

MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

CONTRACT DOCUMENTS

CONTRACT 2018.13

GUIDE SIGN MODIFICATIONS, PHASE III
MAINE TURNPIKE EXITS 32, 36, 42, 44, AND 45
MILE 16.9 TO 50.5

NOTICE TO CONTACTORS

PROPOSAL

CONTRACT AGREEMENT

CONTRACT BOND

FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT

SPECIFICATIONS

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

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

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

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MAINE TURNPIKE AUTHORITY

NOTICE TO CONTRACTORS

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

CONTRACT 2018.13

GUIDE SIGN MODIFICATIONS, PHASE III
MAINE TURNPIKE EXITS 32, 36, 42, 44, AND 45
MILE 16.9 TO 50.5

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 January 18, 2018 at which time and place the Proposals will be publicly opened and read. Bids will be accepted from Contractors **prequalified** by the Maine Department of Transportation for Highway Projects or for Bridge Projects or for Traffic Signal and Lighting Projects. All other bids may be rejected. This Project includes a wage determination developed by the State of Maine Department of Labor.

The work consists of removing, replacing and installing new highway signs along the Maine Turnpike from south of Exit 19 to north of Exit 48 in the Wells to Portland segment of the Maine Turnpike in the Cities of Saco, Biddeford, South Portland and Portland, and the Towns of Wells, Arundel and Scarborough. The work includes furnishing, installing and salvaging aluminum signs, steel H-beam sign supports, galvanized steel overhead sign structures, concrete foundations, concrete median barriers, guardrail, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications.

Plans and Contract Documents may be examined by prospective Bidders weekdays between 8:00 a.m. and 4:30 p.m. at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine. **The half size Plans** and Contract Documents may be obtained from the Authority upon payment of One Hundred Twenty-Five (\$125.00) Dollars for each set, which payment will not be returned. Checks shall be made payable to: Maine Turnpike Authority. The Plans and Contract Documents may also be downloaded from a link on our website at <http://www.maineturnpike.com/project-and-planning/Construction-Contracts.aspx>.

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

All work shall be governed by the Specifications entitled "State of Maine, Department of Transportation, Standard Specifications, Revision of November 2014", "Standard Details,

Revision of November 2014” and “Best Management Practices for Erosion and Sediment Control”, latest issue. Copies and recent updates to these publications can be downloaded at: <http://www.maine.gov/mdot/contractors/publications/> .

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

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

A pre-bid conference will be held on January 4, 2018 at 10:00 a.m. at the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine.

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

MAINE TURNPIKE AUTHORITY

Nate Carll
Purchasing Manager
Maine Turnpike Authority

Portland, Maine

Maine Turnpike Authority

MAINE TURNPIKE

PROPOSAL

CONTRACT 2018.13

GUIDE SIGN MODIFICATIONS, PHASE III
MAINE TURNPIKE EXITS 32, 36, 42, 44, AND 45
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MAINE TURNPIKE AUTHORITY

PROPOSAL

CONTRACT 2018.13

GUIDE SIGN MODIFICATIONS, PHASE III
MAINE TURNPIKE EXITS 32, 36, 42, 44, AND 45
MILE 16.9 TO 50.5

TO MAINE TURNPIKE AUTHORITY:

The work consists of removing, replacing and installing new highway signs along the Maine Turnpike from south of Exit 19 to north of Exit 48 in the Wells to Portland segment of the Maine Turnpike in the Cities of Saco, Biddeford, South Portland and Portland, and the Towns of Wells, Arundel and Scarborough. The work includes furnishing, installing and salvaging aluminum signs, steel H-beam sign supports, galvanized steel overhead sign structures, concrete foundations, concrete median barriers, guardrail, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications.

This Work will be done under a Contract known as Contract 2018.13 according to the Plans and Specifications which are on file in the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine.

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

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

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

**SCHEDULE OF BID PRICES
CONTRACT NO. 2018.13
GUIDE SIGN MODIFICATIONS, PHASE 3
MAINE TURNPIKE EXITS 32-45**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
203.20	COMMON EXCAVATION	CY	540				
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	CY	290				
304.14	AGGREGATE SUBBASE COURSE - TYPE A	CY	150				
403.207	HOT MIX ASPHALT, 19.0 MM NOMINAL MAXIMUM SIZE	T	100				
403.208	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE	T	50				
403.213	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (BASE AND INTERMEDIATE BASE	T	50				
409.15	BITUMINOUS TACK COAT - APPLIED	G	48				
419.30	SAWING BITUMINOUS PAVEMENT	LF	480				
526.306	TEMPORARY CONCRETE BARRIER TYPE 1 - SUPPLIED BY AUTHORITY	LS	1				
527.341	WORK ZONE CRASH CUSHIONS - TL-3	UN	5				
603.179	18 INCH CULVERT PIPE OPTION III	LF	240				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
606.13	31" W-BEAM GUARDRAIL - MIDWAY SPLICE (7' STEEL POSTS, 8" OFFSET BLOCKS, SINGLE FACED)	LF	850				
606.14	GUARDRAIL SRT M10 END TREATMENT	EA	2				
606.24	GUARDRAIL TYPE 3D - SINGLE RAIL	LF	145				
606.24	GUARDRAIL TYPE 3D - DOUBLE RAIL	LF	1000				
606.28	TERMINAL END - ANCHORED END	EA	3				
606.36	DELINEATOR POST - REMOVE AND RESET	EA	10				
606.70	ASYMMETRICAL THRIE BEAM TRANSITION	EA	12				
606.75	WIDEN SHOULDER FOR GUARDRAIL 350 FLARED TERMINAL	EA	2				
619.12	TEMPORARY MULCH	LS	1				
626.32	24-INCH DIAMETER FOUNDATION	EA	11				
626.33	30" DIAMETER, 8-FOOT OR LESS FOUNDATION	EA	25				
626.33	36" DIAMETER FOUNDATION	EA	9				

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	HR	25				
645.105	REMOVE AND STACK SIGN	EA	74				
645.12	OVERHEAD GUIDE SIGN: (MM I-95 43.24_N)	LS	1				
645.12	OVERHEAD GUIDE SIGN: (MM I-95 44.04_N)	LS	1				
645.12	OVERHEAD GUIDE SIGN: (MM I-95 44.14_N)	LS	1				
645.1201	REMOVE AND STACK OVERHEAD SIGN STRUCTURE	UN	3				
645.15	BRIDGE OVERPASS-MOUNTED GUIDE SIGN	LS	1				
645.161	BREAKAWAY DEVICE SINGLE POLE	EA	1				
645.162	BREAKAWAY DEVICE MULTI POLE	EA	19				
645.251	ROADSIDE GUIDE SIGN, TYPE 1	SF	9689				
645.2511	SHEET ALUMINUM OVERLAY, TYPE 1	SF	264				
645.2519	AUXILIARY PANEL SUPPORTS	LF	75				
645.289	STEEL H-BEAM POLES	LB	36725				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
652.30	FLASHING ARROW	EA	3				
652.33	DRUM	EA	400				
652.35	CONSTRUCTION SIGNS	SF	2732				
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	LS	1				
652.41	PORTABLE CHANGEABLE MESSAGE SIGN	EA	2				
652.45	TRUCK MOUNTED ATTENUATOR	CD	150	\$200	00	\$30,000	00
652.451	AUTOMATED TRAILER MOUNTED SPEED LIMIT SIGN	CD	150	\$75	00	\$11,250	00
656.632	30 INCH TEMPORARY SILT FENCE	LF	1930				
659.10	MOBILIZATION	LS	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)

STATEMENT OF QUALIFICATIONS FORM

On company letterhead, please respond to the following questions. Include the original number and question in each response. Please limit responses to not more than two pages total. Contractor may provide supplemental material that shows their experience (resumes, marketing materials, etc.). On the final page, include the following statement, followed by the signature of a company representative with the authority to sign the proposal.

The undersigned, under the pains and penalty of perjury, offers the information provided above as evidence of [CONTRACTOR'S NAME] qualifications to perform the Work as bid upon according to all the requirements of the Plans and Specifications.

1. Describe the Contractor's previous experience installing guide signs along Interstate highways, including signs on steel beams and signs on overhead sign structures.
2. Describe the Contractor's previous experience with Interstate Temporary Traffic Control, including nighttime traffic control.

MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
WELLS TO PORTLAND
CONTRACT AGREEMENT

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

_____ herein termed the "Contractor":

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

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

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

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

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

AUTHORITY -

MAINE TURNPIKE AUTHORITY

By: _____

Title: CHAIRMAN

Date of Signature: _____

ATTEST:

Secretary

CONTRACTOR -

CONTRACTOR

By: _____

Title: _____

Date of Signature: _____

WITNESS:

CONTRACT BOND

KNOW ALL MEN BY THESE PRESENTS that _____
of _____ in the County of _____ and State of _____
as Principal, and _____ a Corporation duly organized under the
laws of the State of _____ and having a usual place of business in _____

As Surety, are held and firmly bound unto the Maine Turnpike Authority in the sum of _____ Dollars (\$_____.____),
to be paid to said Maine Turnpike Authority, or its successors, for which payment, well and truly
to be made, we bind ourselves, our heirs, executors, successors and assigns jointly and severally
by these presents.

The condition of this obligation is such that the Principal, designated as Contractor in the
foregoing Contract No. _____ shall faithfully perform the Contract on his part and
satisfy all claims and demands incurred for the same and shall pay all bills for labor, material,
equipment and all other items contracted for, or used by him, in connection with the Work
contemplated by said Contract, and shall fully reimburse the Obligee for all outlay and expense
which the Obligee may incur in making good any default of said Principal, then this Obligation
shall be null and void; otherwise it shall remain in full force and effect.

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

Witnesses:

CONTRACTOR

_____ (SEAL)

SURETY

_____ (SEAL)

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

FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT

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

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

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

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

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

(Contractor)

By: _____

Title: _____

State of MAINE
County of _____

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

(Company Name)

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

(SEAL)

Notary Public
My Commission Expires: _____

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART I – SUPPLEMENTAL SPECIFICATIONS

(Rev. November 10, 2016)

The Supplemental Specifications are available on the Maine Turnpike Authority website at <http://www.maineturnpike.com/Projects-Planning/Construction-Contracts.aspx>

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART II – SPECIAL PROVISIONS

PART II - SPECIAL PROVISIONS

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MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART II - SPECIAL PROVISIONS

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

General Description of Work

The work consists of removing, replacing and installing new highway signs along the Maine Turnpike from south of Exit 19 to north of Exit 48 in the Wells to Portland segment of the Maine Turnpike in the Cities of Saco, Biddeford, South Portland and Portland, and the Towns of Wells, Arundel and Scarborough. The work includes furnishing, installing and salvaging aluminum signs, steel H-beam sign supports, galvanized steel overhead sign structures, concrete foundations, concrete median barrier, guardrail, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications.

Plans

The drawings included in these Contract Documents, and referred to as the Plans, show the general character of the work to be done under this Contract. They bear the general title "Contract 2018.13 Guide Sign Modifications, Phase III". 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 General Provisions:

Independence Day 2018 (Fourth of July)	12:01 p.m. preceding Tuesday to 11:59 a.m. the following Thursday.
-------------------------------------------	-----------------------------------------------------------------------

103.4 Notice of Award

The following sentence is added:

The Maine Turnpike Authority Board is scheduled to consider the Contract Award on January 25, 2018.

104.3.8 Wage Rates and Labor Laws

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

The fair minimum hourly rates determined by the State of Maine Department of Labor for this Contract will be published as an Addendum after January 4, 2018.

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:

UTILITIES

Biddeford, City of
205 Main Street
Biddeford, ME 04005
ATTN: Tom Milligan, City Engineer (207) 284-9118 tmilligan@biddefordmaine.org

Buckeye Partners LP
ATTN: Steven Wing (207) 741-2404 swing@buckeye.com

Central Maine Power Company
57 Old Winthrop Rd
Augusta, Me 04330
ATTN: Skip McKay (207) 626-9445 maurice.mckay@cmpco.com

FairPoint Communications - Northern New England Telephone Operations LLC
15 Davis Farm Road

Portland, ME 04103
ATTN: Jim McLean (207) 797-1745 mdot_requests@fairpoint.com or
Marty Pease (207) 757-1115

Maine Fiber Company
482 Congress Street, Suite 100
Portland, Me 04101
ATTN: Tim LaBreck (207) 956-6657 tlabreck@mainefiberco.com

Maine Department of Transportation, State of
RE: Traffic Signals
16 State House Station
Augusta, ME 04333-0016
ATTN: Mike Delois (207) 624-3625 mdelois@maine.gov

Maine Water Company (Biddeford & Saco)
P. O. Box 304
Biddeford, Maine 04005- 0304
ATTN: Tom Carr (207) 282-1543 tcarr@mainewater.com

Oxford Networks
491 Lisbon Street
Lewiston, ME 04240
ATTN: Michael Ellingwood (207) 333-3471 mellingwood@oxfordnetworks.com

Portland Pipe Line Corporation
30 Hill Street
South Portland, ME 04106
ATTN: Kenneth P. Brown (207) 767-0449 ken.brown@pmppl.com

Portland Water District
P. O. Box 3553
Portland, ME 04104-3553
ATTN: Ned Pierce (207) 774-5961 npierce@pwd.org

Pioneer Telephone
39 Darling Avenue
South Portland, ME 04106
ucpioneer@pioneertelephone.com
1-800-808-9000

Portland Department of Public Works, City of
RE: Traffic Signals
389 Congress Street
Portland, ME 04101
ATTN: Bruce Hyman (207) 874-8717 bhyman@portlandmaine.gov

Portland International Jetport
1001 Westbrook Street
Portland, ME 04102
ATTN: Zachary Sundquist (207) 874-8877 zrs@portlandmaine.gov

Spectrum (Portland Office)
171 Cumberland Avenue
Portland, ME 04101
ATTN: Don Johnson (207) 253-2291 don.johnson@twcable.com or
Andy Trottier (207) 253-2325 Andy.Trottier@twcalbe.com

Unitil Corp.
376 Riverside Industrial Parkway
Portland, ME 04103
ATTN: Joe Renda (207) 541-2568 rendaj@unitil.com

104.4.7 Cooperation With Other Contractors

This Subsection is amended by the addition of the following:

Adjacent contracts currently scheduled for the 2018 construction season include:

MTA Contract 2016.08 – Exit 44 Open Road Toll Conversion

MTA Contract 2017.10 – Clearing MM 42-47.7, 92.6-100.8 and 85-85.6

MTA Contract 2018.02 – Rand Road Interchange Pavement Rehabilitation

MTA Contract 2018.03 – Scarborough: Exit 44 SB On-Ramp Widening

MTA Contract 2018.06 – Wells, Biddeford, Saco Bridge Repairs

MTA Contract 2018.09 – South Portland, Cumberland, Gray Bridge Repairs

MTA Contract 2019.05 – South Portland/Scarborough: Cummings Road Bridge Rehabilitation

105.8.2 Permit Requirements

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

A Notice of Intent (NOI), has not been filed or required for this project. However, the Contractor is still responsible to conduct the work in accordance with erosion and sedimentation control best practices as outlined in this Contract.

The Contractor shall prepare a LOD plan illustrating the Contractor's proposed limit of earthwork disturbance. The LOD plan shall show all construction access locations, , 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 less than 0.60 acres.

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

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

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

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

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.

107.1 Contract Time and Contract Completion Date

This Subsection is amended by the addition of the following:

The construction of all three overhead sign structure foundations in the median shall be substantially completed on or before June 21, 2018. 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.

All work shall be completed on or before November 16, 2018.

107.1.1 Substantial Completion

This Subsection is amended by the addition of the following:

The substantial completion for the median overhead sign structure foundations shall be defined by the Authority as the following:

- All foundation excavation, concrete, steel reinforcement, anchor bolts, and concrete median barrier cap shall be installed with forms removed.
- All median concrete barrier transitions and guardrail transitions shall be installed.
- All existing median guardrail to be removed shall be removed and all proposed median guardrail to be installed shall be installed and tied-into any existing guardrail to remain, as required.
- All median paving adjacent to the concrete median barriers shall be completed and ready to accept incidental traffic.

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 at each foundation location.

107.4.6 Prosecution of Work

The following restrictions shall be applied specifically to the overhead sign structures and associated foundation work:

- No construction that requires daytime lane closures shall be permitted between June 22, 2018 and October 16, 2018.
- All guardrail work along the right side of the roadway at each location shall be completed prior to the construction of the right side foundations at that location.

The Contractor shall submit to the Authority a construction schedule which shall document that the Contractor has the necessary labor and equipment to work immediately and continuously at each overhead sign structure median foundation once the median has been closed. The intent of this specification is to verify the Contractor has sufficient time and resources to complete all three overhead sign structure median foundations to meet the project's Substantial Completion date.

SPECIAL PROVISION

SECTION 206

STRUCTURAL EXCAVATION

206.02 Construction Methods

The following paragraphs are added:

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

SPECIAL PROVISIONSECTION 401HOT 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

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

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

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

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

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

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

Section 401.03 Composition of Mixtures

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

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 base, binder, surface, or shim course, unless otherwise noted. Current MaineDOT approved designs will be allowed on local roads.

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

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

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

- Properly completed JMF indicating all mix properties (Gmm, VMA, VFB, etc.).
- Stockpile Gradation Summary.
- 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 and temperature/viscosity charts for the PGAB to be used.
- Recommended mixing and compaction temperatures from the PGAB supplier.
- Material Safety Data Sheets (MSDS) For PGAB.
- Asphalt Content vs. Air Voids trial blend curve.
- Test report for Contractor's Verification sample.
- Summary of RAP test results (if used), including count, average and standard deviation of binder content and gradation.

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

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

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

TABLE 1
VOLUMETRIC DESIGN CRITERIA

Design ESAL's (Millions)	Required Density (Percent of G _{mm})			Voids in the Mineral Aggregate (VMA)(Minimum Percent)					Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
				Nominal Maximum Aggregate Size (mm)						
	N _{initial}	N _{design}	N _{max}	25	19	12.5	9.5	4.75		
10 to <30	≤89.0	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	65-80*	0.6-1.2

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

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

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

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

TABLE 1A
HAMBURG WHEEL TRACKER REQUIREMENTS

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

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

Section 401.091 Material Transfer Vehicle (MTV)

The fourth paragraph shall be deleted and replaced with:

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

Section 401.165 Longitudinal Joint Density

The first paragraph shall be deleted and replaced with:

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

The eighth paragraph shall be deleted and replaced with:

The minimum density of the completed pavement shall be 91.5 percent of the theoretical maximum density obtained. Two consecutive failing tests shall result in production shut down. Prior to resuming paving operations, the contractor quality control unit shall satisfy the Authority that the paving operation will produce joint densities in compliance with the Specifications.

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

Payment reduction will be applied to each subplot that has a density lower than 91.5% as outlined below.

PERCENT COMPACTION	PERCENT PAY
91.5 or greater	100
90.0 to 91.4	95
89.9 or less	90

Section 401.17 Joints

The fourth paragraph shall be deleted and replaced with:

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

Section 401.191 Inspection/Testing

In paragraph nine delete and replace Item #8 with:

- 8. Secure High Speed Internet Access

SPECIAL PROVISIONSECTION 403HOT MIX ASPHALT PAVEMENT

Course	HMA Grading	Item Number	Total Thickness	No. of Layers	Complimentary Notes
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Turnpike Shoulder Construction/Widening

Surface	12.5 mm	403.208	1.5"	1	B,E,J,L,N
Binder	12.5 mm	403.213	1.5"	1	B,E,J,L,N
Base	19.0 mm	403.207	3.0"	1	B,E,J,L,N

COMPLEMENTARY NOTES

- A. The required PGAB for this mixture shall be **64E-28**.
- B. The required PGAB for this mixture shall be **64-28**.
- C. A maximum of 15 percent RAP may be used.
- D. RAP may not be used.
- E. The Maine DOT will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. The design verification, Quality Control, and Acceptance tests for this mix will be performed at **50 gyrations**. (N design) Minimum and Maximum PGAB content shall not apply.
- F. The MTA will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 10 to <30 million ESALS for mix placed under this contract. The design verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**. (N design)
- G. A material transfer vehicle (MTV) shall be used for the placement of Hot Mix Asphalt wearing surface on all roadways including acceleration and deceleration lanes and all ramps.
- H. Joints shall be constructed as the "notched wedge" type in accordance with Subsection 401.17.
- I. Joint density will be measured in accordance with Subsection 401.165.
- J. Tack coat shall be applied between all layers of pavement at a rate of 0.04 G/SY.
- K. PGAB shall conform to the provisions of 403.02 – Polymer Modified PGAB for HMA
- L. The contractor shall furnish a quality control technician equipped with an approved densometer to ensure density requirements are met.
- M. Hydrated Lime shall be incorporated into the mixture.
- N. No vehicular loads shall be permitted on newly completed pavement until adequate stability has been attained and the material has cooled sufficiently to prevent distortion or loss of fines. The newly paved area may be opened to traffic after the internal temperature of the pavement has cooled to 120° F. The Resident will test the internal temperature of the pavement and shall be the sole judge as to the opening to traffic. The period of time before opening to traffic may be extended at the discretion of the Resident. The lane closure may not be removed until the internal temperature has cooled to 120° F.

SPECIAL PROVISION

SECTION 409

BITUMINOUS TACK COAT

409.02 Bituminous Material

This Subsection is deleted and replaced with the following:

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

409.05 Equipment

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

409.06 Preparation of Surface

The following paragraph is added:

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

409.08 Method of Measurement

The following paragraphs are added:

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

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

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

409.09 Basis of Payment

The following pay items are added:

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

SPECIAL PROVISION

SECTION 419

SAWING AND SEALING JOINTS IN BITUMINOUS PAVEMENT

(Sawing Bituminous Pavement)

419.01 Description

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

419.02 General

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

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

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

419.03 Method of Measurement

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

419.04 Basis of Payment

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

Payment will be made under:

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

SPECIAL PROVISIONSECTION 526CONCRETE BARRIER

(Temporary Concrete Barrier Type I - Supplied by Authority)

526.01 Description

The following paragraphs are added:

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

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

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

<u>Maintenance Area</u>	<u>Linear Feet of Barrier</u>
Crosby Maintenance Area Mile 46 Southbound	2,050

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

526.02 Materials

The following paragraphs are added:

- e. Delineators shall be bi-directional with a minimum effective reflective area of eight square inches as approved by the Resident. The reflectors shall be methyl methacrylate and the housing of acrylonitrile butadiene styrene. Color shall be in accordance with the MUTCD.

526.021 Acceptance

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

526.03 Construction Requirements

The following paragraphs are added:

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

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

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

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

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

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

Retro-Reflective Delineators shall be mounted as follows:

4. One on top of each barrier.
5. One on the traffic side of every barrier used in a taper.
6. One on the traffic side of every other barrier at regularly spaced intervals and locations.
7. Delineators shall be installed on both sides of the barrier if barrier is used to separate opposing traffic.
8. Delineators shall be physically adhered so as to withstand the force of throw from a snow plow.
9. If more than 25% of delineators in any 50 foot section of barrier fall off for any reason, the Contractor will be responsible for reinstalling all the delineators in that run at that their own cost.
10. Contractor is required to submit the installation method for review and approval to the Resident.

526.04 Method of Measurement

The following paragraphs are added:

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

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

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

526.05 Basis of Payment

The fifth paragraph is deleted and not replaced.

The following paragraphs are added:

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

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 527

ENERGY ABSORBING UNIT

(Work Zone Crash Cushion)

527.01 Description

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

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

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

527.02 Materials

The following paragraph is added:

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

527.03 Construction Requirements

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

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

527.04 Method of Measurement

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

527.05 Basis of Payment

Payment will be made under:

Pay Item

Pay Unit

527.341 Work Zone Crash Cushions – TL-3

Unit

SPECIAL PROVISION

SECTION 606

GUARDRAIL

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

606.01 Description

The section is amended by the addition of the following:

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

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

606.02 Materials

The section is amended by the addition of the following:

Steel posts shall be 7 feet or 8 feet long as specified in the plans.

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

606.04 Rails

The section is amended by the addition of the following:

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

606.08 Method of Measurement

The section is amended by the addition of the following:

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

606.09 Basis of Payment

The section is amended by the addition of the following:

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

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
606.13 31” W-Beam Guardrail – Mid-way Splice (7’ Steel Posts, 8” Offset Blocks, Single Faced)	Linear Foot
606.131 31” W-Beam Guardrail – Mid-way Splice (8’ Steel Posts, 8” Offset Blocks, Single Faced)	Linear Foot
606.132 31” W-Beam Guardrail – Mid-way Splice (8’ Steel Posts, 8” Offset Blocks, Double Faced)	Linear Foot

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Guardrail SRT M10 End Treatment)

606.01 Description

The following sentences are added:

This work shall consist of furnishing and installing a SRT M10 Guardrail End Treatment as manufactured by Trinity Highway Products, LLC dba, 2525 Stemmons Freeway, Dallas, Texas 75207, (888) 323-6374, and retroreflective adhesive sheeting in accordance with these Specifications and the manufacturer's installation instructions, and in reasonably close conformity with the lines and grades as shown on the Plans or as approved by the Resident.

606.02 Materials

The following sentence is added:

SRT M10 Guardrail End Treatment components shall be comprised of those shown in the manufacturers installation instructions.

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

606.035 Construction Requirements

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

A reflective adhesive sheeting shall be applied to the nose of the SRT M10 Guardrail End Treatment after installation. Color – WHITE.

606.041 Reflective Sheeting

The color for the reflective sheeting shall be silver (WHITE) when installed on the outside shoulder. Black chevron on yellow background will not be acceptable.

606.08 Method of Measurement

The second paragraph is amended by the addition of: "SRT M10 Guardrail End Treatment, " after the words "Terminal section, ".

SRT M10 Guardrail End Treatment – New will be measured by each unit satisfactorily complete in place and accepted.

606.09 Basis of Payment

The first paragraph is amended by the addition of: “SRT M10 Guardrail End Treatment,” after the words “Terminal section,”.

The second paragraph is amended by the addition of: “, SRT M10 Guardrail End Treatment, and ” after the words “NCHRP 350 end treatments ”.

The retroreflective sheeting will not be measured separately for payment, but shall be incidental to the SRT M10 Guardrail End Treatment item.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
606.1363 Guardrail SRT M10 End Treatment	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Terminal End - Remove and Reset)
(Terminal End - Remove and Stack)

606.01 Description

The following sentences are added:

This work shall also consist of removing existing terminal end elements, component parts and hardware, and resetting to the proper location.

This work shall also consist of removing existing terminal end elements, component parts and hardware, and stacking for disposal by the Contractor.

In locations where new guardrail is being installed on the departure side, terminal ends are required as end treatments. These terminal ends shall be provided from the ones designated under this item to be stacked. Installation of these terminal ends shall also be included under this item.

606.08 Method of Measurement

The following sentences are added:

Terminal End - Remove and Reset will be measured by each unit satisfactorily reset.

Terminal End - Remove and Stack will be measured by each unit satisfactorily stacked.

Terminal ends removed, but not suitable to be reset or stacked shall become property of the Contractor. Payment shall be incidental to the other guardrail pay items.

606.09 Basis of Payment

The following paragraphs are added:

The accepted quantity of Terminal End – Remove and Reset will be paid for at the Contract unit price bid which shall be full compensation for removing and resetting the terminal end and all equipment, labor and incidentals necessary to complete the work.

The accepted quantity of Terminal End – Remove and Stack will be paid for at the Contract unit price bid which shall be full compensation for removing and stacking the terminal end and all equipment, labor and incidentals necessary to complete the work. This price shall be full compensation for removing all rails, posts, offset brackets, nuts, bolts, washers, hardware, all labor, transportation and all other incidentals necessary to complete the work. No additional compensation will be made for furnishing terminal ends from the stacked location and installing them on the

departure side of the new guardrail, but shall be incidental to the Remove and Stack Terminal End item.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.2651	Terminal End - Remove and Reset	Each
606.2652	Terminal End - Remove and Stack	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Terminal End - Anchored End)

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.

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

606.08 Method of Measurement

The second paragraph is amended by the addition of: “, Terminal End - Anchored End,” after the words “breakaway cable terminal”.

606.09 Basis of Payment

The second paragraph is amended by the addition of: “, Terminal End - Anchored End,” after the words “breakaway cable terminal”.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.278	Terminal End - Anchored End	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 in the plans or as approved by the Resident. The color for the reflective sheeting shall be silver (white) when installed on the outside shoulder and yellow when installed along the median.

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 10th post.
6. On Curves, mount delineators every 31.25-feet or every 5th 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:

<u>Pay Item</u>	<u>Pay Unit</u>
606.352 Reflectorized Beam Guardrail Delineator	Each

SPECIAL PROVISIONSECTION 606GUARDRAIL

(Delineator Post – Remove and Reset)

(Delineator Post - Remove and Stack)

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 and/or removing and stacking existing delineator posts within the Contract limits at the Authority's Sign Shop along the Turnpike Northbound at MM 58. 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 ends (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 350 Flared Terminal installations, and shall not be installed behind the Guardrail 350 Flared Terminal rail segments.

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. Delineator Posts Removed and Stacked will be measured by each unit satisfactorily removed and stacked.

Mile Marker post shall be measured for payment as 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 and all incidentals necessary to complete the work.

The accepted quantity of Delineator Posts Removed and Stacked will be paid for at the Contract unit price each, which price shall be full compensation for removing and stacking delineator panel or mile marker panel and posts and all incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.3561	Delineator Post - Remove and Reset	Each
606.3562	Delineator Post - Remove and Stack	Each

SPECIAL PROVISIONSECTION 606GUARDRAIL

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

606.01 Description

The following paragraphs are added:

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

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

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

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

Guardrail materials may be temporarily stockpiled at the Authority's Sign Shop along the Turnpike Northbound at MM 58.

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

606.02 Materials

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

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

The following Subsection is added:

606.021 General

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

606.036 Adjusting Existing Guardrail

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

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

Any given length of guardrail to be adjusted shall be done in such a way that top of rail elevations do not vary drastically between each section of guardrail. Rail height tolerance shall be 30 inches, plus 0 inches, minus 1/2 inch. The 30 inches shall be measured from the edge of pavement to the top of rail beam when within 2 feet of the edge of pavement.

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

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

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

606.08 Method of Measurement

The following paragraphs are added:

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

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

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

Guardrail removed and not reset or stacked shall be incidental to other Contract Items and include all removal, disposal, equipment and labor necessary to satisfactorily complete the work. The Contractor shall provide the Resident with an affidavit stating the final location of all disposed materials and that the material was disposed of in accordance with the Maine Department of Environmental Protection, Solid Waste Regulations.

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

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

606.09 Basis of Payment

The following paragraphs are added:

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

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 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 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:

<u>Pay Item</u>		<u>Pay Unit</u>
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 606

GUARDRAIL

(Widen Shoulder for Guardrail End Treatment)
(Modify Widened Shoulder for Guardrail End Treatment)

606.01 Description

The following sentence is added:

Widen Shoulder for Guardrail End Treatment work shall consist of widening the existing shoulder at specified Guardrail End Treatment locations by excavating, furnishing, grading and compacting new shoulder aggregate subbase course gravel, granular borrow, common borrow, and asphalt grindings in accordance with the thickness and typical sections as shown on the Plans or as approved by the Resident.

Modify Widened Shoulder for Guardrail End Treatment work shall consist of grubbing the existing widened shoulder to granular base material, widening the existing shoulder widening at specified Guardrail End Treatment locations by excavating, furnishing, grading and compacting new shoulder aggregate subbase course gravel, granular borrow, common borrow, and asphalt grindings in accordance with the thickness and typical sections as shown on the Plans or as approved by the Resident.

The following Subsections are added:

606.021 Granular Borrow

Granular borrow shall be material meeting the requirements of Subsection 703.19.

606.022 Fill Material

Fill material shall be existing excavation or common borrow from an outside source.

606.023 Asphalt Grindings

Asphalt grindings shall consist of pavement millings created by the cold planning process. The asphalt grindings stockpile must be viewed and approved by the Resident prior to any grindings being placed at any location.

The grindings shall be reprocessed (crushed) to meet the following gradation:

SIEVE DESIGNATION	GRADING
3/4"	100
1/2"	95 - 100
No. 4	50 - 80
No. 50	18 - 28
No. 200	3 - 10

606.024 Aggregate Subbase Course-Gravel

Aggregate subbase course-gravel shall be material meeting the requirements of Subsection 703.06.

606.051 Compaction - Asphalt Grindings

The asphalt grindings shall be placed and compacted to a minimum thickness of three inches unless otherwise designated by the Resident.

606.08 Method of Measurement

Widen Shoulder for Guardrail End Treatment will be paid at the contract unit price per each.

Modify Widened Shoulder for Guardrail End Treatment will be paid at the contract unit price per each.

Common borrow will be measured in accordance with Section 203 of these Specifications.

Loam, seed and mulch will not be measured separately but shall be incidental to the Widen Shoulder for Guardrail End Treatment pay item and the Modify Widened Shoulder for Guardrail End Treatment.

606.09 Basis of Payment

The following paragraphs are added:

The accepted quantity of Widen Shoulder for Guardrail End Treatment and Modify Widened Shoulder for Guardrail End Treatment shall also include the excavation, asphalt grindings, aggregate subbase course gravel, granular borrow, loam, seed, fertilizer, and mulch.

Common borrow will be measured in accordance with Section 203 of these Specifications.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.7541	Widen Shoulder for Guardrail End Treatment	Each
606.7551	Modify Widened Shoulder for Guardrail End Treatment	Each

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:

<u>Pay Item</u>		<u>Pay Unit</u>
619.1201	Mulch – Plan Quantity	Unit
619.1202	Temporary Mulch	Lump Sum

SPECIAL PROVISIONSECTION 626FOUNDATIONS, CONDUIT, AND JUNCTION BOXES
FOR HIGHWAY SIGNING, LIGHTING AND SIGNALS

(36-inch Diameter Foundation)

626.034 Concrete Foundations

Replace the first paragraph with the following:

No soil borings, subsurface exploration or other geotechnical engineering was performed for ground mounted signs during the design phase of this project (it is noted that soil borings and geotechnical evaluations were conducted for the six overhead sign structure foundations). Foundation sizes were determined using the 2002 edition of the MaineDOT Standard Details based on the assumption that the soils at each location are capable of a bearing pressure of 1.5 tons per square foot (tsf). Unless the actual soil conditions require another foundation type, foundations shall consist of either precast steel reinforced concrete foundations or cast-in-place steel reinforced concrete drilled shafts. Foundation lengths indicated are depths below lowest adjacent grade. Reinforcing shall be as specified on the associated chart in the 2014 edition of the MaineDOT Standard Details, 626(02) and 626(03).

Replace the eleventh paragraph (that starts with “Concrete foundations designated to be modified or removed...”) with the following:

Ground mounted sign foundations designated to be removed shall be removed to a depth of 12 inches below the natural grade. The removal shall include removal and off-site disposal of all concrete, steel reinforcing, anchor rods and all debris resulting from the removal. Once removal has been completed, the area shall be backfilled to original grade by the addition of granular material and loam, or loam only, depending on the extent of the removal required. The area shall then be seeded in accordance with Section 618.

626.04 Method of Measurement

Replace the second paragraph with the following:

Foundation items 626.31, 626.32, 626.33, and 626.3303 will be measured by each unit.

Add the following paragraph:

Where existing concrete foundations are called to be removed, the removal will not be measured but will be incidental to the cost of the new foundations being installed nearby. In the same way, the excavation, backfill, loam and seeding for removed foundations will not be measured but will be incidental to the cost of the new foundations.

626.05 Basis of Payment

Replace the first paragraph with the following:

The accepted quantity of foundations will be paid for at the contract unit price for each type of foundation. This payment shall include: concrete, anchor bolts, reinforcing steel, conduit within the foundation and extending 12 inches from the foundation (as required), loam, seeding, mulching and all incidentals necessary to complete the work. This work shall also include the removal of existing concrete foundations to a depth of 12 inches below natural grade, backfill, loam, seeding, mulching, and all incidentals, tools, equipment, and labor necessary to remove the existing foundations.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
626.3303 36-inch Diameter Foundation	Each

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

(Remove and Stack Sign)

645.07 Demounting and Reinstalling Existing Signs and Poles

The following paragraphs are added:

At locations as shown on the Plans, existing ground-mounted and overhead-mounted signs are designated to be removed and stacked. This work shall consist of removing, unbolting, and stacking existing sign panels and posts at the Authority's Sign Shop along the Turnpike Northbound at MM 58 and the excavations shall be backfilled and ground restored to the satisfaction of the Resident. Sign panels shall be stacked by approximate sizes at the Sign Shop as directed by the Authority.

Access to the Authority's Sign Shop shall be from the local roadway, Blackstrap Road. No Contractor vehicles are permitted direct access to or from the Sign Shop via the Turnpike mainline. Sign panels delivered to the Authority's Sign Shop shall be unbolted in the field and disassembled into sections not greater than 100 square feet for transport to the Sign Shop, without cutting into extruded panels.

Any existing signs not shown on the Plans are to remain in their existing condition unless directed otherwise by the Resident.

Steel H-beam supports salvaged to the Authority shall be labeled by size, shape, and length and stacked by approximate sizes at the Sign Shop as directed by the Authority. The label shall also note if the post has been drilled for mounting a breakaway kit (lower half) or breakaway splice plate (either lower half or upper half).

645.08 Method of Measurement

The following sentences are added:

Removing and stacking existing signs shall be measured as complete units each removed and stacked.

645.09 Basis of Payment

The following paragraphs are added:

The accepted signs Removed and Stacked shall be paid for at the Contract unit price each as specified. Such price shall include removing, disassembling, and stacking sign panels and supports at the location specified.

Payment will be made under:

Pay Item

Pay Unit

645.105 Remove and Stack Sign

Each

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

(Auxiliary Panel Supports)

645.01 Description

The following paragraph is added:

This work shall consist of furnishing and installing auxiliary panel supports in accordance with these specifications and in reasonably close conformity with the Plans. Auxiliary panel supports are also known as sign stiffeners.

645.021 Materials

The following paragraph is added:

Auxiliary panel supports shall be 2-inch x 2-inch x 0.25-inch aluminum Tees, made from 6061 aluminum alloy, or approved equivalent. Auxiliary panel support lengths shall be equal to two times the height of the sign above the existing steel H-beams.

645.06a Installation of Type I Signs – Sign Supports

The following paragraph is added:

Auxiliary panel supports shall be attached to the supported and unsupported portions of the extruded aluminum signs with post clips attached to both the left and right side of the aluminum Tee. The minimum length of a sign stiffener shall be four linear feet, using a minimum of eight post clips.

645.08 Method of Measurement

The following paragraph is added:

Auxiliary panel supports will be measured by the linear foot, computed to the nearest half foot, for auxiliary panel supports installed and accepted as sign stiffeners. No measurement shall be made for auxiliary panel supports installed to attach an exit panel to a sign, as auxiliary panel supports for exit panels shall be incidental to the exit panel.

645.09 Basis of Payment

The following paragraph is added:

The accepted auxiliary panel supports furnished and installed will be paid for at the Contract unit price per linear foot as specified. Such price will include furnishing and installing auxiliary panel supports used as sign stiffeners, new post clips and mounting hardware as required

to complete the installation and all labor, materials, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
645.2519	Auxiliary Panel Supports	Linear Foot

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

(Protection of Signs with Type XI Sheeting)

645.04 Fabrication of Type I Guide Signs

The following paragraphs are added after the second paragraph in part b. Reflective Sheeting:

The Contractor and Sign Fabricator shall exercise all due caution to avoid any creases, bends, tears, punctures, or other damage to any Type XI sign sheeting, perceptible or not. Sign sheeting shall be protected at all times following application to the extruded aluminum surface. Any defect which becomes perceptible either under direct, indirect or no light conditions shall be cause for rejection of the sign panel.

Following the application of the sign legend and borders, the sign panel shall be protected from all hazards that may cause a defect to the sign sheeting (either background, legend or borders) in accordance with the manufacturer's recommendations. Fabricated signs shall not be stacked during storage, transport, or erection such that concentrated pressure is placed on one area of the sign face that is not uniform across the full sign face.

645.08 Method of Measurement

The fifth (5th) paragraph is deleted and replaced by the following paragraph:

The area of roadside guide signs, regulatory, warning, confirmation and route marker assembly signs of the respective types, will be measured by the area in square feet, computed to the nearest hundredth of a square foot (0.01 SF), as determined by the overall height multiplied by the overall width. Any defect in the surface area of the sign that becomes perceptible under direct, indirect, or no light conditions shall be cause for rejection of the whole sign panel.

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

(Overlay Existing Guide Sign)

645.01 Description

The following paragraph is added:

This work shall consist of furnishing and installing sheet aluminum overlays for Type 1 guide signs in accordance with these specifications and in reasonably close conformity with the Plans.

645.021 Materials

The following paragraph is added:

Sheet aluminum overlays shall be fabricated from 0.080 inch thickness sheet aluminum and conform to Section 719.04.

645.04 Fabrication of Type I Guide Signs

The following section is added:

d. Sheet Aluminum Overlays The sheet aluminum overlays shall be field applied to the existing sign panels. When field applied to existing extruded aluminum panel signs, the overlays shall be applied to the sign panel with a pre-coated, adhesive backing (direct applied).

645.06 Installation of Type I Signs

The following section is added:

c. Sheet Aluminum Overlays Prior to fabrication of the sheet aluminum overlays, the Contractor shall carefully measure the area of the existing text to be covered by the sheet aluminum overlay. The area measurement (width and height of the area to be covered) shall be submitted with the shop drawings to the Resident Engineer for review.

645.08 Method of Measurement

The following paragraph is added:

New sheet aluminum overlays installed on existing guide signs will be measured by the area in square feet, computed to the nearest hundredth of a square foot, as determined by the overall width multiplied by the overall height of the overlay panel.

645.09 Basis of Payment

The following paragraph is added:

The accepted sheet aluminum overlays to be fabricated and installed on existing guide signs will be paid for at the contract unit price per square foot of overlay. Such payment will be full compensation for furnishing and installing sheet aluminum overlays, assembly and attachment hardware, and all incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
645.2511 Sheet Aluminum Overlay, Type 1	Square Foot

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

(Overhead Sign Structures)
(Remove and Stack Overhead Sign Structures)

645.01 Description

The following paragraph is added:

At locations as shown on the Plans, existing overhead sign support structures are designated to be removed and stacked. This work shall consist of unbolting structural steel, removing truss structures and vertical supports, and stacking the structural steel components at the Authority's Sign Shop along the Turnpike Northbound at MM 58. This work shall also include the removal of existing foundations and backfilling and restoring ground to the satisfaction of the Resident.

645.023 Support Structures

The following paragraph shall replace the second paragraph under section b. Bridge, Cantilever, and Butterfly Type Sign Supports:

Signs shall be placed on the support structure such that the bottom edges are aligned (unless written consent from the Fabrication Engineer is obtained), while accommodating the minimum height requirement – see Section 645.06. The Contractor shall use the Contract Drawings in order to determine the approximate horizontal placement of signs. Installation shall be in accordance with Section 645.06 – Installation of Type I Signs. The overhead sign structure foundations have been designed with the assumption that the installed signs represent the maximum sign design areas for the respective structures. The new overhead sign structures shall be designed to accommodate the sign area proposed on each structure as shown on the Contract Documents. There shall be no allowance for future sign area increase.

645.023 Support Structures

The following shall be added to the end of the existing section

e. Removal of Overhead Sign Structures – Removal of overhead sign structure shall include the removal and salvage of all sign support materials. Salvaged overhead sign structure supports, including the truss and vertical supports, shall be labeled and delivered to the Authority's Sign Shop. This item shall include the removal and salvaging of bridge mounted overhead sign structures. All existing signs mounted to the overhead sign structure to be removed and stacked shall similarly be removed and stacked as directed under Special Provision 645.105. Removal of the overhead sign structure supports shall also include the removal, disposal, and ground restoration of the existing sign structure support foundations.

645.024 Bridge, Cantilever and Butterfly Support Structure Foundations:

The following paragraph is added:

Removal of overhead sign structure foundations shall include the removal of all concrete, reinforcing steel, and anchor bolts to 24 inches below grade.

645.08 Method of Measurement

The following paragraph is added:

Remove and Stack Overhead Sign Structure, including any foundation removal and restoration, will be measured by each unit removed and stacked.

645.09 Basis of Payment

The following paragraph is added:

The accepted quantity of remove and stack overhead sign supports will be paid for at the contract lump sum price for the respective items. Such price shall include disassembling, labeling, removing, and stacking overhead sign supports and associated signs, removal and disposal of foundations, and incidentals and for transportation, delivery and stacking the overhead signs structure materials at the Authority facility.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
645.12 Overhead Guide Sign: (MM I-95 43.24_N)	Lump Sum
645.12 Overhead Guide Sign: (MM I-95 44.04_N)	Lump Sum
645.12 Overhead Guide Sign: (MM I-95 44.14_N)	Lump Sum
645.1201 Remove and Stack Overhead Sign Structure	Unit

SPECIAL PROVISIONSECTION 652MAINTENANCE OF TRAFFIC

(Specific Project Maintenance of Traffic Requirements)

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

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

Gorham Road (ME Route 114)

The Gorham Road bridge over the Maine Turnpike may require a flagging operation for the proposed removal of existing bridge overpass mounted sign supports. The Contractor shall notify the Resident/Authority two weeks prior to the proposed bridge work on Gorham Road. The Contractor shall maintain a minimum of one 12-foot wide travel lane on the bridge at all times. The flagging shall be incidental to Item 652.361 Maintenance of Traffic Control Devices.

Maine Turnpike Traffic Control Requirements

This Section outlines the minimum requirements that shall be maintained for work on, over, or adjacent to the Maine Turnpike roadway. Operations are allowed as outlined below:

Loading/Unloading Trucks shall not be closer than six feet from an open travel lane when being loaded or unloaded within the work zone.

Shoulder Closures shall maintain a minimum of four (4) feet of lateral buffer from an open travel lane when in place between 6:00 a.m. and 9:00 a.m. and between 3:00 p.m. and 6:00 p.m. During July and August, the four-foot minimum lateral buffer applies from 6:00 a.m. to 8:00 p.m.

Overhead Sign Structure installation and Overhead Sign installation directly over traffic or within six feet of a travel lane as measured from the painted pavement marking line or traffic control device will require a lane closure. If the work involves a worker working higher than eight feet above grade, then a truck mounted attenuator (TMA) shall be included in the work zone layout. If work cannot be completed within a lane closure, then a full traffic stoppage may be required during which traffic may be held for periods of up to 25 minutes during each stoppage. Traffic stoppages are restricted to 12:01 a.m. to 5:00 a.m. and shall also require a TMA. 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.

Night work is expected and will be permitted upon submission of a written request to the Resident Engineer at least one week prior to the scheduled work. Alternatively, the Contractor

may submit a schedule for night work at least one week prior to the first night of work for review and approval by the Resident Engineer.

Lane closures will be permitted in accordance with the schedule shown in Table A. Lane closures outside of the allowable hours and dates indicated in Table A may be requested in writing at least one week prior to the proposed time. Any requests for additional lane closure times will be evaluated by the Authority; however, the Authority makes no commitment to approve lane closure requests outside of the approved hours.

Ramp work will be permitted in accordance with the schedule shown in Table A. Full ramp closures will not be permitted.

TABLE A: APPROVED SHOULDER CLOSURES AND LANE CLOSURES

Mainline Northbound, MM 16.0 to Exit 32 March 5, 2018 to June 29, 2018 September 4, 2018 to November 16, 2018				
		Turnpike Shoulder Closures	Turnpike Single Lane Closures	Turnpike Double Lane Closures
Days of Week:	Sunday p.m. through Thursday p.m.			
Time of Day:	10:00 p.m. to 6:00 a.m. next day	Allowed	Allowed	Allowed
Time of Day:	Anytime	Allowed		
Days of Week:	Thursday p.m. through Friday a.m.			
Time of Day:	10:00 p.m. Thursday to 6:00 a.m. Friday	Allowed	Allowed	Allowed
Time of Day:	6:00 p.m. Thursday to 6:30 a.m. Friday	Allowed	Allowed	
Time of Day:	Anytime	Allowed		

See Note 1

Mainline Northbound, MM 16.0 to Exit 32 June 30, 2018 to September 3, 2018				
		Turnpike Shoulder Closures	Turnpike Single Lane Closures	Turnpike Double Lane Closures
Days of Week:	Sunday p.m. through Friday a.m.			
Time of Day:	10:00 p.m. to 6:00 a.m. next day	Allowed	Allowed	Allowed
Time of Day:	6:00 p.m. to 6:00 a.m. next day	Allowed	Allowed	
Time of Day:	Anytime	Allowed		

See Note 1

Mainline Southbound, MM 16.0 to Exit 32 March 5, 2018 to June 29, 2018 September 4, 2018 to November 16, 2018				
		Turnpike Shoulder Closures	Turnpike Single Lane Closures	Turnpike Double Lane Closures
Days of Week:	Sunday p.m. through Thursday p.m.			
Time of Day:	10:00 p.m. to 6:00 a.m. next day	Allowed	Allowed	Allowed
Time of Day:	8:00 p.m. Sunday to 10:00 p.m. Thursday	Allowed	Allowed	
Time of Day:	Anytime	Allowed		
Days of Week:	Thursday p.m. through Friday a.m.			
Time of Day:	10:00 p.m. Thursday to 6:00 a.m. Friday	Allowed	Allowed	Allowed
Time of Day:	6:00 p.m. Thursday to 6:30 a.m. Friday	Allowed	Allowed	
Time of Day:	Anytime	Allowed		

See Note 1

Mainline Southbound, MM 16.0 to Exit 32 June 30, 2017 to September 3, 2017				
		Turnpike Shoulder Closures	Turnpike Single Lane Closures	Turnpike Double Lane Closures
Days of Week:	Sunday p.m. through Monday a.m.			
Time of Day:	10:00 p.m. to 6:00 a.m. next day	Allowed	Allowed	Allowed
Time of Day:	8:00 p.m. to 6:00 a.m. next day	Allowed	Allowed	
Time of Day:	Anytime	Allowed		
Days of Week:	Monday p.m. through Friday a.m.			
Time of Day:	10:00 p.m. to 6:00 a.m. next day	Allowed	Allowed	Allowed
Time of Day:	6:00 p.m. to 6:00 a.m. next day	Allowed	Allowed	
Time of Day:	Anytime	Allowed		

See Note 1

Mainline Northbound, Exit 32 to north of Exit 42 March 5, 2018 to June 28, 2018 September 4, 2018 to November 16, 2018				
		Turnpike Shoulder Closures	Turnpike Single Lane Closures	Turnpike Double Lane Closures
Days of Week:	Sunday p.m. through Friday a.m.			
Time of Day:	6:00 p.m. to 5:00 a.m. next day	Allowed	Allowed	
Time of Day:	10:00 p.m. to 5:00 a.m. next day	Allowed	Allowed	Allowed
Time of Day:	Anytime	Allowed		

See Note 1

Mainline Northbound, Exit 32 to north of Exit 42 June 29, 2018 to September 3, 2018				
		Turnpike Shoulder Closures	Turnpike Single Lane Closures	Turnpike Double Lane Closures
Days of Week:	Sunday p.m. through Friday a.m.			
Time of Day:	9:00 p.m. to 5:00 a.m. next day	Allowed	Allowed	
Time of Day:	10:00 p.m. to 5:00 a.m. next day	Allowed	Allowed	Allowed
Time of Day:	Anytime	Allowed		

See Note 1

Mainline Southbound, Exit 32 to north of Exit 42 March 5, 2018 to November 16, 2018				
		Turnpike Shoulder Closures	Turnpike Single Lane Closures	Turnpike Double Lane Closures
Days of Week:	Sunday p.m. through Monday a.m.			
Time of Day:	8:00 p.m. to 9:00 a.m. next day	Allowed	Allowed	
Time of Day:	10:00 p.m. to 6:00 a.m. next day	Allowed	Allowed	Allowed
Time of Day:	Anytime	Allowed		
Days of Week:	Monday p.m. through Friday a.m.			
Time of Day:	6:00 p.m. to 10:00 a.m. next day	Allowed	Allowed	
Time of Day:	10:00 p.m. to 6:00 a.m. next day	Allowed	Allowed	Allowed
Time of Day:	Anytime	Allowed		

See Note 1

Mainline, north of Exit 42 to Exit 53 March 5, 2018 to June 28, 2018 September 4, 2018 to November 16, 2018			
		Turnpike Shoulder Closures	Turnpike Single Lane Closures
Days of Week:	Sunday p.m. through Friday a.m.		
Time of Day:	7:00 p.m. to 6:00 a.m. next day	Allowed	
Time of Day:	9:00 p.m. to 5:00 a.m. next day	Allowed	Allowed

See Notes 1 & 2

Mainline, north of Exit 42 to Exit 53 June 29, 2018 to September 3, 2018			
		Turnpike Shoulder Closures	Turnpike Single Lane Closures
Days of Week:	Sunday p.m. through Friday a.m.		
Time of Day:	9:00 p.m. to 5:00 a.m. next day	Allowed	Allowed

See Notes 1 & 2

Note 1: Shoulder Closures shall maintain a minimum of four (4) feet of lateral buffer from an open travel lane when in place between 6:00 a.m. and 9:00 a.m. and between 3:00 p.m. and 6:00 p.m. During July and August, the four-foot minimum lateral buffer applies from 6:00 a.m. to 8:00 p.m.

Note 2: Allowable shoulder and lane closures shown shall apply to traffic control in the two-lane sections, such as mainline southbound north of Exit 42.

SPECIAL PROVISIONSECTION 652MAINTENANCE OF TRAFFIC(Automated Speed Limit Sign)652.1 Description

This special provision provides for furnishing, operating, and maintaining an Automated Trailer Mounted Radar Speed Limit Sign for project use. The Contractor shall furnish, operate, and maintain the Automated Trailer Mounted Radar Speed Limit Signs during the project operations.

652.1.1 Instruction and maintenance manuals shall be provided.

652.2 MaterialsAutomated Trailer Mounted Speed Limit Sign

Trailer mounted speed limit signs shall be self-contained units including sign assembly, flashing lights, directional radar to measure speed limits, a regulatory speed limit sign, a construction sign stating “Work Zone Speed Limit When Flashing” and power supply specifically constructed to operate as a trailer-mounted sign. The preferred color of the unit shall be “construction orange”.

Signs

Base material for the regulatory speed limit signs shall be weather proof, rigid substrate specifically manufactured for highway signing and meet the retro-reflective sheeting application requirements of the sheeting manufacturer.

Sign text shall consist of the letters, digits and symbols either applied by stick-on or silk screen, to conform to the dimensions and designs indicated in the Contract, MUTCD and/or FHWA Standard Highway Signs. The materials and methods shall be in accordance with standard commercial processes.

The regulatory sign should have changeable speed limit numbers.

“Work Zone” construction signs shall be mounted on the trailer unit above and below the regulatory speed limit sign. (see Appendix). The “When Flashing” construction sign shall be added to the trailer.

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

Power supply

The power supply shall be either full battery power with solar panel charging (capable of maintaining a charged battery level) and 135 ampere, 12 volt deep cycle batteries, or diesel powered generator with a fuel capacity sufficient for 10 hours of continuous operation.

Flashing Lights

Each unit shall be equipped with two mono-directional flashing lights, placed in accordance with the MUTCD, with amber lenses and reflectors, which are visible through a range of 120 degrees when viewed facing the sign. The lights, either strobe, halogen, or incandescent lamps, shall be visible for a minimum distance of one mile under daylight conditions and shall have a minimum flash rate of 40 flashes per minute. An "On" indicator light shall be mounted on the back of the signs, which is visible for at least 500 feet to provide confirmation that the flashing lights are operating.

Radar

The directional radar shall monitor approaching traffic only. The radar shall be capable of measuring speeds from 5 to 70 MPH at a distance of up to 1500 feet and shall have a high speed cut off threshold.

CONSTRUCTION REQUIREMENTS

652.3.2 Responsibility of the Contractor

The Contractor shall furnish the Automated Trailer Mounted Speed Limit Sign as described in this Special Provision for this project.

All existing speed limit signs, which conflict with the construction zone trailer mounted speed limit signs shall be covered completely during the operation of the flashing lights. These signs shall be immediately uncovered when the use of the flashing lights is discontinued.

Automated Trailer Mounted Speed Limit Signs shall be used only during the Contractor's actual work hours, unless specifically authorized by the Engineer.

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.

Automated Trailer Mounted Speed Limit Signs shall be located as shown on the plans.

Automated Trailer Mounted Speed Limit Signs shall be delineated with retro-reflective temporary traffic control devices while in use and shall also be delineated by affixing a retro-reflective material directly on the trailer.

Upon delivery of the Automated Trailer Mounted Speed Limit Sign and before acceptance by the Authority, the Contractor shall have a representative of the manufacturer review the condition and notify the Resident in writing, of all deficiencies noted.

The Contractor shall arrange to have all necessary repairs performed at no cost to the Authority.

To avoid impairing driver vision, the Contractor shall dim the lighted speed limit readings by 50 percent during nighttime use, and restore full power lighting during daytime operation.

652.7 Method of Measurement

Automated Trailer Mounted Speed Limit Sign shall be measured for payment by the calendar day for each calendar day that the unit is used on a travel lane or shoulder on the project, as approved by the Resident, and shall include the Trailer, Radar Speed Limit Sign, flashing beacon amber lights, regulatory speed limit sign, “Work Zone Speed Limit When Flashing” construction sign, fuel, necessary maintenance, and all checking of Radar Speed Limit Signs by manufacturer. Also included are all project moves including the transporting and delivery of the unit.

652.8 Basis of Payment

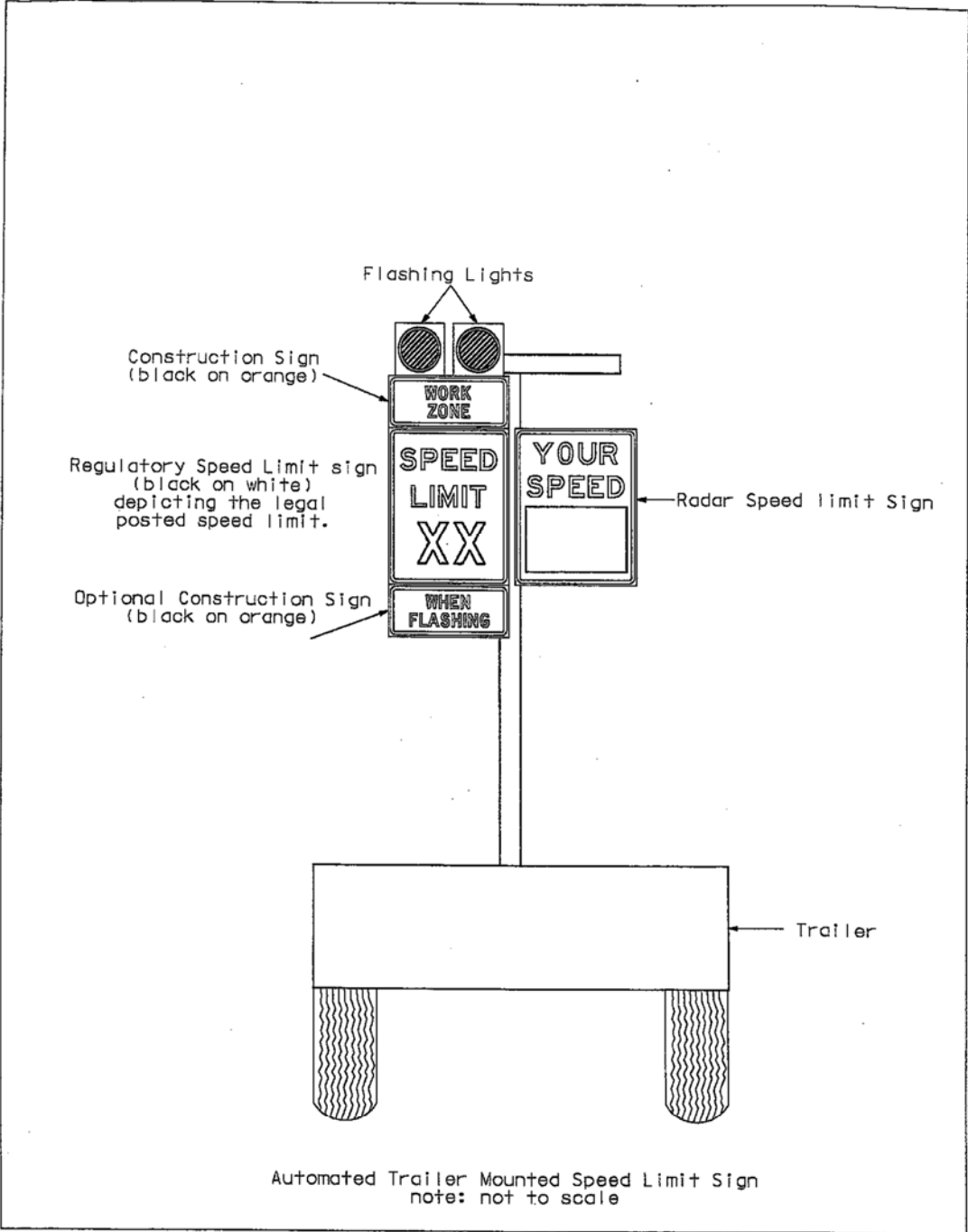
The Automated Trailer Mounted Speed Limit Sign(s) will be paid for at the Contract unit price per calendar day. This price shall include all costs associated with the use of the Automated Trailer Mounted Speed Limit Sign.

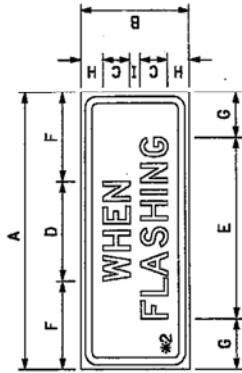
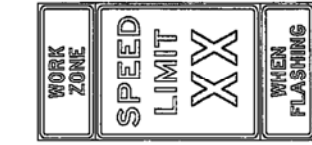
Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
652.451 Automated Trailer Mounted Speed Limit Sign	Calendar Day

Detail A

Automated Trailer Mounted Speed Limit Sign





#1 - 1.25" BORDER; 0.75" INDENT.
 BLACK ON ORANGE; BB GRADE PLYWOOD SIGN
 #2 - 1.25" BORDER; 0.75" INDENT.
 BLACK ON WHITE; BB GRADE PLYWOOD SIGN
 #3 - 1.25" BORDER; 0.75" INDENT.
 BLACK ON WHITE; BB GRADE PLYWOOD SIGN

DIMENSIONS (inches)/LETTER FONTS

	A	B	C	D	E	F	G	H	I	J	K	L
#1	48	20	5D	18 ¹ / ₈	16 ⁵ / ₈	14 ⁷ / ₈	15 ⁵ / ₈	4	2	N/A	N/A	N/A
#2	48	20	5D	17 ¹ / ₄	31 ³ / ₈	15 ¹ / ₂	8 ¹ / ₄	4	2	N/A	N/A	N/A
#3	48	60	8E	16E	38 ¹ / ₄	29 ¹ / ₄	29 ¹ / ₂	4 ⁷ / ₈	9 ³ / ₈	9 ¹ / ₄	8	6

CONSTRUCTION SIGN/REGULATORY SIGNS

TRAILER MOUNTED CONSTRUCTION ZONE
 SPEED LIMIT SIGN

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Temporary Portable Rumble Strip)

652.01 Description:

This work consists of furnishing and placing temporary portable rumble strips RoadQuake 2F TPRS or an approved equal.

652.02 Materials:

Furnish a temporary portable rumble strip system, which includes a method to transport and move these to on-site locations where they will be used. The Contractor shall submit for approval, literature and all necessary certifications to the Maine Turnpike prior to procurement of the product.

652.03 General:

Placement – Portable rumble strips may be installed at the Contractor’s option and discretion. If the Contractor elects to install portable rumble strips during any temporary traffic control, the Contractor shall notify the Resident at least one week prior to the first application. The Authority will negotiate a change order to pay for the portable rumble strips and associated construction signs.

Provide rumble strips where the plans show or as directed by the Resident as follows:

Prior to placing rumble strips, clean the roadway of sand and other materials, that may cause slippage.

Place one end of the rumble strips 6 inches from the roadway centerline. Extend the strips perpendicular to the direction of travel. Ensure strips lay flat on the roadway surface.

Only one series of rumble strips, placed before the first work zone, is required per direction of travel for multiple work zones spaced 1 mile or less apart. Work zones spaced greater than 1 mile apart require a separate series of rumble strips. Each lane shall use one group of temporary rumble strips.

Bracketed “Rumble Strip Ahead” and “Bump” signs shall be utilized and will be paid for under the respective construction sign pay items.

Maintenance:

Maintain rumble strips as follows:

If rumble strips slide, become out of alignment, or are no longer in the wheel path of approaching vehicles during the work period, thoroughly clean both sides of the rumble strips and reset on a clean roadway.

Repair or replace damaged rumble strips immediately.

652.04 Method of Measurement:

The accepted quantity of temporary portable rumble strips shall be measured by the unit complete in place, per lane closure application. A unit shall consist of one group of three full-lane-width of rumble strips. As shown in the plans, a maximum of four 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 application.

652.05 Basis of Payment:

The accepted quantity of temporary portable rumble strips will be paid for at the contract unit price per unit which shall include the transport device. Payment is full compensation for providing, relocating, maintaining or replacing, and removing temporary portable rumble strips. If the pay item is not included in the contract, then the Authority does not expect the Contractor to utilize this item on the contract. If the Contractor wants to utilize temporary portable rumble strips and the item is not in the contract, then the Contractor may propose use of temporary portable rumble strips to the Authority for the Authority’s consideration.

<u>Pay Item</u>	<u>Pay Unit</u>
652.46 Temporary Portable Rumble Strip	Unit

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Flaggers)

652.2.4 Other Devices

Paragraph five is deleted and replaced with the following:

STOP/SLOW paddles shall be the primary and preferred hand-signaling device. Flags shall be limited to emergencies. The paddle shall have an octagonal shape and be at least 18 inches wide with letters at least 6 inches high and should be fabricated from light semi-rigid material. STOP/SLOW paddles shall have internal flashing LEDs and be Visual-Alert LED STOP/SLOW Paddles or approved equivalent.

652.4 Flaggers

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

Only flashing SLOW/STOP paddles shall be used and the flagger station shall be illuminated to assure visibility in accordance with 652.6.2.

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 VII, Type VIII or Type IX, for all signs. All Type 1 Guide Signs shall meet at a minimum the requirements for ASTM 4956 –Type XI sheeting. Use of overlay film that degrades the retroreflectivity of the sign sheeting (i.e. Avery-Dennison overlay film) will be prohibited.

Reflective sheeting, used in sign construction, shall have been manufactured within the six months immediately prior to the fabrication of each sign. Upon delivery at the job site of each shipment of signs, a letter of certification shall be provided that the reflective sheeting conforms to the requirements.

Signs may only be covered using materials and techniques explicitly approved by the sheeting manufacturer for that purpose and shall not alter the sign sheeting warranty.

- For Type 1 Guide Signs, all reflective sheeting shall be color matched on each sign unit.
- All warning signs shall be fluorescent yellow except for Ramp Advisory Speed signs which shall be yellow.
- All Construction Series signs that use orange backgrounds shall be fluorescent orange.
- All Pedestrian Signs shall be fluorescent yellow-green.
- EZ-PASS Purple shall conform to the FHWA Purple color block.

719.02 Demountable High Intensity Reflectorized Letters, Numerals, Symbols, and Borders

This Subsection, including the title, is deleted in its entirety and replaced with the following:

719.02 Direct Applied Reflectorized Letters, Numerals, Symbols, and Borders

Direct applied letters, numerals, symbols and borders shall consist of cut out sheeting shall meet at a minimum the requirements for ASTM 4956 – Type VII, Type VIII or Type IX sheeting.

All Type 1 Guide Signs shall meet at a minimum the requirements for ASTM 4956 – Type XI sheeting.

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SPECIFICATIONS

APPENDIX

Appendix A – Guide Sign Layouts

Appendix B – Construction Inspection Checklist

Appendix C – MS4 Stormwater Awareness Plan

Appendix D – MS4 Targeted BMP Adoption Plan

Appendix E – MOA for Stormwater Management

APPENDIX A
GUIDE SIGN LAYOUTS

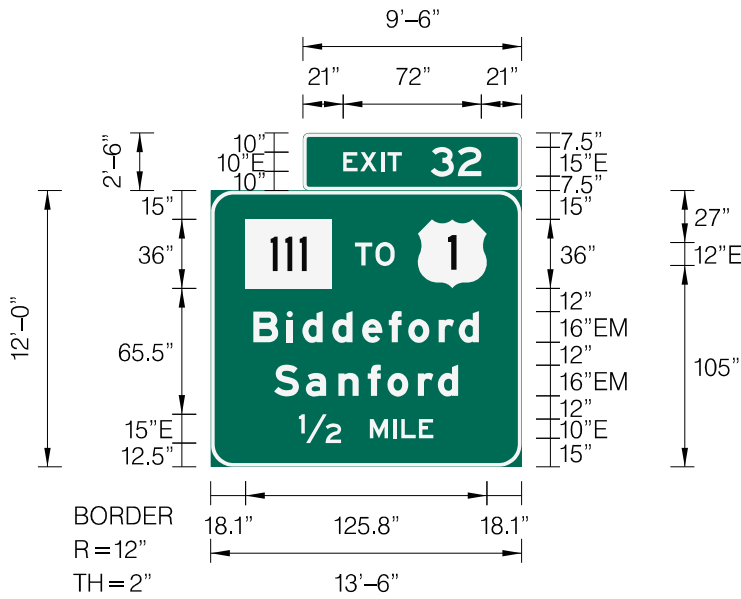
SIGN DETAIL

1:40



Maine Turnpike Authority

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SIGN NUMBER	GM I-95 MM 32.42_S
WIDTH x HGHT.	13'-6" x 12'-0"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	X	Y	WID	HT
M1-5(111)	0	18.1	93	45 36
M1-4(1)	0	107.9	93	36 36

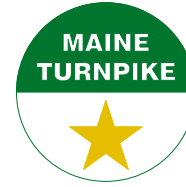
LETTER POSITIONS (X)

LENGTH SERIES/SIZE

Letter	X	Y	Length	Series/Size
E	21	72	72	E 2000
X	29.9	72	72	10,15
I	40.6	72	72	E 2000
T	44.1	72	72	12
3	66.6	72	72	EM 2000
2	80.9	72	72	16/12
T	75.1	12	20.8	E 2000
O	85.8	12	20.8	12
B	22.2	16/12	117.6	EM 2000
i	39.6	16/12	117.6	16/12
d	47.8	16/12	117.6	EM 2000
d	63.3	16/12	117.6	16/12
e	78.8	16/12	117.6	EM 2000
f	92.8	16/12	117.6	16/12
o	103	16/12	117.6	EM 2000
r	118.8	16/12	117.6	16/12
d	129.2	16/12	117.6	EM 2000
S	33.1	16/12	95.8	EM 2000
a	49.6	16/12	95.8	16/12
n	66.5	16/12	95.8	EM 2000
f	81.9	16/12	95.8	16/12
o	92.1	16/12	95.8	EM 2000
r	108	16/12	95.8	16/12
d	118.4	16/12	95.8	EM 2000
1/2	46	15,10	70.1	E 2000
M	82.9	15,10	70.1	E 2000
I	94.9	15,10	70.1	E 2000
L	99.3	15,10	70.1	E 2000
E	108.5	15,10	70.1	E 2000

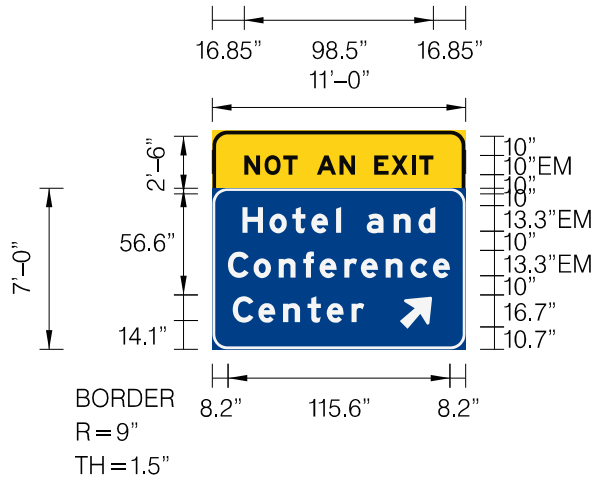
SIGN DETAIL

1:40



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SIGN NUMBER	GM I-95 MM 34.70_N
WIDTH x HGHT.	11'-0" x 9'-6"
BORDER WIDTH	1.5"
CORNER RADIUS	9"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Yellow
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/Black/Black

SYMBOL	X	Y	WID	HT	
AR_Type B	315	97.8	10.7	18	20.5

LETTER POSITIONS (X)

LENGTH SERIES/SIZE

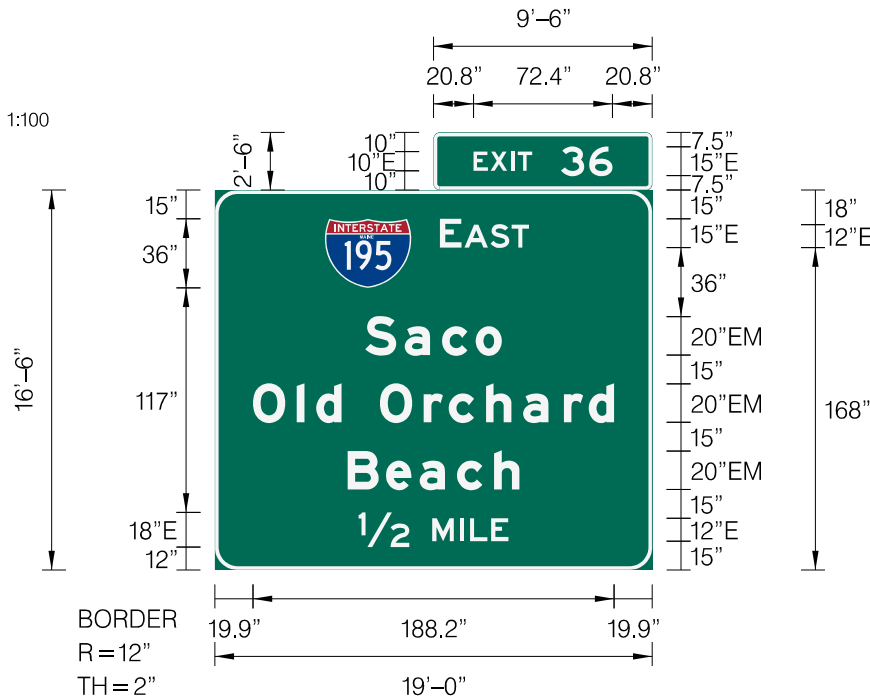
Letter	Position (X)	Length	Series/Size
N	16.7	10	EM 2000
O	27.2	10	EM 2000
T	37	10	EM 2000
A	44.4	10	EM 2000
N	54.4	10	EM 2000
E	66.3	10	EM 2000
X	74.4	10	EM 2000
I	84.4	10	EM 2000
T	93.2	10	EM 2000
H	104	10	EM 2000
o	107.8	10	EM 2000
t	107.8	10	EM 2000
e	107.8	10	EM 2000
l	107.8	10	EM 2000
a	107.8	10	EM 2000
n	107.8	10	EM 2000
d	107.8	10	EM 2000
C	107.5	10	EM 2000
o	107.5	10	EM 2000
n	107.5	10	EM 2000
f	107.5	10	EM 2000
e	107.5	10	EM 2000
r	107.5	10	EM 2000
e	107.5	10	EM 2000
n	107.5	10	EM 2000
c	107.5	10	EM 2000
e	107.5	10	EM 2000
C	115	10	EM 2000
e	115	10	EM 2000
n	115	10	EM 2000
t	115	10	EM 2000
e	115	10	EM 2000
r	115	10	EM 2000
C	68.5	10	EM 2000
e	68.5	10	EM 2000
n	68.5	10	EM 2000
t	68.5	10	EM 2000
e	68.5	10	EM 2000
r	68.5	10	EM 2000

SIGN DETAIL

1:40



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SIGN NUMBER	GM I-95 MM 35.00_N
WIDTH x HGHT.	19'-0" x 16'-6"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	X	Y	WID	HT	
M1-1(195)	0	57.4	147	45	36

LETTER POSITIONS (X)

LENGTH SERIES/SIZE

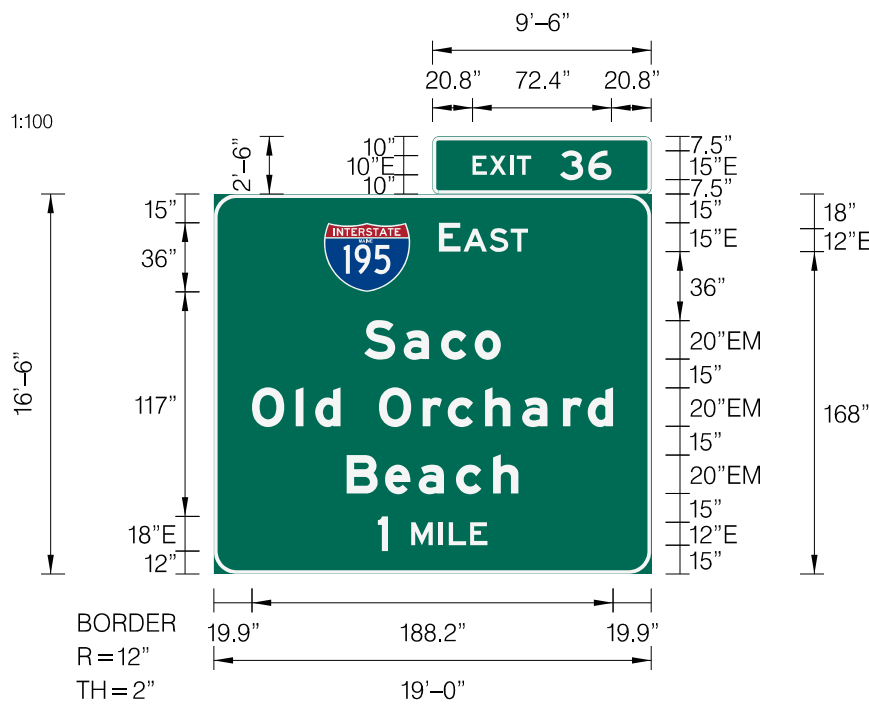
Letter	X	Y	WID	HT	Series/Size
E	20.8	29.7	40.4	43.9	E 2000
X	29.7	40.4	43.9	66.4	10,15
I	40.4	43.9	66.4	81.1	E 2000
T	43.9	66.4	81.1		15,12
3	66.4	81.1			E 2000
6	81.1				15,12
E	117.4	130.1	143.7	154.7	E 2000
A	130.1	143.7	154.7		15,12
S	78.4	99	118.4	136	EM 2000
a	99	118.4	136		2015
O	19.9	42.7	52.9	66.1	EM 2000
I	42.7	52.9	66.1	86.1	2015
d	52.9	66.1	86.1	108.9	EM 2000
O	66.1	86.1	108.9	121.9	2015
r	86.1	108.9	121.9	141.3	EM 2000
c	108.9	121.9	141.3	160.7	2015
h	121.9	141.3	160.7	181.9	EM 2000
a	141.3	160.7	181.9	194.9	2015
r	160.7	181.9	194.9		EM 2000
d	181.9	194.9			2015
B	69.2	89.2	106.8	126.2	EM 2000
e	89.2	106.8	126.2	145.6	2015
a	106.8	126.2	145.6		EM 2000
c	126.2	145.6			18,12
h	145.6				
1/2	12	113.3	127.7	133	E 2000
M	12	113.3	127.7	144	18,12
I	127.7	133	144		
L	133				
E	144				

SIGN DETAIL

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Maine Turnpike Authority



SIGN NUMBER	GM I-95 MM 37.24_S
WIDTH x HGHT.	19'-0" x 16'-6"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective COLOR: Green
LEGEND/BORDER	TYPE: Reflective COLOR: White/White

SYMBOL	X	Y	WID	HT	
M1-1(195)	0	57.4	147	45	36

LETTER POSITIONS (X)

LENGTH SERIES/SIZE

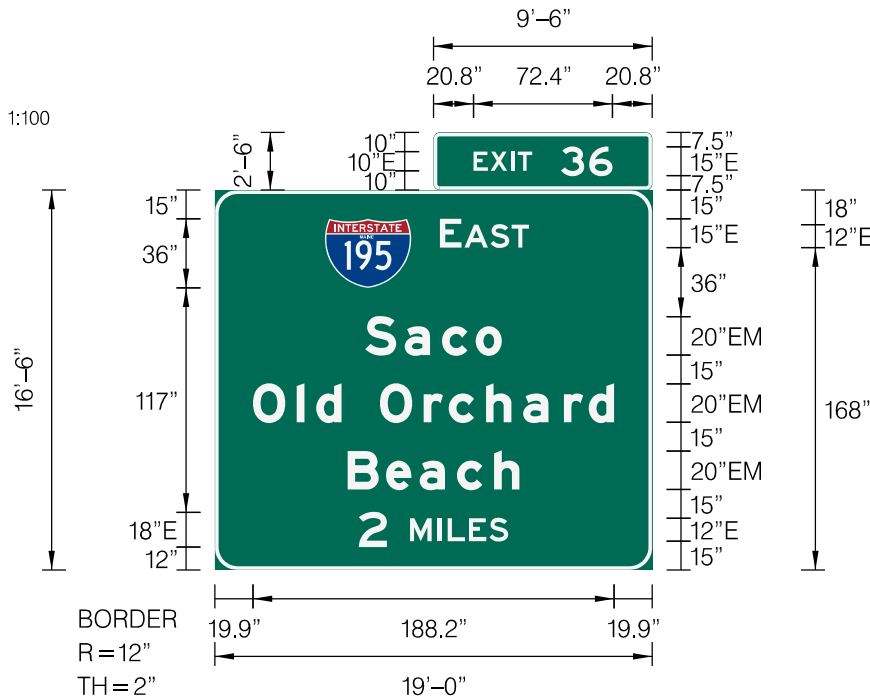
E	X	I	T	3	6										E 2000	
20.8	29.7	40.4	43.9	66.4	81.1										72.4	10,15
E	A	S	T												E 2000	
117.4	130.1	143.7	154.7												46.4	15,12
S	a	c	o												EM 2000	
78.4	99	118.4	136												71.2	2015
O	I	d		O	r	c	h	a	r	d					EM 2000	
19.9	42.7	52.9	66.1	86.1	108.9	121.9	141.3	160.7	181.9	194.9					188.2	2015
B	e	a	c	h											EM 2000	
69.2	89.2	106.8	126.2	145.6											89.6	2015
1	M	I	L	E											E 2000	
85.4	102.8	117.2	122.5	133.6											57.1	18,12

SIGN DETAIL

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**Maine
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SIGN NUMBER	GM I-95 MM 38.10_S
WIDTH x HGHT.	19'-0" x 16'-6"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	X	Y	WID	HT	
M1-1(195)	0	57.4	147	45	36

LETTER POSITIONS (X)

LENGTH SERIES/SIZE

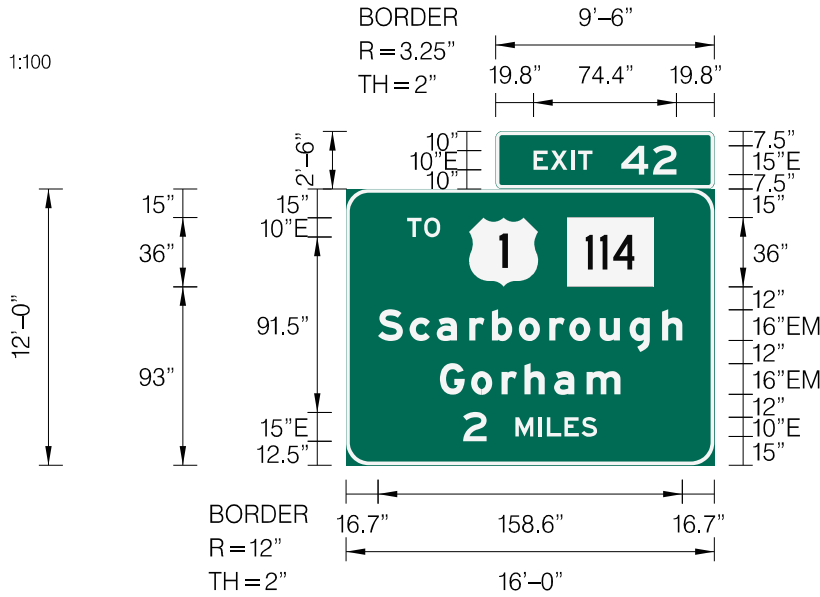
Letter	X	Y	WID	HT	Series/Size
E	20.8	29.7	40.4	43.9	E 2000
X	29.7	40.4	43.9	66.4	10,15
I	40.4	43.9	66.4	81.1	E 2000
T	43.9	66.4	81.1		15,12
3	66.4	81.1			E 2000
6	81.1				15,12
E	117.4	130.1	143.7	154.7	E 2000
A	130.1	143.7	154.7		15,12
S	143.7				EM 2000
a	78.4	99	118.4	136	2015
c	118.4	136			EM 2000
O	19.9	42.7	52.9	66.1	2015
I	42.7	52.9	66.1	86.1	EM 2000
d	52.9	66.1	86.1	108.9	2015
O	66.1	86.1	108.9	121.9	EM 2000
r	86.1	108.9	121.9	141.3	2015
c	108.9	121.9	141.3	160.7	EM 2000
h	121.9	141.3	160.7	181.9	2015
a	141.3	160.7	181.9	194.9	EM 2000
r	160.7	181.9	194.9		2015
d	181.9	194.9			EM 2000
B	69.2	89.2	106.8	126.2	EM 2000
e	89.2	106.8	126.2	145.6	2015
a	106.8	126.2	145.6		EM 2000
c	126.2				2015
h	145.6				E 2000
2	75.2	101.7	116.1	121.4	18,12
M	101.7	116.1	121.4	132.5	E 2000
I	116.1	121.4	132.5	143.1	18,12
L	121.4	132.5	143.1		E 2000
E	132.5				18,12
S	143.1				E 2000

SIGN DETAIL

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Maine Turnpike Authority



SIGN NUMBER	GM I-95 MM 40.15_N
WIDTH x HGHT.	16'-0" x 12'-0"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	X	Y	WID	HT
M1-4(1)	0	64.1	93	36
M1-5(114)	0	115.1	93	45

LETTER POSITIONS (X)

LENGTH SERIES/SIZE

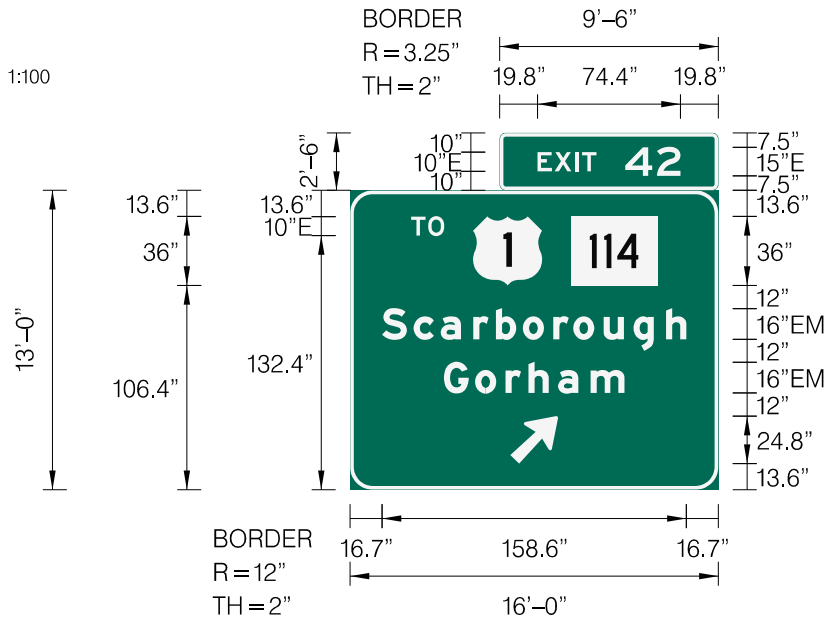
Letter	X	Y	WID	HT	Series/Size								
E	19.8	28.7	39.4	42.9	65.4	82.1	74.4	10,15					
X	28.7	39.4	42.9	65.4	82.1	74.4	10,15						
I	39.4	42.9	65.4	82.1	74.4	10,15							
T	42.9	65.4	82.1	74.4	10,15								
4	65.4	82.1	74.4	10,15									
2	82.1	74.4	10,15										
T	31.9	40.8					17.3	10					
O	40.8						17.3	10					
S	16.7	33.2	47.3	64.2	76.1	90.2	106	116.4	132.2	147.8	164.7	158.6	1612
c	33.2	47.3	64.2	76.1	90.2	106	116.4	132.2	147.8	164.7	158.6	1612	
a	47.3	64.2	76.1	90.2	106	116.4	132.2	147.8	164.7	158.6	1612		
r	64.2	76.1	90.2	106	116.4	132.2	147.8	164.7	158.6	1612			
b	76.1	90.2	106	116.4	132.2	147.8	164.7	158.6	1612				
o	90.2	106	116.4	132.2	147.8	164.7	158.6	1612					
r	106	116.4	132.2	147.8	164.7	158.6	1612						
o	116.4	132.2	147.8	164.7	158.6	1612							
u	132.2	147.8	164.7	158.6	1612								
g	147.8	158.6	1612										
h	164.7	158.6	1612										
G	49	65.3	81.1	93	108.5	125.4						94.1	1612
o	65.3	81.1	93	108.5	125.4							94.1	1612
r	81.1	93	108.5	125.4								94.1	1612
h	93	108.5	125.4									94.1	1612
a	108.5	125.4										94.1	1612
m	125.4											94.1	1612
2	61.1	88.3	100.3	104.7	113.9	122.8						69.7	15,10
M	88.3	100.3	104.7	113.9	122.8							69.7	15,10
I	100.3	104.7	113.9	122.8								69.7	15,10
L	104.7	113.9	122.8									69.7	15,10
E	113.9	122.8										69.7	15,10
S	122.8											69.7	15,10

SIGN DETAIL

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**Maine
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SIGN NUMBER	GM I-95 MM 42.32_N
WIDTH x HGHT.	16'-0" x 13'-0"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	X	Y	WID	HT
M1-4(1)	0	64.1	106.4	36
M1-5(114)	0	115.1	106.4	45
AR_Type A	315	83.6	13.6	20

LETTER POSITIONS (X)

LENGTH SERIES/SIZE

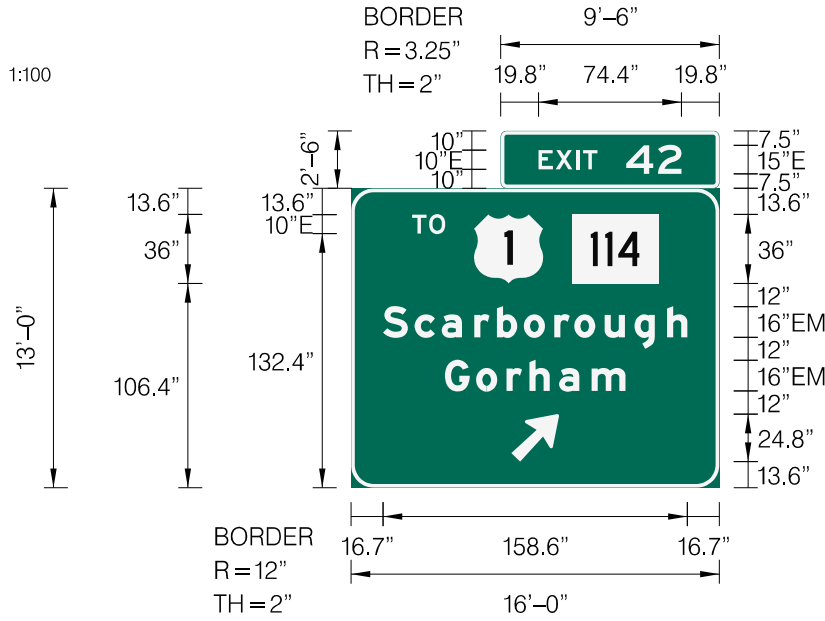
Letter	X	Y	Length	Series/Size
E	19.8	39.4	74.4	E 2000
X	28.7	39.4	74.4	10,15
I	39.4	39.4	74.4	E 2000
T	42.9	39.4	74.4	10
4	65.4	39.4	74.4	E 2000
2	82.1	39.4	74.4	10
T	31.9	40.8	17.3	E 2000
O	40.8	40.8	17.3	10
S	16.7	47.3	158.6	EM 2000
c	33.2	47.3	158.6	16/12
a	47.3	47.3	158.6	EM 2000
r	64.2	47.3	158.6	16/12
b	76.1	47.3	158.6	EM 2000
o	90.2	47.3	158.6	16/12
r	106	47.3	158.6	EM 2000
o	116.4	47.3	158.6	16/12
u	132.2	47.3	158.6	EM 2000
g	147.8	47.3	158.6	16/12
h	164.7	47.3	158.6	EM 2000
G	49	81.1	94.1	EM 2000
o	65.3	81.1	94.1	16/12
r	81.1	81.1	94.1	EM 2000
h	93	81.1	94.1	16/12
a	108.5	81.1	94.1	EM 2000
m	125.4	81.1	94.1	16/12

SIGN DETAIL

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Maine Turnpike Authority



SIGN NUMBER	GM I-95 MM 42.92_S
WIDTH x HGHT.	16'-0" x 13'-0"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective COLOR: Green
LEGEND/BORDER	TYPE: Reflective COLOR: White/White

SYMBOL	X	Y	WID	HT	
M1-4(1)	0	64.1	106.4	36	36
M1-5(114)	0	115.1	106.4	45	36
AR_Type A	315	83.6	13.6	20	31.5

LETTER POSITIONS (X)

LENGTH SERIES/SIZE

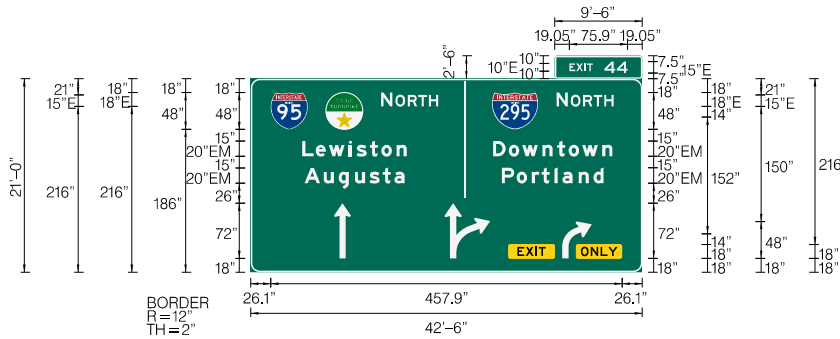
Letter	X	Y	WID	HT
E	19.8	39.4	19.8	13.6
X	28.7	39.4	28.7	13.6
I	39.4	39.4	13.6	13.6
T	42.9	39.4	13.6	13.6
4	65.4	39.4	13.6	13.6
2	82.1	39.4	13.6	13.6
T	31.9	106.4	13.6	13.6
O	40.8	106.4	13.6	13.6
S	16.7	132.4	16.7	13.6
c	33.2	132.4	13.6	13.6
a	47.3	132.4	13.6	13.6
r	64.2	132.4	13.6	13.6
b	76.1	132.4	13.6	13.6
o	90.2	132.4	13.6	13.6
r	106	132.4	13.6	13.6
o	116.4	132.4	13.6	13.6
u	132.2	132.4	13.6	13.6
g	147.8	132.4	13.6	13.6
h	164.7	132.4	13.6	13.6
G	49	158.6	13.6	13.6
o	65.3	158.6	13.6	13.6
r	81.1	158.6	13.6	13.6
h	93	158.6	13.6	13.6
a	108.5	158.6	13.6	13.6
m	125.4	158.6	13.6	13.6

SIGN DETAIL



**Maine
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SIGN NUMBER	OHSS I-95 MM 44.04_N
WIDTH x HGHT.	42'-6" x 21'-0"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Overhead
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	X	Y	WID	HT
M1-1(95)	0	26.1	186	48
M1-1(MT)	0	97.8	186	48
M1-1(295)	0	314.2	186	60
AR_Type D	0	108.7	17.9	21.6
AR_THRU_RIGHT	0	252.4	18	59.3
EXIT BOX	0	335.8	18	60
AR_RIGHT_ONLY	0	405.7	18	38.4
ONLY BOX	0	423.9	18	60

LETTER POSITIONS (X)

LENGTH SERIES/SIZE

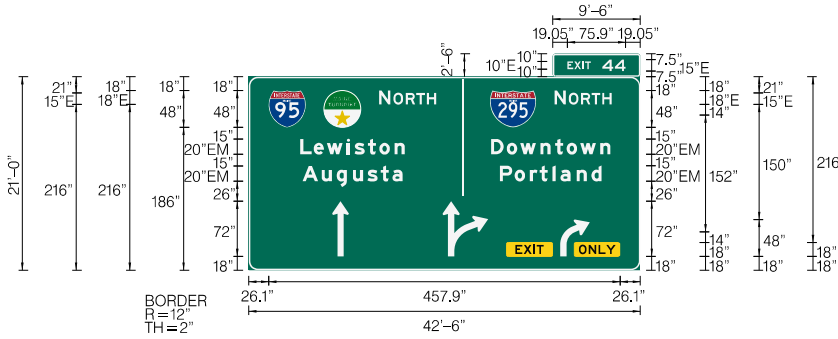
Letter	X	Y	WID	HT	Length	Series/Size
E	19.1	28	38.7	42.2	64.7	80.9
X						
I						
T						
4						
4						
N	169.8	188.4	204.4	218.2	232	
O						
R						
T						
H						
N	398.2	416.8	432.9	446.7	460.5	
O						
R						
T						
H						
L	67.1	84.5	101.7	127.9	137.7	155.1
e						
w						
i						
s						
t						
o						
n						
D	315.7	336.1	353.7	379.9	399.1	414.1
o						
w						
n						
t						
o						
w						
n						
A	70	95	114.4	135.6	154.6	172
u						
g						
u						
s						
t						
a						
P	327.1	346.3	366.1	378.9	395.7	405.9
o						
r						
t						
l						
a						
n						
d						

SIGN DETAIL



Maine Turnpike Authority

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SIGN NUMBER	OHSS I-95 MM 44.14_N
WIDTH x HGHT.	42'-6" x 21'-0"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Overhead
BACKGROUND	TYPE: Reflective COLOR: Green
LEGEND/BORDER	TYPE: Reflective COLOR: White/White

SYMBOL	X	Y	WID	HT
M1-1(95)	0	26.1	186	48
M1-1(MT)	0	97.8	186	48
M1-1(295)	0	314.2	186	48
AR_Type D	0	108.7	17.9	21.6
AR_THRU_RIGHT	0	252.4	18	59.3
EXIT BOX	0	335.8	18	60
AR_RIGHT_ONLY	0	405.7	18	38.4
ONLY BOX	0	423.9	18	18

LETTER POSITIONS (X)

LENGTH SERIES/SIZE

Letter	X	Y	WID	HT
E	19.1	28	38.7	42.2
X	28	38.7	42.2	64.7
I	38.7	42.2	64.7	80.9
T	42.2	64.7	80.9	
4	64.7	80.9		
4	80.9			
N	169.8	188.4	204.4	218.2
O	188.4	204.4	218.2	232
R	204.4	218.2	232	
T	218.2	232		
H	232			
N	398.2	416.8	432.9	446.7
O	416.8	432.9	446.7	460.5
R	432.9	446.7	460.5	
T	446.7	460.5		
H	460.5			
L	67.1	84.5	101.7	127.9
e	84.5	101.7	127.9	137.7
w	101.7	127.9	137.7	155.1
i	127.9	137.7	155.1	170.1
s	137.7	155.1	170.1	189.9
t	155.1	170.1	189.9	
o	170.1	189.9		
n	189.9			
D	315.7	336.1	353.7	379.9
o	336.1	353.7	379.9	399.1
w	353.7	379.9	399.1	414.1
n	379.9	399.1	414.1	431.7
t	399.1	414.1	431.7	457.9
o	414.1	431.7	457.9	
w	431.7	457.9		
n	457.9			
A	70	95	114.4	135.6
u	95	114.4	135.6	154.6
g	114.4	135.6	154.6	172
u	135.6	154.6	172	187
s	154.6	172	187	
t	172	187		
a	187			
P	327.1	346.3	366.1	378.9
o	346.3	366.1	378.9	395.7
r	366.1	378.9	395.7	405.9
t	378.9	395.7	405.9	427.1
l	395.7	405.9	427.1	446.5
a	405.9	427.1	446.5	
n	427.1	446.5		
d	446.5			

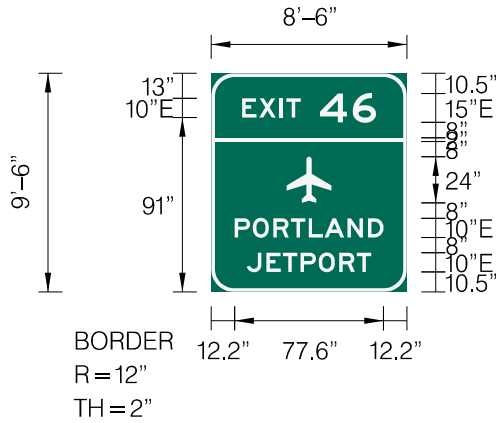
SIGN DETAIL

1:40



Maine Turnpike Authority

1:100



SIGN NUMBER	GM I-95 MM 50.54_S
WIDTH x HGHT.	8'-6" x 9'-6"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	X	Y	WID	HT	
Airport	0	39.3	46.5	23.5	24

LETTER POSITIONS (X)

LENGTH SERIES/SIZE

Letter	X	Y	WID	HT	Series/Size				
E	16.1	25	35.7	39.2	56.7	73.8	69.8	E 2000	
X	25	35.7	39.2	56.7	73.8	69.8	10,15		
I	35.7	39.2	56.7	73.8	69.8	10,15			
T	39.2	56.7	73.8	69.8	10,15				
4	56.7	73.8	69.8	10,15					
6	73.8	69.8	10,15						
P	12.2	21.7	32.4	41.6	50.8	59.1	71	81.7	E 2000
O	21.7	32.4	41.6	50.8	59.1	71	81.7	10	
R	32.4	41.6	50.8	59.1	71	81.7	10		
T	41.6	50.8	59.1	71	81.7	10			
L	50.8	59.1	71	81.7	10				
A	59.1	71	81.7	10					
N	71	81.7	10						
D	81.7	10							
J	18.6	28.8	37.4	46.6	56.1	66.8	76	64.9	E 2000
E	28.8	37.4	46.6	56.1	66.8	76	64.9	10	
T	37.4	46.6	56.1	66.8	76	64.9	10		
P	46.6	56.1	66.8	76	64.9	10			
O	56.1	66.8	76	64.9	10				
R	66.8	76	64.9	10					
T	76	64.9	10						

APPENDIX B

CONSTRUCTION INSPECTION CHECKLIST

Inspection Checklist for Construction Sites to satisfy requirements of Chapter 500 Stormwater Management Rules, Maine Construction General Permit (CGP) and Municipal Separate Storm Sewer System (MS4) Permit as they apply to Maine Turnpike Authority

Project Name: _____

Project Location: _____

Name of OSRP*: _____

*OSRP means on-site responsible party that is knowledgeable of erosion prevention and sedimentation control practices and has been certified by the DEP's NonPoint Source (NPS) Training Center or a similar training program.

Complete this column only if weekend work is conducted

**DAILY INSPECTION LOG
FOR THE WEEK OF:** _____

DAY	Monday	Tuesday	Wednesday	Thursday	Friday	Sat/Sun
DATE						
INITIALS						

A. GENERAL SECTION

(1) Amount of On-site Precipitation _____

SOURCE OF INFORMATION (circle one)
on-site weather station
 website: _____
rain gauge

IMPORTANT: If there was rain, were the following areas inspected before and after the storm event...

...disturbed and impervious areas?	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N
...erosion control measures?	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N
...material storage areas exposed to precipitation?	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N
...locations where vehicles enter and exit the site?	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N
...all deficiencies and corrective actions are noted below?	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N

(2) Air Temperature _____

SOURCE OF INFORMATION (circle one)
on-site weather station
 website: _____
thermometer

B. EROSION CONTROL MEASURES

(1) Are erosion prevention and sedimentation controls...
in place prior to land disturbance? Y or N
in place prior to embankment/excavation operations? Y or N
working effectively? Y or N
If no, please describe failure and corrective actions in comments section below Note #__ Note #__ Note #__ Note #__ Note #__ Note #__

(2) Is silt fence properly installed downhill of disturbed slopes?
If no, please describe failure and corrective actions in comments section below Y or N
Note #__ Note #__ Note #__ Note #__ Note #__ Note #__

(3) All newly disturbed earth is stabilized by applying mulch daily?
If yes, is mulch maintained on-site on a daily basis? Y or N
If no, what other daily method of stabilization is being used? Y or N

(4) All disturbed ditches are stabilized by the end of the workday?
If yes, what type of stabilization is being used and maintained on-site daily? Y or N or NA

(5) Permanent slope stabilization measures are applied...
within one week of last soil disturbance? Y or N or NA
If yes, identify area and date of last disturbance? Note #__ Note #__ Note #__ Note #__ Note #__ Note #__

(6) Is the project site currently under an approved period of suspended work?
If yes, then has the daily inspection log been maintained current and up-to-date? Y or N
Y or N

C. HOUSEKEEPING

(1) Are inspections conducted on a weekly basis to ensure that sedimentation and potential pollutants are minimized from...
materials storage areas exposed to precipitation? Y or N
locations where vehicle enter and exit the site? Y or N
If no, explain reason in comments section below Note #__ Note #__ Note #__ Note #__ Note #__ Note #__

(3) Are inspections conducted daily to ensure that discharges do not impact receiving waters?
Y or N

COMMENTS:

NOTE #1.... _____
 NOTE #2.... _____
 NOTE #3.... _____
 NOTE #4.... _____

APPENDIX C

MS4 STORMWATER AWARENESS PLAN

Maine Turnpike Authority MS4 Stormwater Awareness Plan

Developing and implementing a Best Management Plan (BMP) Adoption Plan is a requirement of the Maine Department of Environmental Protection's (DEP's) *General Permit for the Discharge of Stormwater from Maine Department of Transportation (MaineDOT) and Maine Turnpike Authority (MTA) Municipal Separate Storm Sewer Systems (MS4s)*. Since MTA is subject to this MS4 permit and its six *Minimum Control Measures (MCMs)*, *Part IV(H)(1)(a)(ii)* requires MTA to conduct Public Education and Outreach (MCM #1) efforts that **encourage** *“employees and contractors to utilize BMPs that minimize stormwater pollution.”*

1.0 PERMIT LANGUAGE

Part IV(H)(1) of the MS4 Permit establishes three goals for *MCM #1 - Public Education and Outreach on Stormwater Impacts*. These include the following:

1. *To raise awareness that polluted stormwater runoff is one of the most significant sources of water quality problems for Maine's waters;*
2. *To motivate staff and contractors to use Best Management Practices (BMPs) which reduce polluted stormwater runoff; and*
3. *To reduce polluted stormwater runoff as a result of increased awareness and utilization of BMPs.*

In addition to continuing outreach efforts from the previous MS4 Permit (e.g., 5-year cycle)¹, MTA must satisfy these three goals by encouraging employees and contractors to use BMPs that minimize stormwater pollution as part of this Targeted BMP Adoption Plan. The progress and effectiveness of the Plan and associated efforts must then be evaluated and included in each annual report submitted to Maine DEP in accordance with *Part IV(J)* of the MS4 Permit. As part of this evaluation, MTA must include an assessment of process indicators and impact indicators to evaluate efforts in meeting these goals. In the fifth annual report, the BMP Adoption Plan shall be reviewed fully and include analysis of the process and impact indicators.

Process indicators are related to the execution of the program, such as (1) percent or number of employees who attend a training session; or (2) completion of a particular action item (e.g., distributing posters to employee work place and/or contractor job site).

Impact indicators are related to the achievement of the goals and objectives of the program, such as (1) observable/measurable effects on behavior; or (2) percent or number of employees to describe sources of storm water pollution, proper spill response, or maintenance of a BMP.

¹ Public education and outreach efforts continued from the previous MS4 permit cycle include (but are not limited to) conducting annual stormwater pollution prevention/spill prevention control and countermeasures (SPCC) training to MTA maintenance and engineering employees, as well as other Measurable Goals that can be found in MTA's Stormwater Program Management Plan (SPMP) dated December 2013.

2.0 Coverage Area

This plan has been developed for implementation by MTA to meet MS4 Permit requirements for Urbanized Areas (UAs) within MTA's right-of-way (ROW).

3.0 Objective

The objective of this Stormwater Awareness Plan is to raise awareness among MTA employees and contractors regarding stormwater issues. For example, stormwater runoff is one of the most significant sources of water quality problems for Maine's waters.

The goal of the Stormwater Awareness Plan is to provide information relative to stormwater impacts in an effort to raise awareness of MTA employees. For example, 100% of Highway Maintenance employees and Engineering Inspectors will attend training sessions at which stormwater issues and impacts will be addressed. Additionally, MTA will also work to raise awareness among MTA employees in other departments, such as Fare Collections by providing abbreviated Stormwater/Spill Prevention and Response training to supervisors and managers who will in turn inform additional employees regarding stormwater issues relative to MTA operations.

The goal of this Plan is to also raise awareness of contractors by providing this Plan, as well as the Targeted BMP Adoption Plan (which is designed to motivate employees and contractors to use BMPs to reduce polluted stormwater runoff), prior to starting work on MTA projects.

4.0 Message

The message MTA will strive to impart on employees and contractors will relate to the potential impacts their activities may have on stormwater runoff and water quality in Maine. The message statement is:

"The effect stormwater runoff has on the water quality of Maine waters is impacted by the level of effort put into the construction, operation, and maintenance of MTA's stormwater infrastructure. Polluted water entering the storm drain system and discharged untreated directly to waterbodies is used for drinking, fishing, and swimming, which impacts everyone in Maine."

In addition to the Stormwater Awareness Plan message, the target audience will be informed of authorized non-stormwater discharges allowed by the permit provided they do not contribute to a violation of water quality standards, as determined by the DEP. These include the following:

- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20))
- Uncontaminated pumped ground water
- Uncontaminated flows from foundation drains
- Air conditioning and compressor condensate
- Irrigation water
- Flows from uncontaminated springs
- Uncontaminated water from crawl space pumps
- Uncontaminated flows from footing drains

- Lawn watering runoff
- Flows from riparian habitats and wetlands
- Residual street wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material has been removed and detergents are not used)
- Hydrant flushing and fire fighting activity runoff
- Water line flushing and discharges from potable water sources

4.1 Outreach Tool(s) AND DISTRIBUTION

This Stormwater Awareness Plan and message will be provided to each MTA employee at annual training sessions and also to each contractor before commencement of work, in addition to the Targeted BMP Adoption Plan.

MTA has established or will rely on a number of outreach tools including the following:

- Existing stormwater training programs
 - For MTA employees, the internal training program will be evaluated annually (and updated, as needed) to include storm water topics in order to assess process and impact indicators; and
 - For contractors, MTA continues to require an On-Site Responsible Party (OSRP) certified by DEP’s NPS Training Program to be knowledgeable of stormwater, specifically erosion prevention, sedimentation control and other potential impacts to water quality in Maine.
- Stormwater information packages to raise awareness and encourage utilization of targeted BMPs
 - For MTA employees, information will be provided during annual and supplemental training sessions. Informational packages may also be provided via MTA’s newsletters and memos posted to employee bulletin boards, as well as through employee meetings, including quarterly Environmental Health & Safety Committee meetings.
 - For contractors, MTA will continue to include contractual requirements provided in the standard contract language that establishes the anticipated expectations for performance and payment. Stormwater information will be discussed or provided to contractors prior to starting work (e.g., at Pre-Construction meetings).

4.2 Timeline and Implementation Schedule

The timeline and implementation schedule is determined by:

- The training schedule established each year for MTA employees; and
- The solicitation and project award notices each year.

MTA has established a representative training schedule for each year and is similar to the table below:

Date	Training Type
April	Erosion and Sediment Control (ESC) and Stormwater Pollution Prevention for highway maintenance Supervisors and Foremen
May - June	Spill Prevention Control and Countermeasures Plan (SPCC), Stormwater and Erosion and Sediment Control (ESC) for MTA maintenance and engineering employees.

October	Spill Prevention Control and Countermeasures Plan (SPCC) and Stormwater for Fare Collections
---------	----------------------------------------------------------------------------------------------

The training sessions are designed to meet the goal of increasing awareness, as well as encouraging utilization of targeted BMPs to reduce stormwater runoff and potential impacts. In addition to these training sessions, there may be supplemental training sessions as needed and/or new information posters about stormwater BMPs posted at MTA facilities. Newsletters including stormwater information may also be sent each year to employees.

For contractors, MTA's requirement to have an OSRP certified by DEP's NPS Program ensures that the contractor is aware of stormwater related issues. In addition, MTA distributes this Stormwater Awareness Plan to contractors.

4.3 Responsible Party

The primary responsible party at MTA is the Environmental Services Coordinator, John Branscom. The Environmental Services Coordinator may also rely on the following:

- MTA Supervisors, Foremen, Inspectors and/or other personnel to inform MTA employees and contractors of the targeted BMPs to be utilized;
- An environmental consulting firm, such as GZA GeoEnvironmental, Inc, to ensure MTA's employees are trained as defined by the Plan; and
- A design engineering firm, such as HNTB, who administer construction contracts, to ensure the Plan is properly implemented by the contractors.

4.4 Evaluation Protocol

MTA training is documented with attendance sign-in sheets, exam scores, in-class workshops and evaluation forms. A training database is maintained with information gathered from employees during each training session.

Process Indicators: Assessment of the program execution will be included in the annual report. The following topics will be reported for MTA employees:

1. Number of employees that attended training; and
2. Average exam scores for attendees.

Impact Indicators: Gauging the achievement of goals and objectives of the program will be included in the annual report. These will be addressed by the following behavioral change questions:

1. Number or percentage of employees to identify the goals of MCM #1 correctly;
2. Number or percentage of employees to identify source(s) of storm water pollution;
3. Number or percentage of employees to identify and differentiate between structural and non-structural BMPs; and
4. Number or percentage of employees to demonstrate an applied knowledge of BMP-specific information.

Process and impact indicators for contractors will be tracked by documenting the pre-construction meetings when this Plan and the Targeted BMP Adoption Plan are provided to each

contractor and the contractor, in turn, provides MTA with the certification for their OSRP for the project.

4.5 Plan Modification

This Stormwater Awareness Plan may require modification if evaluation data shows that efforts are not effective. Should modifications be needed, the plan will be revised or a new plan will be developed.

I have read and accept the policies outlined in this Stormwater Awareness Plan as required by MTA's MS4 Permit.

Contractor Signature of Acknowledgement

Date

Printed Name

Project Number

APPENDIX D

MS4 TARGETED BMP ADOPTION PLAN

Maine Turnpike Authority MS4 Targeted BMP Adoption Plan

Developing and implementing a Best Management Plan (BMP) Adoption Plan is a requirement of the Maine Department of Environmental Protection's (DEP's) *General Permit for the Discharge of Stormwater from Maine Department of Transportation (MaineDOT) and Maine Turnpike Authority (MTA) Municipal Separate Storm Sewer Systems (MS4s)*. Since MTA is subject to this MS4 permit and its six *Minimum Control Measures (MCMs)*, *Part IV(H)(1)(a)(ii)* requires MTA to conduct Public Education and Outreach (MCM #1) efforts that **encourage “employees and contractors to utilize BMPs that minimize stormwater pollution.”**

5.0 PERMIT LANGUAGE

Part IV(H)(1) of the MS4 Permit establishes three goals for *MCM #1 - Public Education and Outreach on Stormwater Impacts*. These include the following:

1. *To raise awareness that polluted stormwater runoff is one of the most significant sources of water quality problems for Maine's waters;*
2. *To motivate staff and contractors to use Best Management Practices (BMPs) which reduce polluted stormwater runoff; and*
3. *To reduce polluted stormwater runoff as a result of increased awareness and utilization of BMPs.*

In addition to continuing outreach efforts from the previous MS4 Permit (e.g., 5-year cycle)², MTA must satisfy these three goals by encouraging employees and contractors to use BMPs that minimize stormwater pollution as part of this Targeted BMP Adoption Plan. The progress and effectiveness of the Plan and associated efforts must then be evaluated and included in each annual report submitted to Maine DEP in accordance with *Part IV(J)* of the MS4 Permit. As part of this evaluation, MTA must include an assessment of process indicators and impact indicators to evaluate efforts in meeting these goals. In the fifth annual report, the BMP Adoption Plan shall be reviewed fully and include analysis of the process and impact indicators.

Process indicators are related to the execution of the program, such as (1) percent or number of employees who attend a training session; or (2) completion of a particular action item (e.g., distributing posters to employee work place and/or contractor job site).

Impact indicators are related to the achievement of the goals and objectives of the program, such as (1) observable/measurable effects on behavior; or (2) percent or number of employees to describe sources of storm water pollution, proper spill response, or maintenance of a BMP.

² Public education and outreach efforts continued from the previous MS4 permit cycle include (but are not limited to) conducting annual stormwater pollution prevention/spill prevention control and countermeasures (SPCC) training to MTA maintenance and engineering employees, as well as other Measurable Goals that can be found in MTA's Stormwater Program Management Plan (SPMP) dated December 2013.

6.0 Coverage Area

This plan has been developed for implementation by MTA to meet MS4 Permit requirements for Urbanized Areas (UAs) within MTA's right-of-way (ROW).

7.0 Objective

The objective of this Targeted BMP Adoption Plan is to educate MTA's employees and contractors to use BMPs which reduce polluted stormwater runoff within UA.

The goal of the BMP Adoption Plan is to target BMPs in the MaineDOT BMP Manual to be utilized by employees and contractors that minimize stormwater pollution during construction activities, such as:

- (1) Installing silt fence prior to land disturbance; and
- (2) Ensuring that hay mulch is applied to soil at the end of each work day.

For MTA employees, focus will also be given to targeting BMPs relevant to transportation-related maintenance and good housekeeping activities, such as:

- (1) Regular sweeping of the mainline and peripheral facilities;
- (2) Annual catch basin clean-outs and sediment removal;
- (3) As needed ditch cleaning and repair;
- (4) On-going culvert maintenance and litter removal.

Contractors are also encouraged to utilize BMPs in accordance with standard construction contract language (e.g., Special Provision 656), as well as the MaineDOT BMP Manual.

8.0 Message

The message MTA will strive to impart on employees and contractors will relate to the impacts their activities have on stormwater runoff and the importance of BMPs. The message statement is:

"Implementing appropriate BMPs, as described in MaineDOT's Stormwater BMPs Manual, to all MTA related activities will help to minimize stormwater pollutants introduced to Maine's waterbodies."

8.1 Outreach Tool(s) and Distribution

Targeted BMPs are included in the MaineDOT BMP Manual that is available at each MTA maintenance facility and referenced in standard contract language for contractors.

MTA has established or will rely on a number of outreach tools including the following:

- Existing stormwater training programs
 - For MTA employees, the internal training program will be evaluated annually (and updated, as needed) to include storm water topics in order to assess process and impact indicators; and
 - For contractors, MTA continues to require an On-Site Responsible Party (OSRP) certified by DEP's NPS Training Program to be knowledgeable in erosion prevention and sedimentation control.

- Existing standard contract language
 - Requires contractors to maintain a certified OSRP on-site who has authority to implement BMPs appropriately; and
 - Specifies that contractors must utilize MaineDOT's BMP Manual, as well as other BMPs, to ensure construction site runoff is minimized.
- Stormwater information packages to raise awareness and encourage utilization of targeted BMPs
 - For MTA employees, information will be provided during annual and supplemental training sessions. Informational packages may also be provided via MTA's newsletters and memos posted to employee bulletin boards, as well as through employee meetings, including quarterly Environmental Health & Safety Committee meetings.
 - For contractors, MTA will continue to include contractual requirements provided in the standard contract language that establishes the anticipated expectations for performance and payment. This Target BMP Adoption Plan will also be provided to contractors prior to starting work (e.g., at Pre-Construction meetings).

8.2 Timeline and Implementation Schedule

The timeline and implementation schedule is determined by:

- The training schedule established each year for MTA employees; and
- The solicitation and project award notices each year.

MTA has established a representative training schedule for each year and is similar to the table below.

Date	Training Type
April	Erosion and Sediment Control (ESC) and Stormwater Pollution Prevention for Highway Maintenance Supervisors and Foremen
May - June	Spill Prevention Control and Countermeasures Plan (SPCC), Stormwater and Erosion and Sediment Control (ESC) for MTA maintenance and engineering employees.

In addition to the training sessions above, there may be supplemental training sessions as needed and/or new information posters about stormwater BMPs posted at MTA facilities. Newsletters including stormwater information may also be sent each year to employees.

For contractors, targeted BMPs are already being implemented in accordance with contract language and the MaineDOT BMP Manual. In addition, MTA distributes this Targeted BMP Adoption Plan to contractors.

8.3 Responsible Party

The primary responsible party at MTA is the Environmental Services Coordinator, John Branscom. The Environmental Services Coordinator may also rely on the following:

- MTA Supervisors, Foremen, Inspectors and/or other personnel to inform MTA employees and contractors of the targeted BMPs to be utilized;

- An environmental consulting firm, such as GZA GeoEnvironmental, Inc, to ensure MTA’s employees are trained as defined by the Plan; and
- A design engineering firm, such as HNTB, who administer construction contracts, to ensure the Plan is properly implemented by the contractors.

9.0 Evaluation Protocol

MTA training is documented with attendance sign-in sheets, exam scores, in-class workshops and evaluation forms. A training database is maintained with information gathered from employees during each training session.

Process Indicators: Assessment of the program execution will be included in the annual report. The following topics will be reported for MTA employees:

3. Number of employees that attended training; and
4. Average exam scores for attendees.

Impact Indicators: Gauging the achievement of goals and objectives of the program will be included in the annual report. These will be addressed by the following behavioral change questions:

5. Number or percentage of employees to identify the goals of MCM #1 correctly;
6. Number or percentage of employees to identify source(s) of storm water pollution;
7. Number or percentage of employees to identify and differentiate between structural and non-structural BMPs; and
8. Number or percentage of employees to demonstrate an applied knowledge of BMP-specific information.

Process and impact indicators for contractors will be tracked and evaluated based on daily and/or weekly inspections conducted on-site.

10.0 Plan Modification

This Targeted BMP Adoption Plan may require modification if evaluation data shows that efforts are not effective. Should modifications be needed, the plan will be revised or a new plan will be developed.

I have read and accept the policies outlined in this Stormwater Awareness Plan as required by MTA’s MS4 Permit.

Contractor Signature of Acknowledgement

Date

Printed Name

Project Number

APPENDIX E

MEMORANDUM OF AGREEMENT (MOA)
FOR STORMWATER MANAGEMENT
BETWEEN MAINEDOT, MTA, AND DEP

**MEMORANDUM OF AGREEMENT
FOR STORMWATER MANAGEMENT BETWEEN THE MAINE DEPARTMENT
OF TRANSPORTATION, MAINE TURNPIKE AUTHORITY AND MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION.**

The Maine Department of Environmental Protection (hereinafter DEP), the Maine Department of Transportation (hereinafter MaineDOT), and the Maine Turnpike Authority (hereinafter MTA) agree as follows:

WHEREAS, projects involving state transportation systems developed by or under the supervision of the MaineDOT or MTA must meet the stormwater requirements set forth in a Memorandum of Agreement between the DEP, MaineDOT and MTA; and

WHEREAS, DEP, MaineDOT and MTA recognize the unique characteristics, benefits and impacts of state transportation systems, including without limitation roads and railroads; and

WHEREAS, DEP, MaineDOT and MTA agree that the intent of this Memorandum of Agreement is to achieve stormwater quality and quantity controls reasonably consistent with the standards set out by the DEP in Chapter 500 Stormwater Management Rules; and

WHEREAS, those objectives will be achieved by a comprehensive stormwater management program that applies to any project developed, administered, supervised, or overseen by MaineDOT or MTA which otherwise would have required a stormwater permit or been subject to the standards of Chapter 500, but for the exemption in Title 38 M.R.S. §420-D(7)(G), and that applies to all other MaineDOT and MTA projects located in the organized territory which would not have required a stormwater permit or not have been subject to the standards of Chapter 500; and

WHEREAS, comprehensive stormwater management as part of MaineDOT and MTA

projects in the organized territory will result in substantial environmental benefits for all watersheds and in particular those direct watersheds of lakes most at risk from new development or urban impaired streams.

NOW, THEREFORE, MaineDOT and MTA will adopt the following requirements for stormwater management,

1. Applicability.

This Memorandum of Agreement (MOA) applies to MaineDOT and MTA projects that would be required to meet the requirements of the Stormwater Management Law if not for the exemption in Title 38 M.R.S. §420-D(7)(G). It does not apply to projects requiring a permit pursuant to the Site Location of Development Law.

This MOA addresses the specific technical issues associated with state transportation system projects undertaken by or under the administration, supervision, or oversight of MaineDOT and MTA, and specifies the stormwater quality and quantity standards which will apply to those projects. MaineDOT and MTA have agreed to adopt standards that are based on the type of project and the project location with respect to direct watersheds of lakes most at risk from new development and urban impaired streams, as defined in Chapters 500 and 502 of the Maine Stormwater Management Rules.

No state transportation system project constructed pursuant to the requirements of this MOA is required to obtain a permit or DEP approval pursuant to the Maine Stormwater Management Law.

2. Definitions.

Unless defined below, definitions included in Chapter 500 of the Maine Stormwater Management Rules are incorporated into this agreement.

- A. Roads. All roads, highways, bridges, bike paths, interchanges and intersections.
- B. Construction site operator. The contractor's designated on-site supervisor or MaineDOT's or MTA's designated on-site supervisor if there is no outside contractor.
- C. Existing travel corridor. For linear projects the existing travel corridor extends no more than 20 linear feet outside the predevelopment right-of-way. Realignment of a project outside of this limit is not within the existing travel corridor.
- D. State transportation system. 1) (a) MaineDOT and MTA administered or supervised state or state aid highways along with associated sidewalks, paths, trails and/or bridges; (b) MaineDOT administered or supervised marine highways, airports, and rail lines along with associated sidewalks, paths, trails and/or bridges, and 2) any associated facilities essential to the safe and efficient operation of those state transportation systems, including but not limited to highway maintenance facilities, transit/rail stations, toll plazas, ferry terminals, cargo ports, intermodal transportation centers, weigh stations, rest areas, visitor information centers, service plazas, and park-and-ride lots as well as parking lots and other infrastructure serving those facilities.
- E. Linear portion of a project. All rail lines, roads, highways, bridges, or similar transportation corridors, along with associated interchanges, scenic turnouts, access ramps, airport runways and taxiways, weigh stations, toll facilities, intersections, sidewalks, trails, paths and similar associated facilities including associated parking and building area of up to 5,000 square feet.
- F. Non-linear portion of a project. All portions of a state transportation system that are not linear. Examples of a non-linear portion of a project include, but are not

limited to, maintenance facilities, intermodal transportation centers, transit/rail stations, and airport terminals, hangers and aprons.

3. Specific Provisions to Comply with Chapter 500 Standards.

All state transportation system projects undertaken by or under the administration, supervision, or oversight of MaineDOT and MTA shall comply with the requirements of Chapter 500 and 502 as follows.

A. Basic Standards. All projects shall meet the Basic Standards described in Section 4(B) of Chapter 500, through implementation of best management practices described in the MaineDOT's Best Management Practices for Erosion and Sedimentation Control (hereinafter the MaineDOT BMP Manual) as may be updated from time to time.

B. General Standards. For projects that trigger the General Standards threshold in Chapter 500:

(1) A linear portion of a project located in the direct watershed of a lake most at risk from new development or in the watershed of an urban impaired stream, shall meet the General Standards to the extent practicable as determined through consultation with and agreement by DEP, except that redevelopment of existing impervious area may not be required to meet the General Standards provided that the new use of the impervious area is not likely to increase stormwater impacts beyond the level already caused by runoff from the existing impervious area.

(2) A linear portion of a project associated with an existing travel corridor constructed prior to July 19, 2007¹, and not located in either the direct watershed of a lake most at risk from new development or in the watershed of an urban impaired stream, shall not be required to meet the General Standards.

¹ July 19, 2007 is the date the first MOA with this language became effective.

(3) A linear portion of a project that is not associated with an existing travel corridor shall meet the General Standards to the extent practicable as determined through consultation with and agreement by DEP.

(4) A non-linear portion of a project shall meet the General Standards, except that redevelopment of existing impervious area may not be required to meet the General Standards provided that the new use of the impervious area is not likely to increase stormwater impacts beyond the level already caused by runoff from the existing impervious area.

C. Phosphorus standard. Projects triggering the Phosphorus standard shall instead apply the General Standards in accordance with Section 3(B) of this MOA.

D. Urban impaired stream standard. A linear or non-linear portion of a project that is not associated with an existing travel corridor, is located within the watershed of an urban impaired stream, and triggers the Urban Impaired Stream Standard, shall meet the Urban Impaired Stream Standard in Chapter 500, Section 4(E), to the extent practicable as determined through consultation with and agreement by DEP. MaineDOT and MTA may use mitigation credit measures within the same watershed as that portion of a project in order meet the requirements of Chapter 500, Section 4(E).

E. Flooding standard. For a state transportation system project that triggers the thresholds of the Flooding Standard, MaineDOT and MTA shall apply design and engineering measures to the extent practicable such that project drainage avoids adverse impacts to offsite property resulting from project-related peak flow.

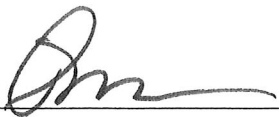
The following additional requirements of Chapter 500 shall be met through review, reporting and recordkeeping undertaken by MaineDOT and MTA pursuant to Section 4

of this MOA: project notification and submittal requirements of Ch. 500(6)(B), Ch. 500(6)(E)(1-5), Ch. 500(7)(C)(1-3), Ch. 500(7)(D)(1-5), and Ch. 500(7)(E)(1-2); the pre-application meeting requirements of Ch. 500(7)(A); the recording requirements of Ch. 500(11); and the re-certification requirements of Ch. 500, Appendix B(3). DEP agrees that MaineDOT and MTA have demonstrated the qualifications of their respective staff to perform the maintenance activities required pursuant to Ch. 500(7)(D)(7) and therefore, meet the intent of that requirement without contracting with third-parties.

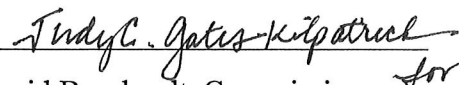
4. Interagency Review.

As part of the annual Interagency Review MaineDOT and MTA agree to provide DEP with a list of all projects started in the calendar year and a list of projects anticipated for the next calendar year. The DEP, MaineDOT and MTA also agree to hold interagency meetings as necessary to identify, discuss, and resolve any issues which may have arisen regarding interpretation and implementation of the MOA. MaineDOT and MTA each shall keep a description of any alternative stormwater management measures installed and their relative performance, if known; a description of each instance where, pursuant to Section 3(B)(1) and 3(D) of this MOA, the General Standards were not fully applied because it was determined to not be practicable to do so and the extent to which the General Standards were not met; and a list of staff or designees who provided oversight with respect to erosion and sedimentation control and stormwater control.


Dated: 6-12-17

By: 
Paul Mercer, Commissioner
Maine Department of Environmental
Protection

Dated: 4/22/17

By: 
David Bernhardt, Commissioner *for*
Maine Department of Transportation

Dated: 6/27/17

By: 
Daniel Wathen, Chair
Maine Turnpike Authority