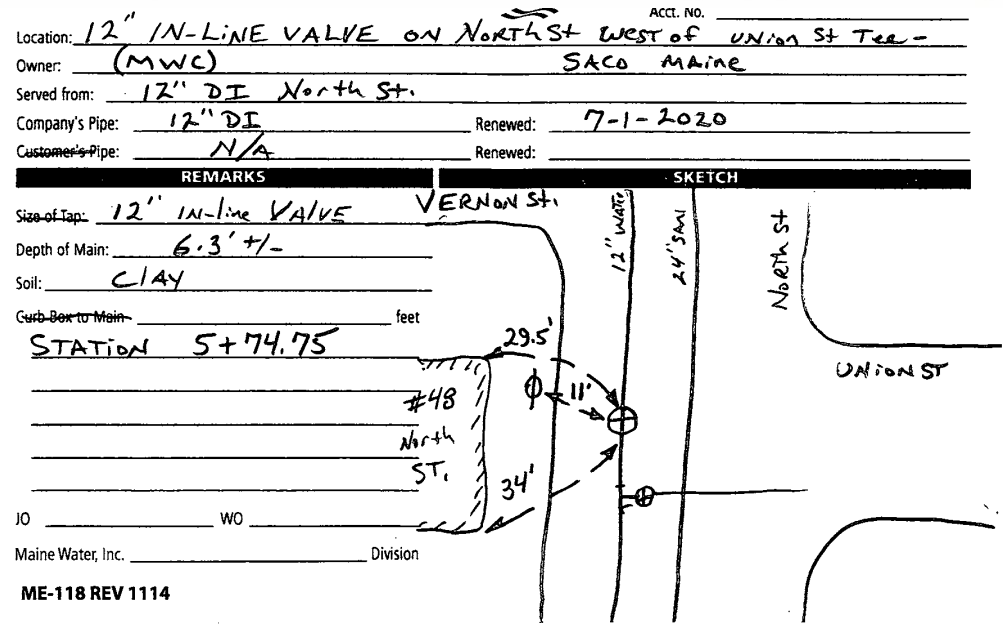
High Accuracy GPS Data

High accuracy GPS data collection points of all assets listed above. This data must be collected at accuracies <10 cm into a usable format for MWC. Acceptable formats include a shape file (.shp) projected in the NAD 1983 UTM 19N projection (EPSG Code: 26919). CAD drawing (.dwg) files will also be accepted as long as the file has been spatially referenced to the system mentioned above. The CONTRACTOR is responsible for working with MWC to obtain a working high accuracy GPS file. Examples are included on the following pages.

Mainline Valves and Fitting As Built Examples

- Measure and record swing-ties for each mainline valve and fitting
- Measure and record depth of valves and fittings
- Measure and record distances to other nearby valves and fittings
- Record valve and fitting size, type, and make (ex: “8-inch MJ gate valve”)
- Include water main(s), underground conflicts, and street names in drawings



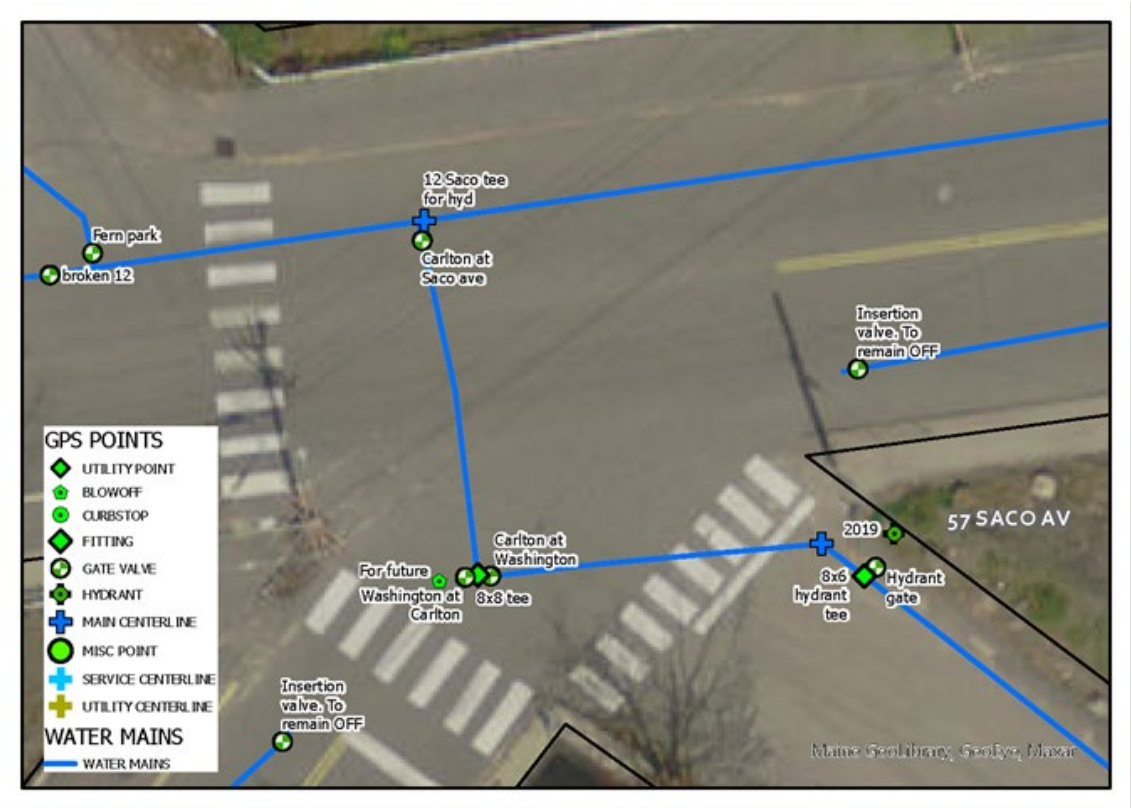


High Accuracy GPS Data Examples

GPS points are needed for each of the following:

- Hydrants
- Gate valves and service valves
- Fittings (tees, bends, corporations, reducers, etc.)
- Blow off assemblies
- Water main centerline points every 40 feet
- Frequent water main centerline points
- Service line centerline points where the tap and curb box are not perpendicular
- Utility crossings such as sewer or storm drain

GPS points should include attributes referring to the assets they represent. For example, a service valve point with the address denoted as "*200 Main St domestic*" or a tee fitting with label denoted "*8x6 tee*". Water main centerline points should be taken every so often and include all fittings on the main such as service corporations or tees. See image below for examples.



The CONTRACTOR will be responsible for providing “As Built” information for the COMPANY’s installation records. The information below shall be provided to MWC upon completion of the project and should be provided in a neat and legible format.

Reference points for swing-tie measurements (choose two points of reference in this order)

- Two front corners of nearest building marked by address (if available)
- Nearest utility poles marked by pole numbers (if available)
- Nearest manhole covers and storm drains (if available)
- Other permanent structures if needed

Mainline Valves and Fittings

- Measure and record swing-ties for each mainline valve and fitting
- Measure and record depth of valves and fittings
- Measure and record distances to other nearby valves and fittings
- Record valve and fitting size, type, and make (ex: “8-inch MJ gate valve”)
- Include water main(s), underground conflicts, and street names in drawings