

MAINE TURNPIKE AUTHORITY

ADDENDUM NO. 2

CONTRACT 2016.02

GRAY INTERCHANGE

(EXIT 63)

Make the following changes to the bid documents:

Contract Documents:

In the Contract Documents, Proposal, page sheet P-5 shall be **DELETED** and **REPLACED**. Item 516.202 has been removed from the Contract. Revised page sheet included in this addendum.

In the Contract Documents, Proposal, page sheet P-24 shall be **DELETED** and **REPLACED**. Item 670.010 description shall be revised to read “Sewerage Disposal System”. Revised page sheet included in this addendum.

In the Contract Documents, Part 2 – Special Provisions, under 105.8.2 Permit Requirements on page SP-37, **REPLACE** the following in the first and second paragraphs: “included in Appendix G” with “available on the Maine Turnpike Authority’s website under Contract 2016.02 in the Additional Info. Section.

In the Contract Documents, Part 2 – Special Provisions, Section 626 Foundations, Conduit, and Junction Boxes for Highway Signing, Lighting and Signals, (Horizontal Directional Drilled Conduit) shall be **DELETED** and **REPLACED**. Revised page sheets included in this addendum.

In the Contract Documents, Part 2 – Special Provisions, Section 643 Traffic Signals, Subsection 643.12 “Cable and Wire” on page SP-257, **REPLACE** the last paragraph with “Traffic signal conduit, pull boxes, frames and covers shall conform to Section 626 of the Standard Specifications as amended by the project Special Provisions. Conduit for all underground traffic signal cable and interconnect cable shall be non-metallic 3 inch Schedule 80 unless otherwise noted on the plans. Conduit for utility pole risers shall be metallic 3 inch rigid galvanized steel unless otherwise noted on the plans.”

In the Contract Documents, Part IV – Appendices, Appendix A – Subsurface Wastewater Disposal System Application, Subsurface Wastewater Disposal System Application shall be **DELETED** and **REPLACED**. The revision noted “H-20” for the chamber strength. Revised page sheet included in this addendum.

Plans:

In the Plans – Volume 1 of 2, Sheet Number 15 of 412 shall be **DELETED** and **REPLACED**. Revised half and full size plan sheets included in this addendum.

In the Plans – Volume 1 of 2, Sheet Number 16 of 412 shall be **DELETED** and **REPLACED**. Revised half and full size plan sheets included in this addendum.

In the Plans – Volume 2 of 2, Sheet Numbers 408-411 (Mechanical and Plumbing Sheets), **REPLACE** the project location in the Title Block from “West Falmouth, Maine 04105” to Gray, Maine”.

In the Plans – Volume 2 of 2, Sheet Number 412 of 412 shall be **DELETED** and **REPLACED**. Revised half and full size plan sheets included in this addendum.

Questions:

The following question(s) were submitted to the Maine Turnpike Authority. Answers to the questions are noted below. Bidders shall utilize this information in preparing their bid.

- 1) Question: Item No. 604.166 - Rebuilding Manhole. Is that an electrical manhole? I can't find a specification.

Response: This is a drainage manhole and no special provision is required as it is in the 2002 MaineDOT Standard Specification Book.

- 2) Question: Item No. 626.21 - Metallic Conduit. Should a size be associated with this item?

Response:

For Traffic Signals

Special Provision 643 has been modified to clarify the size of metallic conduit and is part of Addendum #2

For Lighting

The General Notes on Sheet 270 called out the minimum conduit size and requirements to conform to NEC.

- 3) Question: Item No. 626.22 Non-Metallic Conduit. Should a size be associated with this item?

Response:

For DMS

The non-metallic conduit size is called out on the plans.

For Traffic Signals

The non-metallic conduit size is called out in the MaineDOT Standard Provision 626 and the Special Provision 643.

For Lighting

The General Notes on Sheet 270 called out the minimum conduit size and requirements to conform to NEC.

- 4) Question: Item No.'s 626.221 & 626.223 Directional Bore. What is the difference between these two items? Also, should a size be associated with these items? I can't find this defined in the specifications.
Response: Item 626.221 is for the Signal, ITS and Tolling directional bore adjacent to Route 202. Item 626.223 is for the Lighting directional bore at the Route 202/SB Ramps intersection. Sizes for conduit are shown on the plans. Special Provision 626 has been modified and replaced as part of Addendum #2.
- 5) Question: Item No. 655.2052 12" Schedule 80 PVC Conduit. Is this an electrical item? I can't find where it is used.
Response: The 12" Schedule 80 PVC Conduit is called out on Sheet 157 (Sheet Number E-03).
- 6) Question: Is Item 627.94 Pavement Marking Tape supposed to include the tape being called for on the Turnpike On-Ramps and if the quantity for this item should be adjusted to show these skips (Roughly 264') or if just the Route 202 will be receiving the tape?
Response: No. The pavement overlay contractor under Contract 2016.01 will place the pavement surface course and pavement marking tape for the Southbound & Northbound On Ramp acceleration lanes. Therefore, no quantity adjustment shall be required for this item.
- 7) Question: Special Provision 202 (Removing Asbestos Containing Materials) references window caulking at the toll utility building. Could you please clarify if this material is to be removed and what pay item it falls under?
Response: No asbestos was detected during testing. Special Provision 202 Removing Structures and Obstructions (Removing Asbestos Containing Materials) shall be deleted from the Contract Book.
- 8) Question: Can the MTA supply a list of stations & pipe sizes for each type of collar?
Response: Concrete Collars locations and pipe sizes are called out on Sheet 8. Two additional concrete collar locations not shown on Sheet 8 are at Sta. 606+10, RT and Sta. 610+08, RT. Anti-Seep collar locations are called out on Sheets 193 and 203.
- 9) Question: Special Provision 645 Highway Signing referenced drilled shaft foundations for the sign structure foundations. Are drilled shaft foundations the only acceptable foundation design for the sign structure foundations or will the Authority accept other foundation designs?
Response: The geotechnical report indicated that the most suitable foundation design that meets all of the applicable project requirements is likely to be the multiple drilled shaft design presented in the Section 645 Special Provision. However, the Maine Turnpike Authority is prepared to review drilled shaft, steel piles, or spread footing foundation designs that meet the following requirements:
- *Foundations shall be designed in accordance with the 2002 edition of the MaineDOT Standard Specifications, as amended by the project special provisions;*
 - *Foundations shall be designed in accordance with the geotechnical engineering information provided;*
 - *Foundations shall be designed to be constructed entirely within the MTA or MaineDOT rights-of-way;*
 - *Foundations shall be designed to minimize or avoid impacts to adjacent utility services; and*
 - *Foundations shall be designed to have no permanent impacts to the MTA or MaineDOT roadways.*

- 10) Question: Bid item 670.010 is Described in the Schedule of Items as a Sewerage Disposal Replacement System. SP 670 does not reference a replacement system but a system for the Toll Administration Building. Is the existing system at the NB toll plaza Admin Building being replaced?
Response: The Sewerage Disposal System is for the SB Plaza only, and it is a NEW system not a replacement. Item 670.010 description shall be revised to read "Sewerage Disposal System".
- 11) Question: Can the Mile 57 service plazas on the NB and SB sides be accessed by trucks for exiting and entering the turnpike?
Response: No. But the Maine Turnpike Authority would entertain requests from the Contractor for specific uses.
- 12) Question: I only saw two plan sheets included in the plan set for the southbound ramp A underpass bridge removal. Can MTA provide an existing plan set for this bridge?
Response: Existing plans (4 sheets) for the Ramp A Underpass Bridge are included in this addendum.
- 13) Question: There are two bid items, 515.201 & 516.202 with the same description, Clear Protective Coating for Concrete Surfaces. There is no 516 specification. Please clarify.
Response: Items 515.202 and 516.202 are the same item, Clear Protective Coating for Concrete Surfaces. Item 516.202 shall be deleted from the Contract. The total quantity for Item 515.202 shall be revised from 1350 SY to 1870 SY.
- 14) Question: Special Provision section 105.8.2 Permit Requirements states "a copy of the permit is included in Appendix G". Appendix G of the documents is Sign Text Layout Sheets. I do not see anywhere else that the permits are located. Can we get a copy of the NRPA and Army Corps permits?
Response: The NRPA and Army Corps permits are available on the Maine Turnpike Authority's website under Contract 2016.02 in the Additional Info. Section.
- 15) Question: We cannot find a foundation design for the Northbound Gantry shown on page 152-154 on the plans other than a 4'-0" dimension in the elevation view. In order to properly estimate this work we need to know the requirements of these foundations, (i.e. shape, dimensions, reinforcing requirements, depth, etc.). Could you please provide this information?
Response: The intent is that the northbound gantry and overhead sign structure will be combined on a single foundation. The foundation information is called out on Sheet 263.
- 16) Question: Is it possible to supply us with the gradation and proctor test results for the preload material that was used from the Bennett Rd. Pit?
Response: The gradations from the Bennett Road pit are attached and no proctor test information is available. The previous construction of the southbound ramps was constructed from material from the Bennett Road pit and other material sources and the locations where the differing material was placed was not documented. This information is being provided for information purposes only and the bidders should act accordingly as Maine Turnpike Authority provides no guarantee on the material that was placed.

17) Question: How will the pavement on the Temporary Southbound On and Off ramps be paid for?

Response: The pavement for the Temporary Testing Southbound On Ramp (Approx. Sta. 1121+08.37 to Sta. 1120+12.88) and Southbound Off Ramp (Approx. Sta. 1208+42.00 to Sta. 1109+73) shall be paid for under Item 403.2083 HMA, 12.5 MM (Polymer Modified) - RAP.

18) Question: Light fixture W1 was not identified on the plans. Please clarify.

Response: W1 is a wall mounted light (at 6') - ASL- model # CKS-18.8W-3000K-DV-FPA-SWA or equal.

19) Question: In the specification for traffic controller cabinets and video detection, MTA is specifying Econolite for cabinets and Aldis camera system for video detection. My firm is requesting that an equal in conformance and operation be allowed on this project.

Response: As the MTA is taking over ownership and maintenance of the traffic signals at the intersection of the ramps no substitutions will be allowed.

Notes: The above items shall be considered as part of the bid submittal.

The total number of pages included with this addendum is twenty seven (27).

All bidders are requested to acknowledge the receipt of the Addendum No. 2 by signing below and faxing this sheet to Nate Carll, Purchasing Department, (207) 871-7739. Bidders are also required to acknowledge receipt of this Addendum No. 2 on Page P-8 of the bid package.

Business Name

Print Name and Title

Signature

Date

January 19, 2016

Very truly yours,

MAINE TURNPIKE AUTHORITY

Purchasing Manager
Maine Turnpike Authority

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
504.62	TOLL GANTRY – NORTHBOUND	Lump Sum	1				
507.0928	ALUMINUM BRIDGE RAILING - RAIL SECTION REPLACE	Linear Foot	21				
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE	Lump Sum	1				
515.201	PIGMENTED PROTECTIVE COATING FOR CONCRETE SURFACES	Square Yard	360				
515.202	CLEAR PROTECTIVE COATING FOR CONCRETE SURFACES	Square Yard	1870				
515.23	EPOXY OVERLAY	Square Yard	72				
516.202	CLEAR PROTECTIVE COATING FOR CONCRETE SURFACES	Square Yard	0				
518.1	ABUTMENT REPAIRS	Square Foot	60				
518.2	PIER REPAIRS	Square Foot	65				
518.391	REPAIRING GRANITE CURB JOINT AND BEDDING MORTAR	Linear Foot	185				
518.392	REPAIRING CONCRETE PARAPET ELASTOMERIC JOINT SEALER	Linear Foot	340				
518.8	PARTIAL DEPTH CONCRETE DECK REPAIRS	Square Foot	550				
518.81	FULL DEPTH CONCRETE DECK REPAIRS	Square Foot	220				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
655.810	KEY SWITCH	EA	8				
655.820	DUPLEX RECEPTACLE	EA	8				
655.830	NEMA L5-30R RECEPTACLE	EA	4				
655.840	QUADPLEX RECEPTACLE	EA	6				
655.900	DYNAMIC MESSAGE SIGN FOR SB CANOPY - CENTER LANE	LS	1				
655.920	LED CANOPY LIGHT FIXTURE	EA	6				
655.940	NEW STAND-BY GENERATOR AND TRANSFER SWITCH	LS	1				
656.50	BALED HAY, IN PLACE	EA	170				
656.632	30 INCH TEMPORARY SILT FENCE	LF	14550				
659.10	MOBILIZATION	LS	1				
670.010	SEWERAGE DISPOSAL SYSTEM	LS	1				
800.010	TOLL BUILDING	LS	1				
800.100	ELECTRICAL DEMOLITION	LS	1				

CARRIED FORWARD:

SPECIAL PROVISION

SECTION 626

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

(Non-Metallic Conduit, Directional Bore)

(Horizontal Directional Drilled Conduit)

Description

Horizontal Directional Drilling (HDD) method shall be used for installation of non-metallic conduit for highway lighting, toll systems and traffic signals when specified on the project plans or approved by the Resident. It shall include furnishing of all materials, site preparation, equipment setup, pilot bore, conduit pulling through the drilled bore, installation of pull wire and fittings, site restoration, and incidental work necessary to satisfactorily install conduit at the required locations and depths.

Where conduit is shown in the plans as Directional Bore, it shall mean non-metallic conduit installed using the HDD method.

Materials

Conduit for Horizontal Directional Drilling shall meet requirements of Section 715.03 for non-metallic conduit. Non-metallic conduit to be installed under roadways shall be Schedule 80 or greater. Non-metallic conduit to be installed in other locations shall be Schedule 40 or greater. Conduit sections shall be joined by methods suitable for installation by HDD. Joined conduit sections must have adequate strength and flexibility to withstand the installation stresses and overburden pressures without compromising the structural stability of the conduit wall. Conduit must be able to meet the bend radius required for the proposed installation. Conduit sections shall be joined in a manner resulting in the inner surfaces being flush and even.

Construction

Prior to commencing HDD work, the Contractor shall submit a drilling work plan to the Resident for approval addressing the following, at minimum:

- Profile of the proposed bore plotted at a scale appropriate for the crossing and acceptable to the Resident;
- HDD site layout including entry and exit points;
- Drilling fluid management plan, including drilling fluid types and specifications, cleaning and recycling equipment to be used, estimated flow rates, procedures for minimizing drilling fluid escape, and the method and location for final disposal of waste drilling fluids. Material safety data sheets shall be provided for all drilling fluid additives that will be used;
- Conduit storage and handling details;
- Summary of assembly and installation procedures to be used;

- Material safety data sheets of any other potentially hazardous substances to be used;
- Response plans for possible problems that may be encountered;
- Documentation and certification of the ability of the proposed conduit to withstand installation stresses and pressures.

The HDD drill rig and auxiliary pieces of equipment shall be appropriate for the diameter and length of conduit being installed. The power system shall provide sufficient pressure to power the drilling operations with a hydraulic system free from leakage. The directional drilling machine shall be anchored as necessary to stabilize it against excessive dislocation.

In order to minimize friction and prevent collapse of the bore hole, a soil stabilizing agent (drilling fluid) may be introduced into the annular bore space from the front end of the drill head to create a slurry. The drilling fluids shall be selected or designed for the site's specific soil and ground water conditions. The drilling fluid mixing system shall be self-contained and closed with sufficient size to mix and deliver drilling fluid to the drill head. The mixing system shall continually agitate the drilling fluid during drilling operations. The fluids delivery system shall be capable of pumping drilling fluid with sufficient volume and pressure from the mixing tank through the drill rods to the drill head.

Alignment of the bore shall be accomplished by proper orientation of the drill head as it is pushed through the ground by the drill rig. Orientation and tracking of the drill head shall be determined by using an acceptable tracking system from a transmitter located within the drill head. The HDD guidance system shall be capable of locating and tracking the drill head continuously and accurately both horizontally and vertically during the pilot bore. All equipment shall be properly calibrated before commencing the directional drilling operation.

Borehole diameter relative to the conduit diameter shall be minimized to limit potential damage from soil displacement, settlement, and heaving. When necessary, the pilot borehole may be enlarged by back reaming to accommodate conduit larger than the pilot borehole size or multiple conduits in the same bore hole. Back reaming may be accomplished ahead of or at the same time as pulling the conduit through the pilot borehole. The back-reamer shall be sized to create a large enough borehole to allow cuttings to transfer from the face of excavation to the surface with minimum soil displacement.

Escaping slurry or drilling fluids shall be confined at the ground surface during pull back or drilling. All drilling fluids shall be disposed of or recycled in a manner acceptable to the Maine Department of Environmental Protection. Upon completion of the HDD operation, the work site shall be cleaned of all excess slurry or spoils. Any damage caused by heaving, settlement, separation of pavement, escaping drilling fluid, or other damage from the directional drilling operation shall be repaired by the Contractor to the satisfaction of the Resident.

At the completion of the HDD conduit installation, the Contractor shall provide to the Resident marked up plans noting location, depth, and material type of all conduit installed by the Horizontal Directional Drilling method.

Method of Measurement

Non-Metallic Conduit, Directional Bore will be measured by the number of linear feet of conduit installed and accepted by the Resident, including conduits identified as spare conduits in the Plans or as directed by the Resident.

Horizontal Directional Drilled Conduit will be measured by the number of linear feet of conduit in place and accepted by the Resident.

Basis of Payment

Payment will be made for the total quantity of linear feet of Non-Metallic Conduit, Directional Bore installed and accepted at the contract price per linear foot. Payment shall include the cost of furnishing and installing the conduit; site preparation and restoration of drilling entry and exit points; removal of excavated material and drilling spoils; removal and disposal of drilling fluids and excess slurry; pull wire, fittings, grounding and bonding; test cleaning of conduit interior; and all other materials, labor, equipment, and incidentals necessary to complete the work.

Payment will be made for the total number of linear feet of Horizontal Directional Drilled Conduit installed and accepted at the contract price per linear foot. Payment shall include the cost of furnishing and installing the conduit; site preparation and restoration of drilling entry and exit points; removal of excavated material and drilling spoils; removal and disposal of drilling fluids and excess slurry; pull wire, fittings, grounding and bonding; test cleaning of conduit interior; and all other materials, labor, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
626.221 Non-Metallic Conduit, Directional Bore	Linear Foot
626.223 Horizontal Directional Drilled Conduit	Linear Foot

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
Division of Health Engineering, 10 SHS
(207) 287-5672 Fax: (207) 287-3165

PROPERTY LOCATION

City, Town, or Plantation **Gray**

Street or Road **Route 115**

Subdivision, Lot # _____

>> CAUTION: LPI APPROVAL REQUIRED <<

Town/City _____ Permit # _____

Date Permit Issued ____/____/____ Fee: \$ _____ Double Fee Charged

Local Plumbing Inspector Signature _____ L.P.I. # _____

OWNER/APPLICANT INFORMATION

Name (last, first, MI) **Maine Turnpike Authority** Owner Applicant

Mailing Address of Owner/Applicant _____

Daytime Tel. # _____

Owner Town State

The Subsurface Wastewater Disposal System shall not be installed until a Permit is issued by the Local Plumbing Inspector. This Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.

Municipal Tax Map # _____ Lot # _____

OWNER OR APPLICANT STATEMENT
I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit.

Signature of Owner or Applicant _____ Date _____

CAUTION: INSPECTION REQUIRED
I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application.

Local Plumbing Inspector Signature _____ (1st) date approved _____

Local Plumbing Inspector Signature _____ (2nd) date approved _____

PERMIT INFORMATION

TYPE OF APPLICATION

1. First Time System

2. Replacement System
Type replaced: _____
Year installed: _____

3. Expanded System
 a. <25% Expansion
 b. >= 25% Expansion

4. Experimental System

5. Seasonal Conversion

THIS APPLICATION REQUIRES

1. No Rule Variance

2. First Time System Variance
 a. Local Plumbing Inspector Approval
 b. State & Local Plumbing Inspector

3. Replacement System Variance
 a. Local Plumbing Inspector Approval
 b. State & Local Plumbing Inspector

4. Minimum Lot Size Variance

5. Seasonal Conversion Permit

DISPOSAL SYSTEM COMPONENTS

1. Complete Non-engineered System

2. Primitive System (graywater & alt. toilet)

3. Alternative Toilet, specify: _____

4. Non-engineered Treatment Tank (only)

5. Holding Tank, _____ gallons

6. Non-engineered Disposal Field (only)

7. Separated Laundry System

8. Complete Engineered System (2000 gpd or more)

9. Engineered Treatment Tank (only)

10. Engineered Disposal Field (only)

11. Pre-treatment, specify: _____

12. Miscellaneous Components

SIZE OF PROPERTY

SQ. FT.
 ACRES

DISPOSAL SYSTEM TO SERVE

1. Single Family Dwelling Unit, No. of Bedrooms: _____

2. Multiple Family Dwelling, No. of Units: _____

3. Other: Turnpike Plaza Office
(specify)

TYPE OF WATER SUPPLY

1. Drilled Well 2. Dug Well 3. Private

4. Public 5. Other

SHORELAND ZONING

Yes No

Current Use Seasonal Year Round Undeveloped

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK

1. Concrete
 a. Regular
 b. Low Profile

2. Plastic

3. Other: _____

CAPACITY: 1,000 GAL

DISPOSAL FIELD TYPE & SIZE

1. Stone Bed 2. Stone Trench

3. Proprietary Device
 a. cluster array c. Linear
 b. regular load d. H-20 load

4. Other: _____

SIZE: 576 sq. ft. lin. ft.

GARBAGE DISPOSAL UNIT

1. No 2. Yes 3. Maybe

If Yes or Maybe, specify one below:

a. multi-compartment tank

b. _____ tanks in series

c. increase in tank capacity

d. Filter on Tank Outlet

DESIGN FLOW

115 gallons per day

BASED ON:

1. Table 4A (dwelling unit(s))

2. Table 4C (other facilities)

SHOW CALCULATIONS
— for other facilities —

SOIL DATA

PROFILE 9 CONDITION D

at Observation Hole # TP-1

Depth 11 "

of Most Limiting Soil Factor
Groundwater

DISPOSAL FIELD SIZING

1. Medium---2.6 sq. ft. / gpd

2. Medium---Large 3.3 sq. ft. / gpd

3. Large---4.1 sq. ft. / gpd

4. Extra Large---5.0 sq. ft. / gpd

EFFLUENT/EJECTOR PUMP

1. Not Required

2. May Be Required

3. Required

Specify only for engineered systems:

DOSE: _____ gallons

3. Section 4G (meter readings)

ATTACH WATER METER DATA

LATITUDE AND LONGITUDE
at center of disposal area

Lat. N43 d 52 m 55.46 s

Lon. W70 d 20 m 18.04 s

if g.p.s. state margin of error: 20'

SITE EVALUATOR STATEMENT

I certify that on 07-16-15 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).

Richard A. Sweet Site Evaluator Signature 034 SE # 01/13/16 Date

Richard A. Sweet Site Evaluator Name Printed 797-2110 Telephone Number dick@sweetassociates.com Email Address

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
 Division of Health Engineering, Station 10
 (207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation
 Gray

Street, Road, Subdivision
 Route 115

Owner or Applicant Name
 Maine Turnpike Authority

SUBSURFACE WASTEWATER DISPOSAL PLAN

Scale: 1" = 20 ft

Existing Grade Elevations	
0"	0"
0"	0"
FIELD CORNERS	

ERP: See Survey Base Station
 Ground Surface at System 250 feet

9 - 8' x 4' x 13" H-20 Concrete Chambers
 1 rows X 9 units long - [8' x 36']

Proposed Septic Tank

D-box

6.7'

15.3'

53'

Edge of Parking Lot Pavement

Proposed Propane Tanks

Proposed Admin. Bldg.

BACKFILL REQUIREMENTS

CONSTRUCTION ELEVATIONS

ELEVATION REFERENCE POINT

Depth of Backfill (upslope) 34-34"
 Depth of Backfill (downslope) 34-34"

Finished Grade Elevation (at Row 1) 50"
 Top of Proprietary Device (at Row 1) 26"
 Bottom of Disposal Field (at Row 1) 7"

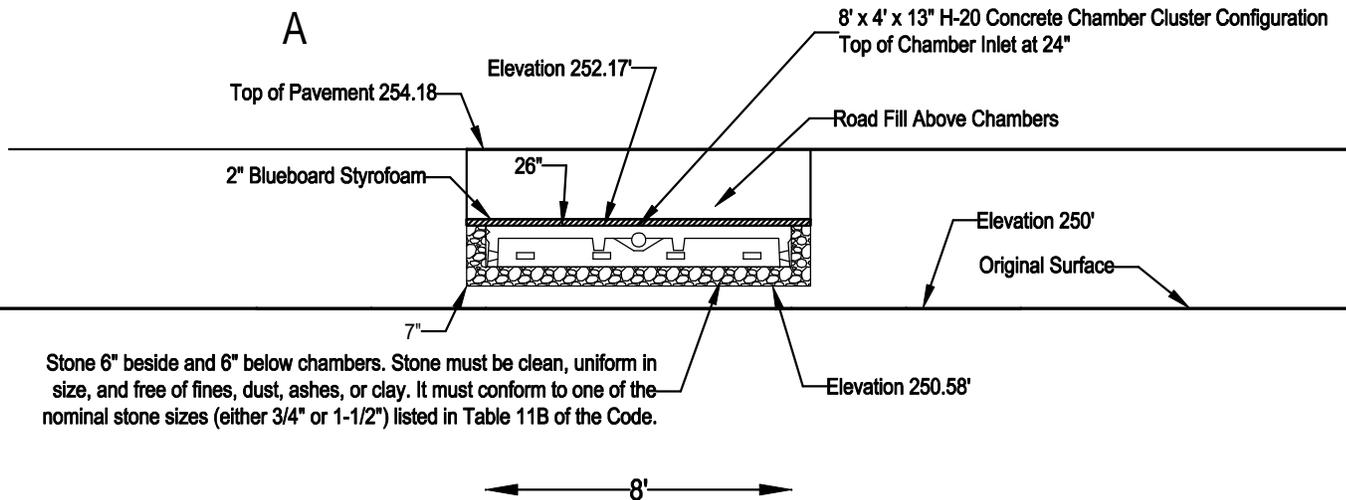
Location & Description: See Base Station
Ground Surface at System 250 feet
 Reference Elevation is 0.0" or: _____

NOTE: SCARIFY ALL GROUND SURFACE TO BE FILLED. USE GRAVELLY COARSE SAND WITHIN 3' OF CONCRETE CHAMBERS. REMAINING FILL: LOAMY SAND (no clay)

DISPOSAL FIELD CROSS SECTION

Scales:

Verticle: 1" = 5
 Horizontal: 1" = 5



Stone 6" beside and 6" below chambers. Stone must be clean, uniform in size, and free of fines, dust, ashes, or clay. It must conform to one of the nominal stone sizes (either 3/4" or 1-1/2") listed in Table 11B of the Code.

Richard Omet
 Site Evaluator Signature

034
 SE #

01/13/16
 Date

Page 3 of 3
 HHE-200 Rev. 10/02

Contract 2016.02
 Addendum No. 2
 01/19/16



R. W. Gillespie & Associates, Inc.

86 Industrial Park Road, Suite 4, Saco, ME 04072 207-286-8008
200 Int'l Drive, Suite 170, Portsmouth, NH 03801 603-427-0244

LETTER OF TRANSMITTAL

Date: JAN 04 2013	Project No.: 1370-001
Attention: Scott A. Warchol (swarchol@maineturnpike.com)	
Re: Laboratory Testing Exit 53 Bridge Rehabilitation & Interchange Improvement Project	

Maine Turnpike Authority

2360 Congress Street

Portland, ME 04102

We are sending you attached Laboratory Test Results.

Laboratory No. (s)	Test (s) Performed
12662	Washed Gradation
12663	Washed Gradation
12664	Washed Gradation

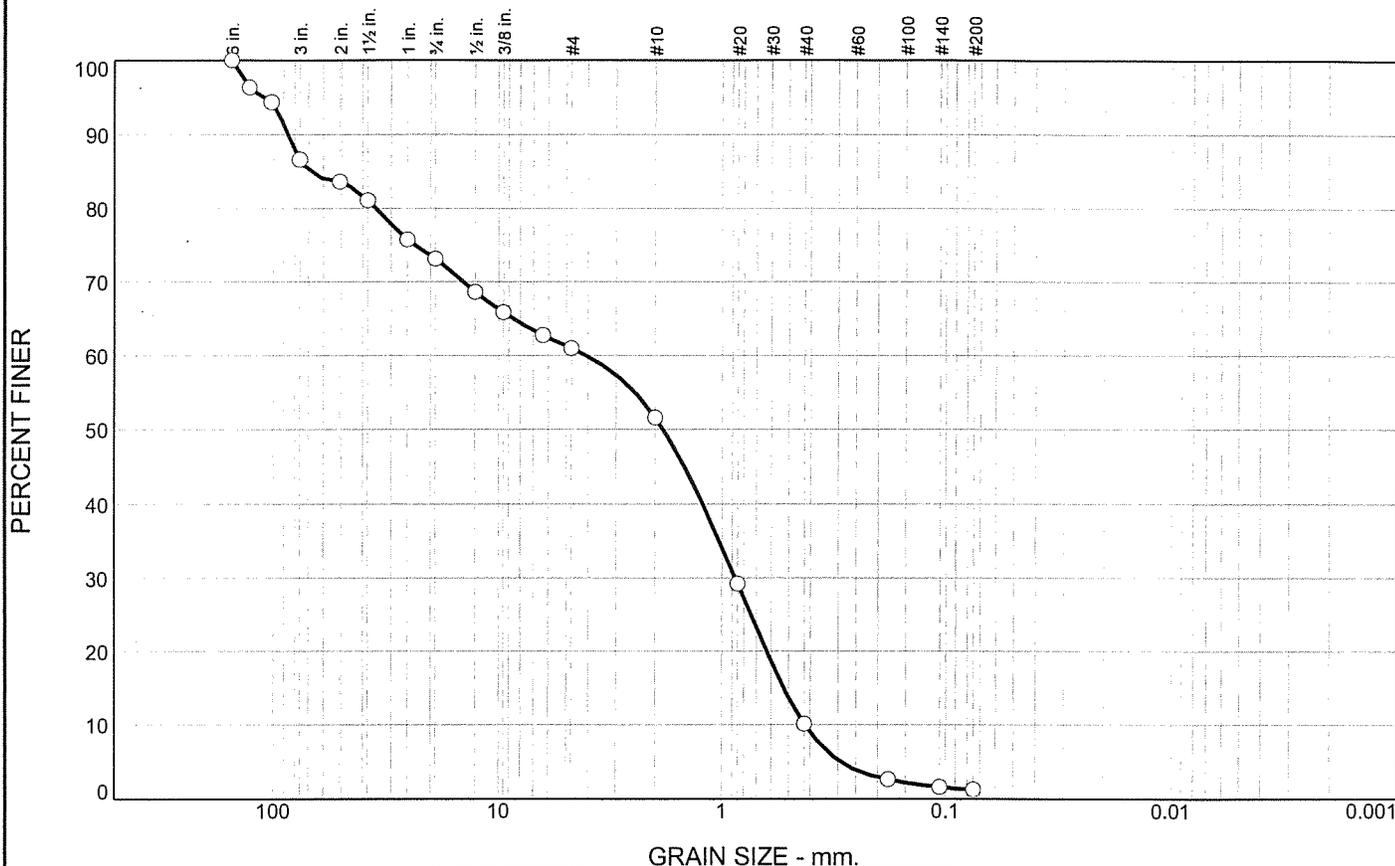
Remarks:

Copy to: J. Ryan Leavitt, P.E., (jleavitt@maineturnpike.com)

Signed: Katrina B. Newton

If enclosures are not noted, kindly notify us as once.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
13.3	13.6	12.1	9.4	41.5	8.9	1.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
6"	100.0		
5"	96.3		
4"	94.3		
3"	86.7		
2"	83.7		
1 1/2"	81.1		
1"	75.7		
3/4"	73.1		
1/2"	68.6		
3/8"	65.9		
1/4"	62.7		
#4	61.0		
#10	51.6		
#20	29.2		
#40	10.1		
#80	2.6		
#140	1.6		
#200	1.2		

Soil Description

East - poorly graded sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 68.8187 D₆₀= 4.0698 D₅₀= 1.8428
D₃₀= 0.8715 D₁₅= 0.5251 D₁₀= 0.4222
C_u= 9.64 C_c= 0.44

Classification

USCS= SP AASHTO=

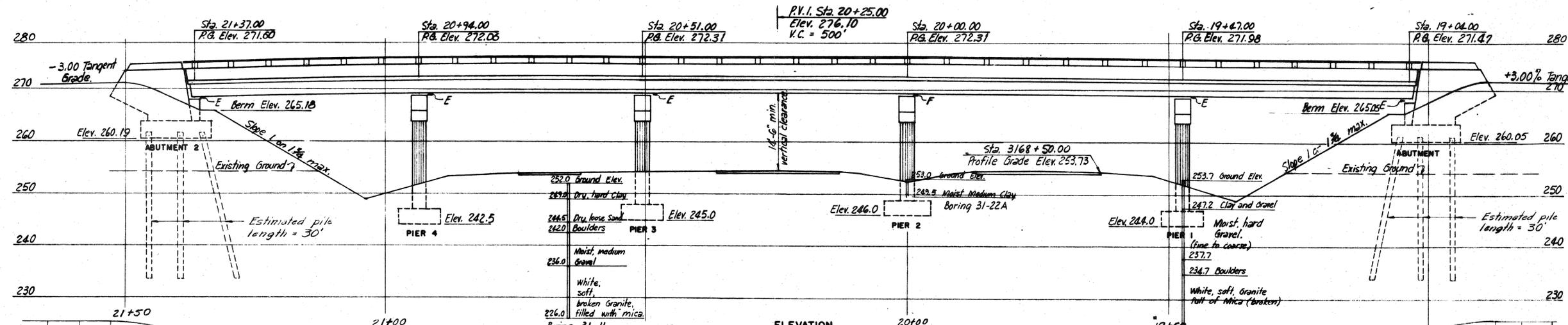
Remarks

Moisture Content: 4.9%

* (no specification provided)

Sample No.: TP-C Source of Sample: Bennett Road Pit Date: 1/4/2013
Location: New Gloucester, ME Elev./Depth:

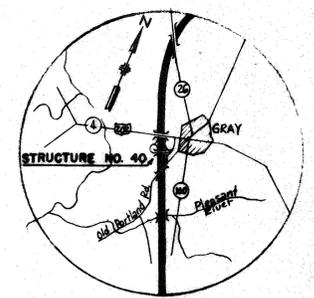
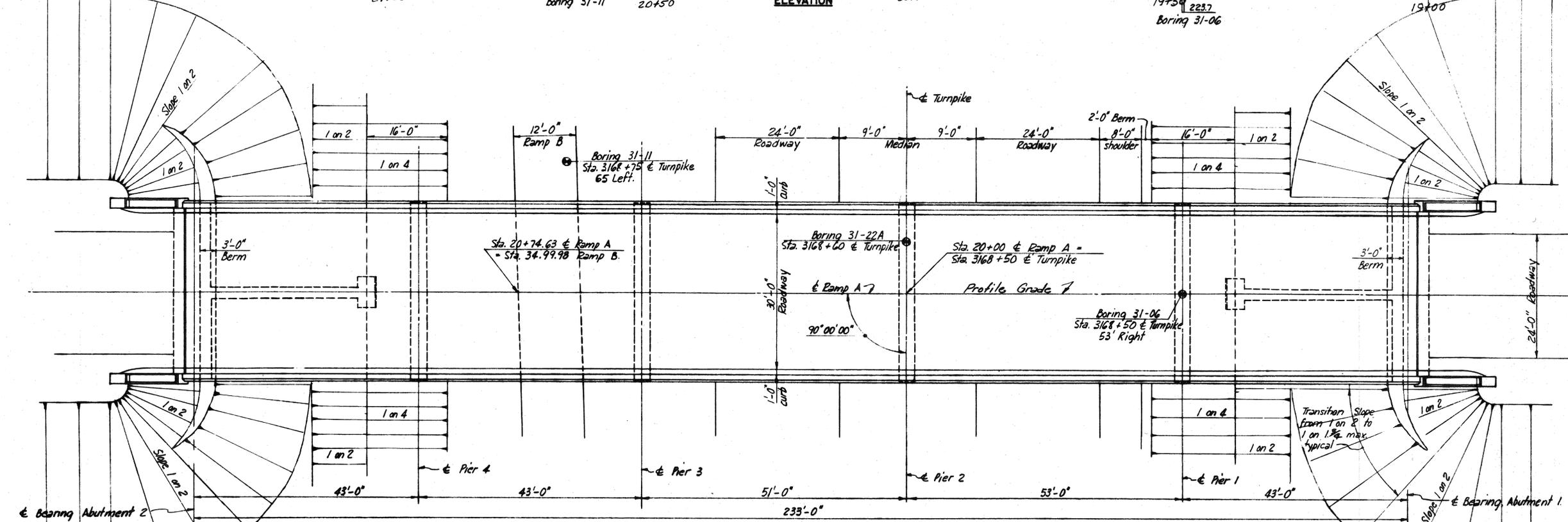
R.W. Gillespie & Associates, Inc. Saco, Maine	Client: Maine Turnpike Authority Project: Exit 53 Bridge Rehab & Interchange Improvements Project No.: 1370-001 Lab No.: 12664
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GENERAL NOTES
 Design Specifications: AASHTO 1953 with minor modifications
 Design Live-Load: H 20-S16
 Maximum Pile Load
 Abutments: 29 Tons/pile
 Maximum Soil Pressure:
 Piers 1, 3 and 4: 3.7 Tons/sq. ft.
 Pier 2: 3.3 Tons/sq. ft.

REFERENCES

Drawing No.	Title	Superstructure				
		Substructure	Steel	Steel	Slab	Concrete
SD1A	Standard Abutment Details	✓	✓	✓	✓	✓
SD2	Standard Pier Details	✓	✓	✓	✓	✓
SD3	Abutment Drainage Details	✓	✓	✓	✓	✓
SD5	Standard Handrail, Shoes and Miscellaneous Details	✓	✓	✓	✓	✓
SD6	Standard Diaphragm Details	✓	✓	✓	✓	✓
SD8	Standard Type A Splices for 30M Beams	✓	✓	✓	✓	✓
SD11A	Type 'Y' Expansion Joint	✓	✓	✓	✓	✓
SD13A	Type 'E' Expansion Joint	✓	✓	✓	✓	✓
SD22	Standard Bridge Floor Cross-section for 26 and 30" Roadway	✓	✓	✓	✓	✓
SD4	Standard Pile Details	✓				

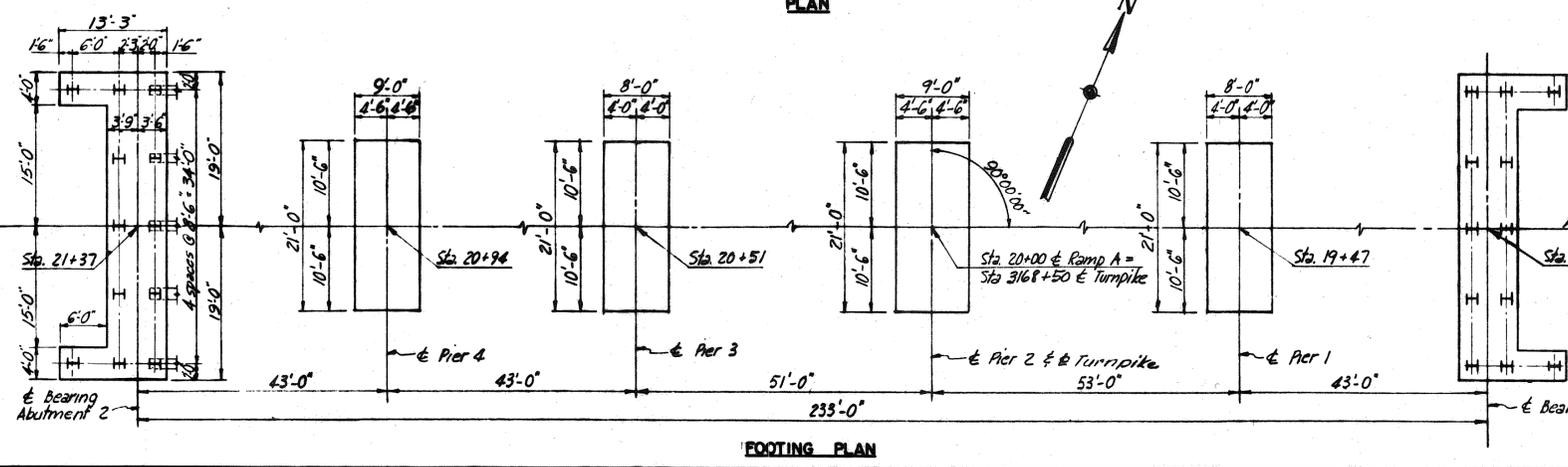


VICINITY MAP
 Scale: 1" = 1 mi.

Note: All piles to be 10 BP42. Piles shown battered to be battered 3" per foot.

Note: Abutment 1 same as Abutment 2 by rotation.

DRAWING NO. 40.01.03				REVISION	
BY	DATE	NO.	REVISION	BY	DATE
TKC	1-21-54	1	As-Built	HBH	12056
		2	Removed note on profile grade	NCM	3-24-54
		3	Revised Abutment 1 Piers 1, 3, 4 on Elev. View	AEK	3-11-54
		4	Revised Pier 4 Footing	AEK	3-5-54
		5	Abut. Piles added	RFS	2-23-54



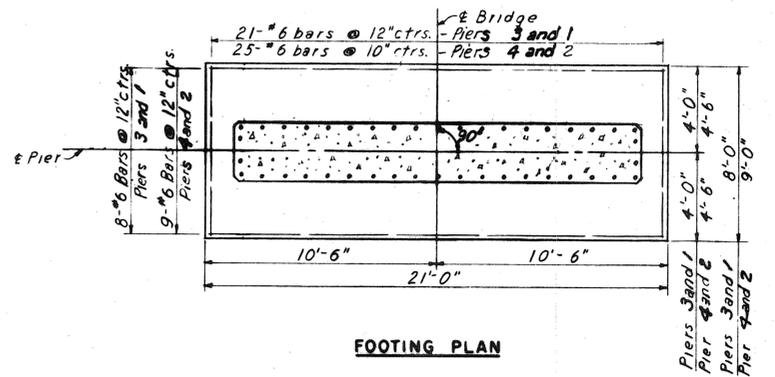
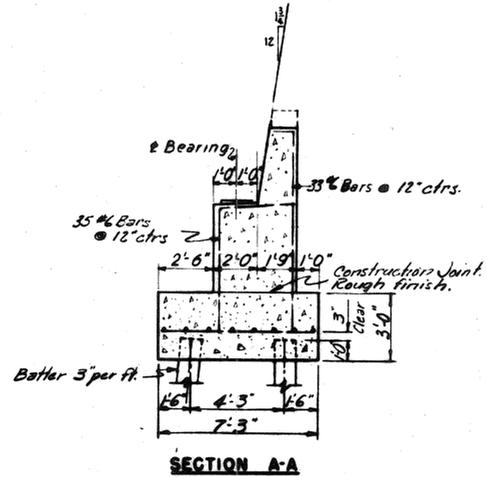
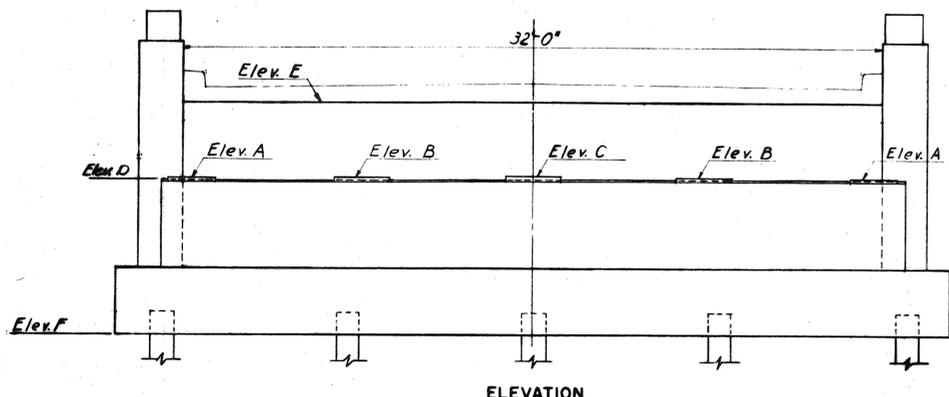
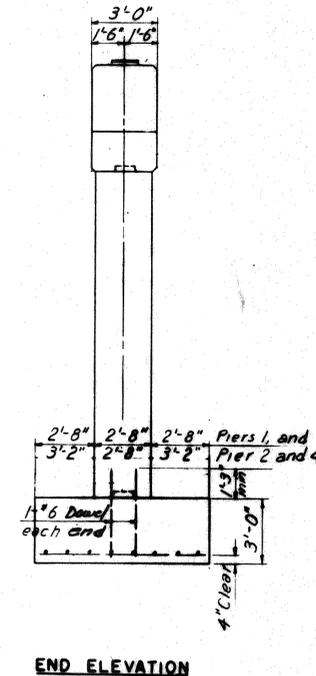
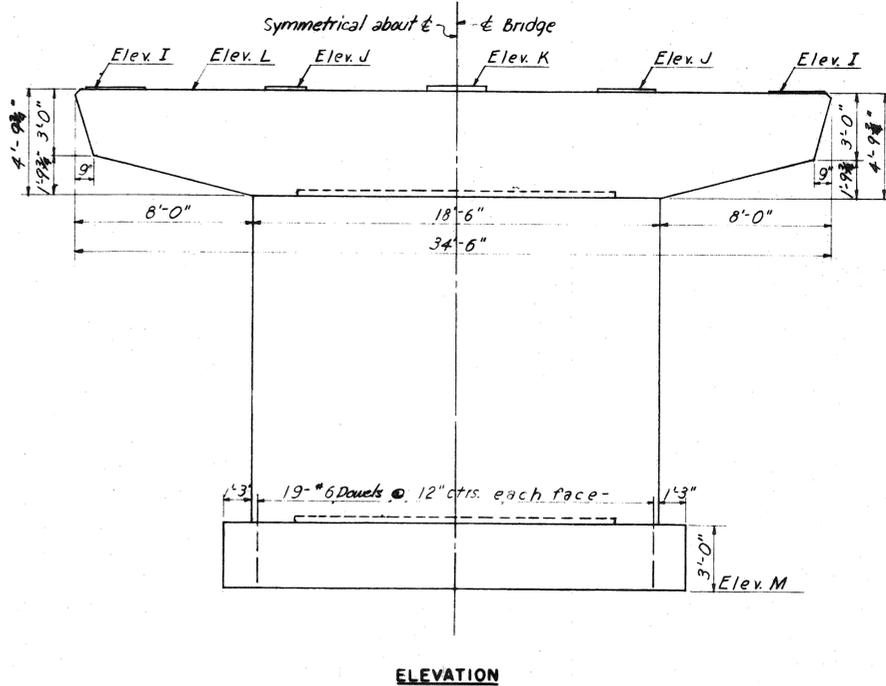
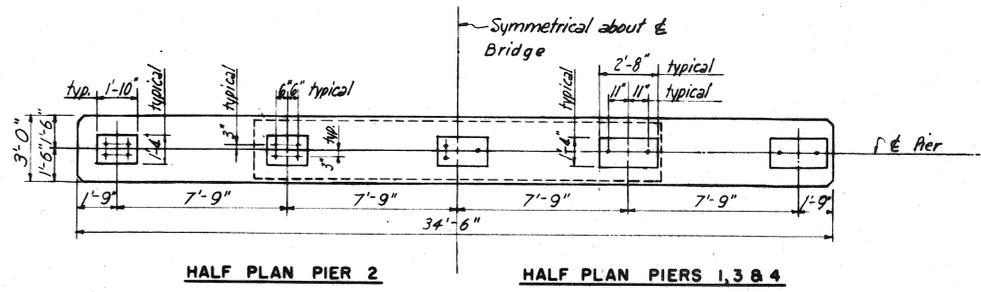
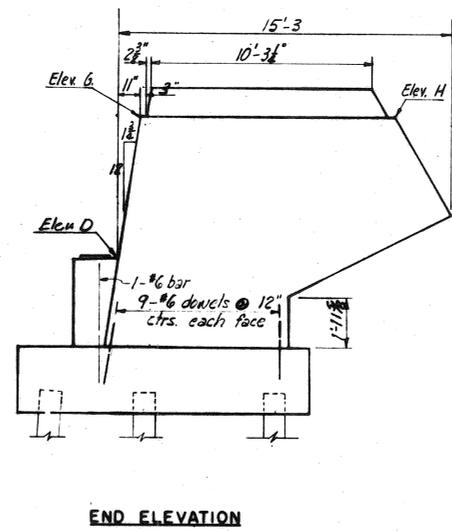
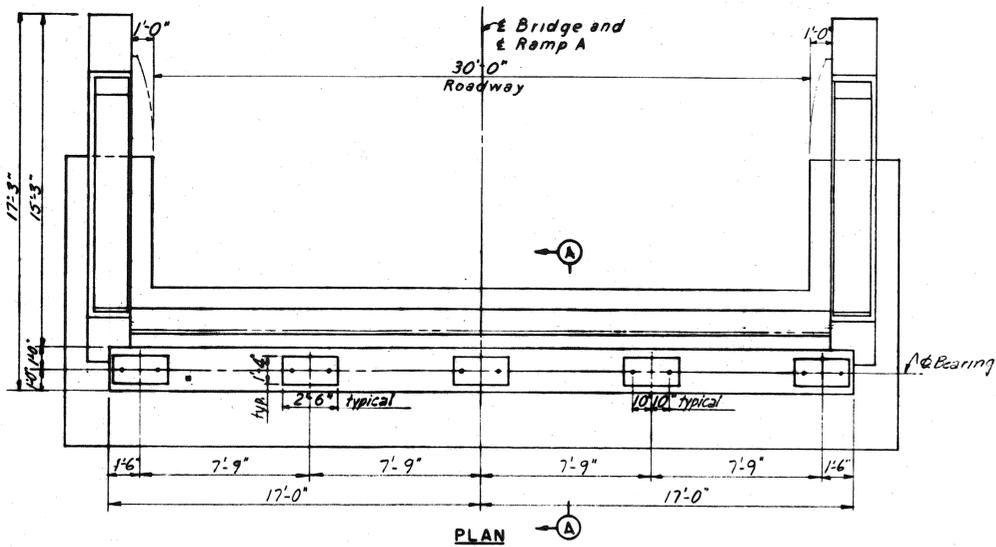
MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
SECTION 2— PORTLAND TO AUGUSTA

STRUCTURE NO. 40 TURNPIKE UNDER
 GRAY INTERCHANGE - RAMP A
 STA. 3168 + 50.00
 GENERAL PLAN AND ELEVATION

HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS
 NEW YORK KANSAS CITY

Contract 2016.02
 Addendum No. 2
 01/19/16

SCALE: 3/32" = 1'-0"
 CONTRACT NO. _____
 SHEET NO. 177 of 302



PIER ELEVATIONS				
Elev. Pier 1	Pier 2	Pier 3	Pier 4	
I	267.50	268.04	267.90	267.65
J	267.60	268.10	267.95	267.70
K	267.68	268.18	268.03	267.78
L	267.52	268.02	267.88	267.63
M	244.0	246.0	245.0	242.5

ABUT. ELEVATIONS	
Elev. Abut. 1	Abut. 2
A	267.23 267.36
B	267.29 267.41
C	267.37 267.49
D	267.13 267.26
E	270.53 270.66
F	260.05 260.19
G	273.45 273.58
H	273.27 273.41

Note All piles to be 10 BP42
Piles shown battered to be battered 3" per ft.

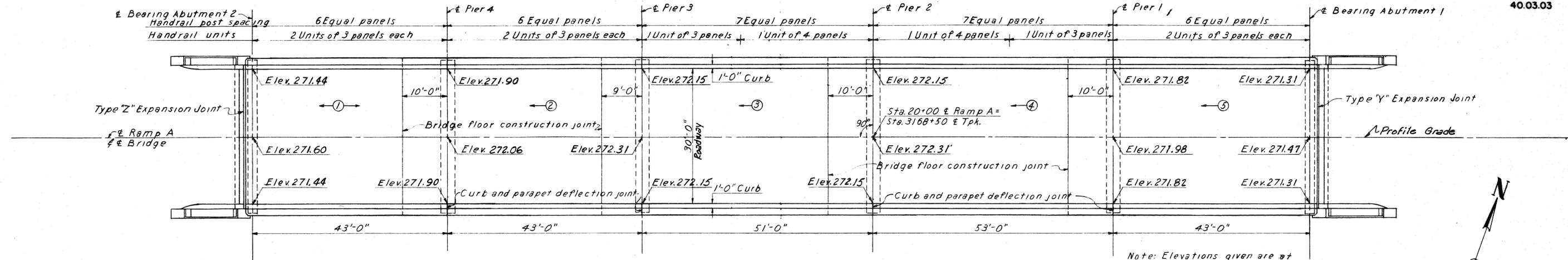
DRAWING 40.02.03

NO.	REVISION	BY	DATE
1	Revised elevations	QER	5-20-54
2	Revised Pier Footings & Elevations	QER	8-1-54
3	Abut. Piles added	RFS	2-23-54
4	Pier 1 Footing	WCM	4-6-54
5	As-Built	HBH	12-20-54

ABUTMENTS NO. 1 AND 2

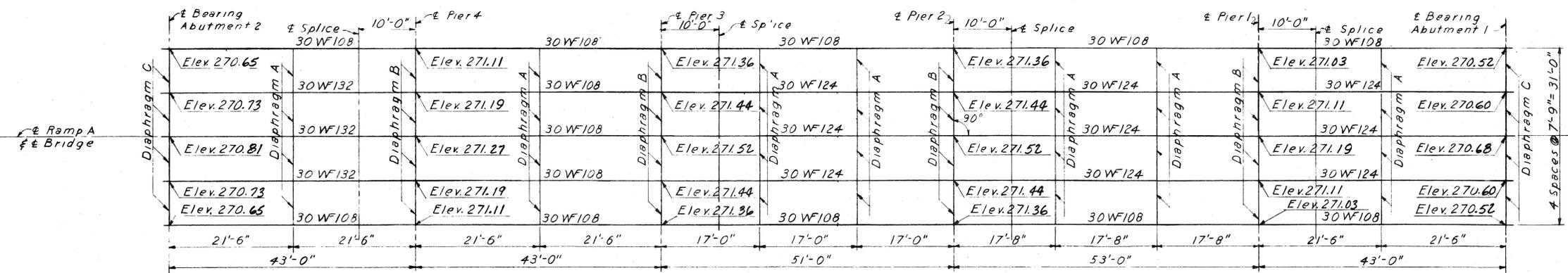
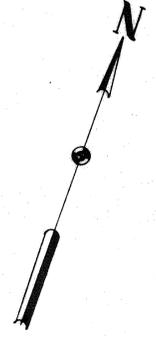
PIERS NO. 1, 2, 3 AND 4

MAINE TURNPIKE AUTHORITY
SECTION 2— PORTLAND TO AUGUSTA
STRUCTURE NO. 40 TURNPIKE UNDER
GRAY INTERCHANGE-RAMP A
STA. 3168+80
ABUTMENTS AND PIERS
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK KANSAS CITY
Contract 2016.02
Addendum No. 2
01/19/16
SCALE: 1/4" = 1'-0"
CONTRACT NO. _____
SHEET NO. 129 OF 332



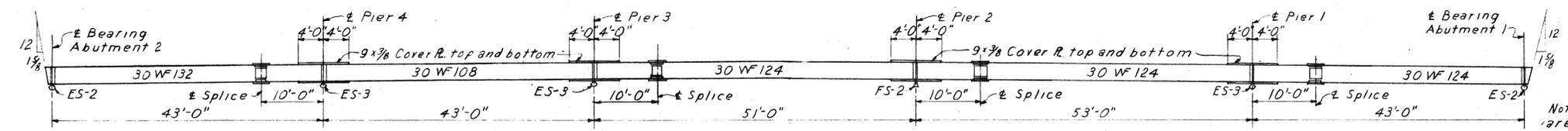
FLOOR PLAN
Scale: 3/32" = 1'-0"

Note: Elevations given are at top of finished Roadway
Sequence and direction of pouring noted thus →
Use a 6 1/2" slab (non-compstite) with a 2" Bituminous Wearing Surface as shown on Standard Drawing No. 22.



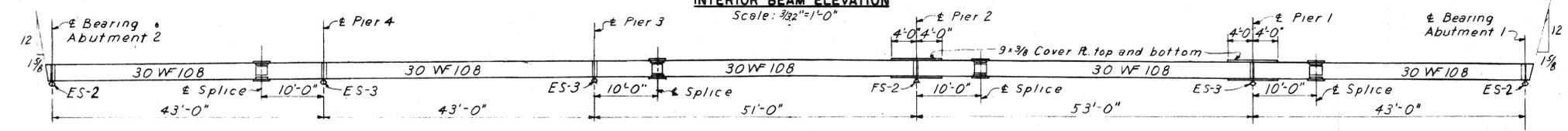
FRAMING PLAN
Scale: 3/32" = 1'-0"

Note: All stiffeners to be L 7 x 4 x 3/8
Elevations given on Framing Plan are to top of beam flanges.



INTERIOR BEAM ELEVATION
Scale: 3/32" = 1'-0"

Note: Bevels at ends of beams are with respect to beam axis.



EXTERIOR BEAM ELEVATION
Scale: 3/32" = 1'-0"

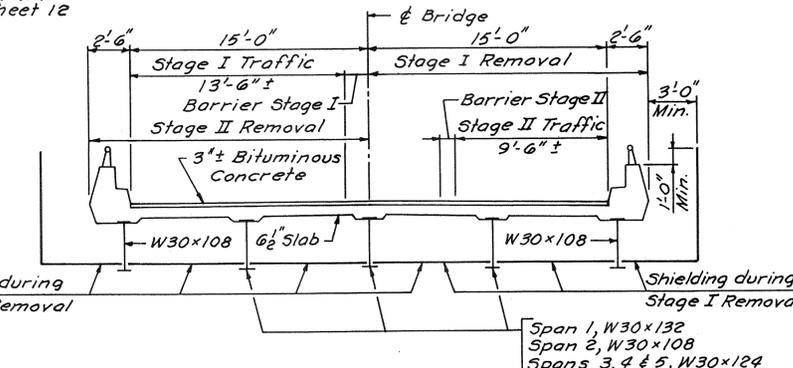
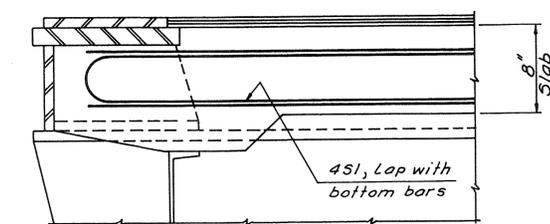
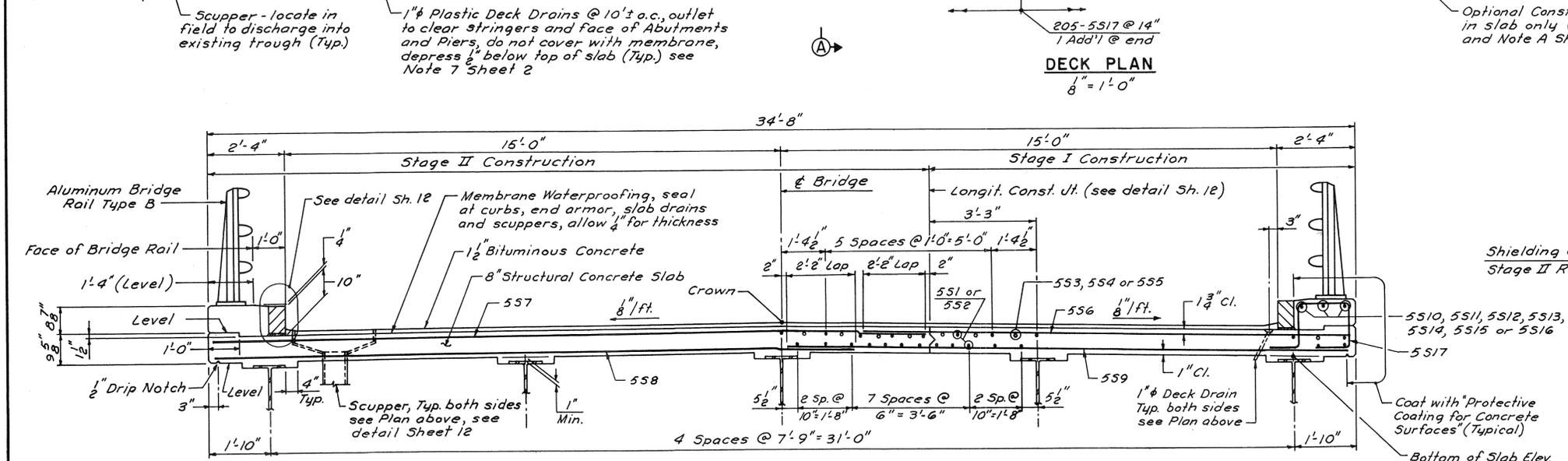
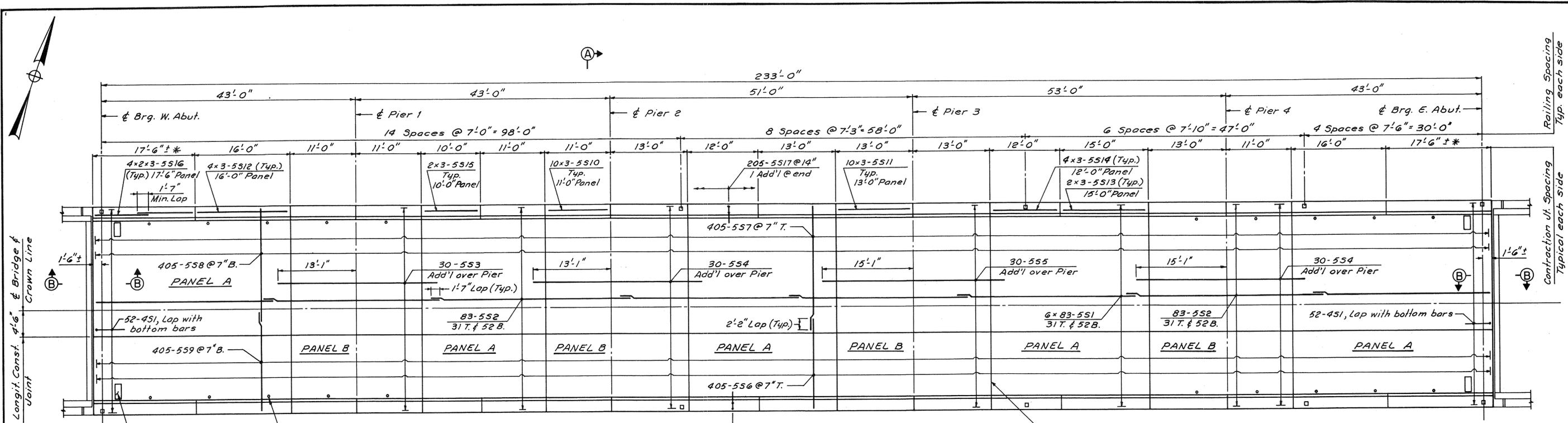


DEAD LOAD DEFLECTION DIAGRAMS
Scale: Horz. 1" = 30'
Vert. 1" = 1"

DRAWING 40.03.03

BY	DATE	REVISION	BY	DATE
MADE	V.D.G. 1-13-54			
TRACED		2	As-Built	HBN/20/52
CHECKED	A.E.R. 1-23-54	1	Revised elevations	A.E.R. 3/12/54
IN CHARGE OF	I. D. S. K.	No.		

MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
SECTION 2— PORTLAND TO AUGUSTA
 STRUCTURE NO. 60 TURNPIKE UNDER
GRAY INTERCHANGE - RAMP A
 STA. 3168+80
SUPERSTRUCTURE
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 NEW YORK KANSAS CITY
 Contract 2016.02
 Addendum No. 2
 01/19/16
 SCALE: As shown
 CONTRACT NO. _____
 SHEET NO. 122 OF 322



- NOTES:**
1. For General Notes and Quantities, see Sheet 2.
 2. For Barrier Details, see Sheet 12.
 3. For Railing Details, see Sheet 14.
 4. For 1" V-Groove Detail, see Sheet 12.
 5. * Length of last section of curbing to be field checked.

NO.	REVISION	BY	DATE
		BY	DATE
		MADE	U.M.M. 12-79
		TRACED	
		CHECKED	I.S. 12-79
		IN CHARGE OF	U.P.W.

MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE

GRAY INTERCHANGE
 RAMP "A"
 DECK REPLACEMENT

Contract 2016.02
 Addendum No. 2
 01/19/16

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 BOSTON

SCALE: AS NOTED
 SHEET NO. 7 of 20

Date: 1/18/2016

Filename: ... \MSTA.015_Estimated_atv.dgn

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.12	REMOVING EXISTING STRUCTURAL CONCRETE	160	CY
202.15	REMOVE MANHOLE OR CATCH BASIN	9	EA
202.193	REMOVING EXISTING BRIDGE	1	LS
202.202	REMOVING PAVEMENT SURFACE	6700	SY
202.2021	REMOVING PAVEMENT SURFACE - BRIDGE DECK	1230	SY
202.203	PAVEMENT BUTT JOINTS	890	SY
202.206	REMOVING RUMBLE STRIPS	2150	LF
203.20	COMMON EXCAVATION	52670	CY
203.25	GRANULAR BORROW	25	CY
203.26	GRAVEL BORROW	75	CY
206.061	STRUCTURAL EARTH BELOW GRADE STRUCTURE	100	CY
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES, PLAN QUANTITY	320	CY
304.09	AGGREGATE BASE COURSE - CRUSHED	5120	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	12140	CY
403.207	HOT MIX ASPHALT, 19.0 MM HMA	2550	T
403.2083	HOT MIX ASPHALT, 12.5 MM (POLYMER MODIFIED) - RAP	2250	T
403.209	HOT MIX ASPHALT 9.5 MM (INCIDENTALS)	170	T
403.210	HOT MIX ASPHALT 9.5 MM	1805	T
403.211	HOT MIX ASPHALT (SHIM)	1400	T
403.213	HOT MIX ASPHALT, 12.5 MM BASE	3000	T
409.15	BITUMINOUS TACK COAT, APPLIED	2310	G
419.30	SAWING BITUMINOUS PAVEMENT	5850	LF
501.54	STEEL H-BEAM PILES 117 LB/FT, DELIVERED	1326	LF
501.541	STEEL H BEAM PILES 117 LB/FT, IN PLACE	1156	LF
501.90	PILE TIPS	34	EA
501.91	PILE SPLICES	10	EA
501.92	PILE DRIVING EQUIPMENT MOBILIZATION	1	LS
502.261	STRUCTURAL CONCRETE, GRADE BEAMS	183	CY
502.262	STRUCTURAL CONCRETE, PAVEMENT SLABS	612	CY
502.263	STRUCTURAL CONCRETE - PLAZA ISLANDS, BUMPERS AND CURTAIN WALLS	79	CY
502.266	STRUCTURAL CONCRETE - PEDESTALS & FOOTINGS	3	CY
502.701	BRIDGE DRAIN GRATE MODIFICATION	2	EA
503.14	EPOXY-COATED REINFORCING STEEL, FABRICATED AND DELIVERED	129500	LB
503.15	EPOXY-COATED REINFORCING STEEL, PLACING	129500	LB
503.18	GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCING BARS, FABRICATED AND DELIVERED	33400	LB
503.19	GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCING BARS, PLACING	33400	LB
503.90	SYNTHETIC FIBER REINFORCEMENT	3060	LB
504.50	TOLL PLAZA CANOPY	1	LS
504.61	TOLL GANTRY - SOUTHBOUND	1	LS
504.62	TOLL GANTRY - NORTHBOUND	1	LS
507.0928	ALUMINUM BRIDGE RAILING - RAIL SECTION REPLACE	21	LF
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE	1	LS
515.201	PIGMENTED PROTECTIVE COATING FOR CONCRETE SURFACES	360	SY
515.202	CLEAR PROTECTIVE COATING FOR CONCRETE SURFACES	1870	SY
515.23	EPOXY OVERLAY	72	SY
518.1	ABUTMENT REPAIRS	60	SF
518.2	PIER REPAIRS	65	SF
518.391	REPAIRING GRANITE CURB JOINT AND BEDDING MORTAR	185	LF
518.392	REPAIRING CONCRETE PARAPET ELASTOMERIC JOINT SEALER	340	LF
518.8	PARTIAL DEPTH CONCRETE DECK REPAIRS	550	SF
518.81	FULL DEPTH CONCRETE DECK REPAIRS	220	SF
520.2211	EXPANSION JOINT MODIFICATION	2	EA
524.4	PROTECTIVE SHIELDING - STEEL GIRDERS	1060	SY
526.306	TEMPORARY CONCRETE BARRIER - MTA	1	LS
526.35	PIER PROTECTION CONCRETE BARRIER	1	LS
526.351	MEDIAN BARRIER TYPE 1 - PRECAST	149	LF
526.361	MEDIAN BARRIER TRANSITION TYPE 1 - PRECAST	2	EA
527.301	ENERGY ABSORBING SYSTEM (C-A-T)	2	EA
527.342	WORK ZONE CRASH CUSHIONS - TL-2	1	UN
527.343	WORK ZONE CRASH CUSHIONS - TL-3	3	UN
602.3	FLOWABLE CONCRETE FILL	9	CY
603.15	12" CULV PIPE OPTION I	15	LF

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
603.155	12 INCH REINFORCED CONCRETE PIPE - CLASS III	173	LF
603.169	15" CULV PIPE OPTION III	50	LF
603.17	18" CULVERT PIPE OPT I	30	LF
603.175	18 INCH REINFORCED CONCRETE PIPE - CLASS III	290	LF
603.19	24" CULVERT PIPE OPT I	35	LF
603.195	24 INCH REINFORCED CONCRETE PIPE - CLASS III	110	LF
603.2551	60" RCP CLASS IV	170	LF
603.28	CONCRETE COLLAR FOR REINFORCED CONCRETE PIPE	20	EA
604.072	CATCH BASIN TYPE A1-C	23	EA
604.092	CATCH BASIN TYPE B1-C	3	EA
604.164	REBUILDING CATCH BASIN	1	EA
604.166	REBUILDING MANHOLE	1	EA
604.18	ADJUST MANHOLE OR CB TO GRADE	11	EA
604.262	CATCH BASIN TYPE B5-C	6	EA
605.09	6" UNDERDRAIN TYPE B	200	LF
605.11	12" UNDERDRAIN TYPE C	950	LF
605.12	15" UNDERDRAIN TYPE C	110	LF
605.13	18" UNDERDRAIN TYPE C	200	LF
605.15	24" UNDERDRAIN TYPE C	160	LF
606.1723	BRIDGE TRANSITION - TYPE 3	4	EA
606.24	GUARDRAIL TYPE 3D - SINGLE RAIL	5400	LF
606.2401	GUARDRAIL TYPE 3D - DOUBLE RAIL	205	LF
606.242	GUARDRAIL TYPE 3D - OVER 15' RADIUS	165	LF
606.265	TERMINAL END - SINGLE RAIL	1	EA
606.277	TERMINAL END - TRAILING END	14	EA
606.352	REFLECTORIZED BEAM GUARDRAIL DELINEATORS	405	EA
606.353	DELINEATOR POST	70	EA
606.354	DELINEATOR POST - REMOVE AND RESET	40	EA
606.3621	GUARDRAIL ADJUST - SINGLE RAIL	2500	LF
606.3631	GUARDRAIL - REMOVE AND DISPOSE	6150	LF
606.64	GR - THRIE BEAM - DBL RAIL	850	LF
606.65	GR - THRIE BEAM - SGL RAIL	150	LF
606.701	ASYMMETRICAL THRIE BEAM TRANSITION	4	EA
606.754	WIDEN SHOULDER FOR GUARDRAIL 350 FLARED	4	EA
606.80	GUARDRAIL FLEAT 350 TERMINAL	10	EA
607.09	WOVEN WIRE FENCE - METAL POSTS	1500	LF
607.154	DRIVEWAY GATE 21 FOOT - METAL	1	EA
607.17	CHAIN LINK FENCE - 6'	490	LF
607.173	CHAIN LINK FENCE 6' PVC CTD	320	LF
607.2325	CHAIN FENCE GATE 6X12' OPENING	1	EA
607.26	REMOVE & STACK FENCE	430	LF
607.32	BRACING ASSEMBLY TYPE I - METAL POSTS	7	EA
607.34	BRACING ASSEMBLY CHAIN LINK FENCE	13	EA
608.08	REINFORCED CONCRETE SIDEWALK	217	SY
609.11	VERTICAL CURB TYPE 1	547	LF
609.12	VERT CURB TYPE 1- CIRCULAR	137	LF
609.13	VERTICAL BRIDGE CURB TYPE 1	300	LF
609.14	VERTICAL BRIDGE CURB TYPE 1 - CIRCULAR	80	LF
609.191	CONCRETE CURB TYPE 2	12	LF
609.234	TERMINAL CURB TYPE 1 - 4 FOOT	5	EA
609.237	TERMINAL CURB TYPE 1 - 7 FT	2	EA
609.2371	VERTICAL CURB TYPE 1 - 7 FT - CIRCULAR	1	EA
609.26	CURB TRANSITION SECT B-TYPE 1	6	EA
609.34	CURB TYPE 5	2600	LF
609.35	CURB TYPE 5 - CIRCULAR	120	LF
610.08	PLAIN RIPRAP	340	CY
610.18	STONE DITCH PROTECTION	15	CY
610.181	TEMPORARY STONE CHECK DAMS	35	CY
610.19	COBBLE GRAVEL SAND MIX	47	CY
613.319	EROSION CONTROL BLANKET	3100	SY
615.07	LOAM	3851	CY
618.1301	SEEDING METHOD NUMBER 1, PLAN QUANTITY	5	UNIT

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
618.1401	SEEDING METHOD NUMBER 2 - PLAN QUANTITY	230	UN
618.1411	SEEDING METHOD NUMBER 3 - PLAN QUANTITY	90	UN
619.1201	MULCH - PLAN QUANTITY	315	UN
619.1202	TEMPORARY MULCH	1	LS
619.1401	EROSION CONTROL MIX	30	CY
620.58	EROSION CONTROL GEOTEXTILE	638	SY
621.043	EVERGREEN TR (6'-8") GP A	5	EA
621.044	EVERGREEN TR (6'-8") GP B	8	EA
621.248	LG DECID TR (5'-6") GP A	20	EA
621.279	LG DECID TR (2.50"-3" CAL) GP A	4	EA
621.408	DWF EVERGREENS (2.50'-3") GP B	19	EA
621.536	DECID SHRUBS (12"-18") GP B	4	EA
621.541	DECID SHRUBS (18"-24") GP B	2	EA
621.542	DECID SHRUBS (18"-24") GP C	5	EA
621.543	DECID SHRUBS (2'-3") GP C	2	EA
621.552	DECID SHRUBS (3'-4") GP A	7	EA
621.553	DECID SHRUBS (3'-4") GP B	15	EA
621.554	DECID SHRUBS (3'-4") GP C	6	EA
621.8	ESTABLISHMENT PERIOD	1	LS
622.11	TRANSPLANTING TREE	1	EA
625.106	WATER SERVICE SUPPLY LINE (<3 IN)	850	LF
625.107	WATER METER PIT	1	EA
626.11	PRECAST CONCRETE JUNCTION BOX	13	EA
626.12	36" X 24" X 36" QUAZITE JUNCTION BOX	80	EA
626.13	48" X 36" X 48" QUAZITE JUNCTION BOX	2	EA
626.21	METALLIC CONDUIT	160	LF
626.22	NON-METALLIC CONDUIT	5925	LF
626.221	NON-METALLIC CONDUIT, DIRECTIONAL BORE	600	LF
626.222	2 INCH NON-METALLIC CONDUIT	11740	LF
626.223	HORIZONTAL DIRECTIONAL DRILLED CONDUIT	320	LF
626.32	30" FOUNDATION	48	EA
626.33	30 INCH FOUNDATION	6	EA
626.333	48 INCH FOUNDATION	15	CY
626.335	60 INCH FOUNDATION	29	CY
626.35	CONTROLLER CABINET FOUNDATION	6	EA
626.36	REMOVE OR MODIFY CONCRETE FOUNDATION	18	EA
626.37	SPECIAL FOUNDATION	1	EA
627.18	12" SOLID WHITE PAVEMENT MARKING	3100	LF
627.407	REF PL WH OR YEL PAVE MARKING	300	SF
627.68	TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, YELLOW OR WHITE	6450	LF
627.681	TEMPORARY 6 INCH PAINTED PAVEMENT MARKING LINE, YELLOW OR WHITE	24100	LF
627.730	TEMPORARY 6 INCH PAVEMENT MARKING TAPE	4000	LF
627.731	TEMPORARY 6 INCH BLACK PAVEMENT MARKING TAPE	2800	LF
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	21700	LF
627.744	6" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	16800	LF
627.75	WHITE OR YELLOW PAVEMENT AND CURB MARKING	1470	SF
627.77	REMOVING EXISTING PAVEMENT MARKINGS	4100	SF
627.812	TEMPORARY RAISED PAVEMENT MARKINGS	590	EA
627.94	PAVEMENT MARKING TAPE	150	LF
629.05	HAND LABOR, STRAIGHT TIME	160	HR
631.10	AIR COMPRESSOR (INCLUDING OPERATOR)	15	HR
631.11	AIR TOOL (INCLUDING OPERATOR)	75	HR
631.12	ALL PURPOSE EXCAVATOR (INC OPERATOR)	75	HR
631.14	GRADER (INCLUDING OPERATOR)	75	HR
631.171	TRUCK - SMALL (INCLUDING OPERATOR)	75	HR
631.22	FRONT END LOADER (INCLUDING OPERATOR)	75	HR
631.32	CULVERT CLEANER (INC OPERATOR)	75	HR
631.36	FOREMAN	60	HR
631.50	JACKHAMMER (AIR TOOL INCLUDING OPERATOR)	20	HR
631.51	BUCKET TRUCK	20	HR
631.52	SCISSOR LIFT	20	HR
631.53	ELECTRICIAN	20	HR

Contract 2016.02
Addendum No. 2
01/19/16

Scale:

No.	Revision	By	Date
2	ADDENDUM #2	FMK	01/16

Designed by:



vhb Engineers
Scientists
Planners
Designers

CONSULTANT PROJECT MANAGER: P. CLARY

By	Date	By	Date
Designed M.B.	10\8\15	Checked F.K.	10\8\15
Drawn B.R.	10\8\15	In Charge of P.C.	10\8\15

Vanasse Hangen Brustlin, Inc.
500 Southborough Dr.
Suite 105B
South Portland, ME 04106
TEL (207) 889-3150
FAX (207) 253-5596



**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: R. NORWOOD

**EXIT 63
GRAY, ME**

ESTIMATED QUANTITIES (1 OF 2)

SHEET NUMBER: 15
15 OF 412

CONTRACT: 2016.02

Date: 1/18/2016

Filename: ... \MSTA\015_Estimated_qty.dgn

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.12	REMOVING EXISTING STRUCTURAL CONCRETE	160	CY
202.15	REMOVE MANHOLE OR CATCH BASIN	9	EA
202.193	REMOVING EXISTING BRIDGE	1	LS
202.202	REMOVING PAVEMENT SURFACE	6700	SY
202.2021	REMOVING PAVEMENT SURFACE - BRIDGE DECK	1230	SY
202.203	PAVEMENT BUTT JOINTS	890	SY
202.206	REMOVING RUMBLE STRIPS	2150	LF
203.20	COMMON EXCAVATION	52670	CY
203.25	GRANULAR BORROW	25	CY
203.26	GRAVEL BORROW	75	CY
206.061	STRUCTURAL EARTH BELOW GRADE STRUCTURE	100	CY
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES, PLAN QUANTITY	320	CY
304.09	AGGREGATE BASE COURSE - CRUSHED	5120	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	12140	CY
403.207	HOT MIX ASPHALT, 19.0 MM HMA	2550	T
403.2083	HOT MIX ASPHALT, 12.5 MM (POLYMER MODIFIED) - RAP	2250	T
403.209	HOT MIX ASPHALT 9.5 MM (INCIDENTALS)	170	T
403.210	HOT MIX ASPHALT 9.5 MM	1805	T
403.211	HOT MIX ASPHALT (SHIM)	1400	T
403.213	HOT MIX ASPHALT, 12.5 MM BASE	3000	T
409.15	BITUMINOUS TACK COAT, APPLIED	2310	G
419.30	SAWING BITUMINOUS PAVEMENT	5850	LF
501.54	STEEL H-BEAM PILES 117 LB/FT, DELIVERED	1326	LF
501.541	STEEL H-BEAM PILES 117 LB/FT, IN PLACE	1156	LF
501.90	PILE TIPS	34	EA
501.91	PILE SPLICES	10	EA
501.92	PILE DRIVING EQUIPMENT MOBILIZATION	1	LS
502.261	STRUCTURAL CONCRETE, GRADE BEAMS	183	CY
502.262	STRUCTURAL CONCRETE, PAVEMENT SLABS	612	CY
502.263	STRUCTURAL CONCRETE - PLAZA ISLANDS, BUMPERS AND CURTAIN WALLS	79	CY
502.266	STRUCTURAL CONCRETE - PEDESTALS & FOOTINGS	3	CY
502.701	BRIDGE DRAIN GRATE MODIFICATION	2	EA
503.14	EPOXY-COATED REINFORCING STEEL, FABRICATED AND DELIVERED	129500	LB
503.15	EPOXY-COATED REINFORCING STEEL, PLACING	129500	LB
503.18	GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCING BARS, FABRICATED AND DELIVERED	33400	LB
503.19	GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCING BARS, PLACING	33400	LB
503.90	SYNTHETIC FIBER REINFORCEMENT	3060	LB
504.50	TOLL PLAZA CANOPY	1	LS
504.61	TOLL GANTRY - SOUTHBOUND	1	LS
504.62	TOLL GANTRY - NORTHBOUND	1	LS
507.0928	ALUMINUM BRIDGE RAILING - RAIL SECTION REPLACE	21	LF
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE	1	LS
515.201	PIGMENTED PROTECTIVE COATING FOR CONCRETE SURFACES	360	SY
515.202	CLEAR PROTECTIVE COATING FOR CONCRETE SURFACES	1870	SY
515.23	EPOXY OVERLAY	72	SY
518.1	ABUTMENT REPAIRS	60	SF
518.2	PIER REPAIRS	65	SF
518.391	REPAIRING GRANITE CURB JOINT AND BEDDING MORTAR	185	LF
518.392	REPAIRING CONCRETE PARAPET ELASTOMERIC JOINT SEALER	340	LF
518.8	PARTIAL DEPTH CONCRETE DECK REPAIRS	550	SF
518.81	FULL DEPTH CONCRETE DECK REPAIRS	220	SF
520.2211	EXPANSION JOINT MODIFICATION	2	EA
524.4	PROTECTIVE SHIELDING - STEEL GIRDERS	1060	SY
526.306	TEMPORARY CONCRETE BARRIER - MTA	1	LS
526.35	PIER PROTECTION CONCRETE BARRIER	1	LS
526.351	MEDIAN BARRIER TYPE 1 - PRECAST	149	LF
526.361	MEDIAN BARRIER TRANSITION TYPE 1 - PRECAST	2	EA
527.301	ENERGY ABSORBING SYSTEM (CA-T)	2	EA
527.342	WORK ZONE CRASH CUSHIONS - TL-2	1	UN
527.343	WORK ZONE CRASH CUSHIONS - TL-3	3	UN
602.3	FLOWABLE CONCRETE FILL	9	CY
603.15	12" CULV PIPE OPTION I	15	LF

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
603.155	12 INCH REINFORCED CONCRETE PIPE - CLASS III	173	LF
603.169	15" CULV PIPE OPTION III	50	LF
603.17	18" CULVERT PIPE OPT I	30	LF
603.175	18 INCH REINFORCED CONCRETE PIPE - CLASS III	290	LF
603.19	24" CULVERT PIPE OPT I	35	LF
603.195	24 INCH REINFORCED CONCRETE PIPE - CLASS III	110	LF
603.2551	60" RCP CLASS IV	170	LF
603.28	CONCRETE COLLAR FOR REINFORCED CONCRETE PIPE	20	EA
604.072	CATCH BASIN TYPE A1-C	23	EA
604.092	CATCH BASIN TYPE B1-C	3	EA
604.164	REBUILDING CATCH BASIN	1	EA
604.166	REBUILDING MANHOLE	1	EA
604.18	ADJUST MANHOLE OR CB TO GRADE	11	EA
604.262	CATCH BASIN TYPE B5-C	6	EA
605.09	6" UNDERDRAIN TYPE B	200	LF
605.11	12" UNDERDRAIN TYPE C	950	LF
605.12	15" UNDERDRAIN TYPE C	110	LF
605.13	18" UNDERDRAIN TYPE C	200	LF
605.15	24" UNDERDRAIN TYPE C	160	LF
606.1723	BRIDGE TRANSITION - TYPE 3	4	EA
606.24	GUARDRAIL TYPE 3D - SINGLE RAIL	5400	LF
606.2401	GUARDRAIL TYPE 3D - DOUBLE RAIL	205	LF
606.242	GUARDRAIL TYPE 3D - OVER 15' RADIUS	165	LF
606.265	TERMINAL END - SINGLE RAIL	1	EA
606.277	TERMINAL END - TRAILING END	14	EA
606.352	REFLECTORIZED BEAM GUARDRAIL DELINEATORS	405	EA
606.353	DELINEATOR POST	70	EA
606.354	DELINEATOR POST - REMOVE AND RESET	40	EA
606.3621	GUARDRAIL ADJUST - SINGLE RAIL	2500	LF
606.3631	GUARDRAIL - REMOVE AND DISPOSE	6150	LF
606.64	GR - THRIE BEAM - DBL RAIL	850	LF
606.65	GR - THRIE BEAM - SGL RAIL	150	LF
606.701	ASYMMETRICAL THRIE BEAM TRANSITION	4	EA
606.754	WIDEN SHOULDER FOR GUARDRAIL 350 FLARED	4	EA
606.80	GUARDRAIL FLEAT 350 TERMINAL	10	EA
607.09	WOVEN WIRE FENCE - METAL POSTS	1500	LF
607.154	DRIVEWAY GATE 21 FOOT - METAL	1	EA
607.17	CHAIN LINK FENCE - 6'	490	LF
607.173	CHAIN LINK FENCE 6' PVC CTD	320	LF
607.2325	CHAIN FENCE GATE 6X12' OPENING	1	EA
607.26	REMOVE & STACK FENCE	430	LF
607.32	BRACING ASSEMBLY TYPE I - METAL POSTS	7	EA
607.34	BRACING ASSEMBLY CHAIN LINK FENCE	13	EA
608.08	REINFORCED CONCRETE SIDEWALK	217	SY
609.11	VERTICAL CURB TYPE 1	547	LF
609.12	VERT CURB TYPE 1- CIRCULAR	137	LF
609.13	VERTICAL BRIDGE CURB TYPE 1	300	LF
609.14	VERTICAL BRIDGE CURB TYPE 1 - CIRCULAR	80	LF
609.191	CONCRETE CURB TYPE 2	12	LF
609.234	TERMINAL CURB TYPE 1 - 4 FOOT	5	EA
609.237	TERMINAL CURB TYPE 1 - 7 FT	2	EA
609.2371	VERTICAL CURB TYPE 1 - 7 FT - CIRCULAR	1	EA
609.26	CURB TRANSITION SECT B-TYPE 1	6	EA
609.34	CURB TYPE 5	2600	LF
609.35	CURB TYPE 5 - CIRCULAR	120	LF
610.08	PLAIN RIPRAP	340	CY
610.18	STONE DITCH PROTECTION	15	CY
610.181	TEMPORARY STONE CHECK DAMS	35	CY
610.19	COBBLE GRAVEL SAND MIX	47	CY
613.319	EROSION CONTROL BLANKET	3100	SY
615.07	LOAM	3851	CY
618.1301	SEEDING METHOD NUMBER 1, PLAN QUANTITY	5	UNIT

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
618.1401	SEEDING METHOD NUMBER 2 - PLAN QUANTITY	230	UN
618.1411	SEEDING METHOD NUMBER 3 - PLAN QUANTITY	90	UN
619.1201	MULCH - PLAN QUANTITY	315	UN
619.1202	TEMPORARY MULCH	1	LS
619.1401	EROSION CONTROL MIX	30	CY
620.58	EROSION CONTROL GEOTEXTILE	638	SY
621.043	EVERGREEN TR (6'-8") GP A	5	EA
621.044	EVERGREEN TR (6'-8") GP B	8	EA
621.248	LG DECID TR (5'-6") GP A	20	EA
621.279	LG DECID TR (2.50"-3" CAL) GP A	4	EA
621.408	DWF EVERGREENS (2.50"-3") GP B	19	EA
621.536	DECID SHRUBS (12"-18") GP B	4	EA
621.541	DECID SHRUBS (18"-24") GP B	2	EA
621.542	DECID SHRUBS (18"-24") GP C	5	EA
621.543	DECID SHRUBS (2'-3") GP C	2	EA
621.552	DECID SHRUBS (3'-4") GP A	7	EA
621.553	DECID SHRUBS (3'-4") GP B	15	EA
621.554	DECID SHRUBS (3'-4") GP C	6	EA
621.8	ESTABLISHMENT PERIOD	1	LS
622.11	TRANSPLANTING TREE	1	EA
625.106	WATER SERVICE SUPPLY LINE (<3 IN)	850	LF
625.107	WATER METER PIT	1	EA
626.11	PRECAST CONCRETE JUNCTION BOX	13	EA
626.12	36" X 24" X 36" QUAZITE JUNCTION BOX	80	EA
626.13	48" X 36" X 48" QUAZITE JUNCTION BOX	2	EA
626.21	METALLIC CONDUIT	160	LF
626.22	NON-METALLIC CONDUIT	5925	LF
626.221	NON-METALLIC CONDUIT, DIRECTIONAL BORE	600	LF
626.222	2 INCH NON-METALLIC CONDUIT	11740	LF
626.223	HORIZONTAL DIRECTIONAL DRILLED CONDUIT	320	LF
626.32	30" FOUNDATION	48	EA
626.33	30 INCH FOUNDATION	6	EA
626.333	48 INCH FOUNDATION	15	CY
626.335	60 INCH FOUNDATION	29	CY
626.35	CONTROLLER CABINET FOUNDATION	6	EA
626.36	REMOVE OR MODIFY CONCRETE FOUNDATION	18	EA
626.37	SPECIAL FOUNDATION	1	EA
627.18	12" SOLID WHITE PAVEMENT MARKING	3100	LF
627.407	REF PL WH OR YEL PAVE MARKING	300	SF
627.68	TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, YELLOW OR WHITE	6450	LF
627.681	TEMPORARY 6 INCH PAINTED PAVEMENT MARKING LINE, YELLOW OR WHITE	24100	LF
627.730	TEMPORARY 6 INCH PAVEMENT MARKING TAPE	4000	LF
627.731	TEMPORARY 6 INCH BLACK PAVEMENT MARKING TAPE	2800	LF
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	21700	LF
627.744	6" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	16800	LF
627.75	WHITE OR YELLOW PAVEMENT AND CURB MARKING	1470	SF
627.77	REMOVING EXISTING PAVEMENT MARKINGS	4100	SF
627.812	TEMPORARY RAISED PAVEMENT MARKINGS	590	EA
627.94	PAVEMENT MARKING TAPE	150	LF
629.05	HAND LABOR, STRAIGHT TIME	160	HR
631.10	AIR COMPRESSOR (INCLUDING OPERATOR)	15	HR
631.11	AIR TOOL (INCLUDING OPERATOR)	75	HR
631.12	ALL PURPOSE EXCAVATOR (INC OPERATOR)	75	HR
631.14	GRADER (INCLUDING OPERATOR)	75	HR
631.171	TRUCK - SMALL (INCLUDING OPERATOR)	75	HR
631.22	FRONT END LOADER (INCLUDING OPERATOR)	75	HR
631.32	CULVERT CLEANER (INC OPERATOR)	75	HR
631.36	FOREMAN	60	HR
631.50	JACKHAMMER (AIR TOOL INCLUDING OPERATOR)	20	HR
631.51	BUCKET TRUCK	20	HR
631.52	SCISSOR LIFT	20	HR
631.53	ELECTRICIAN	20	HR

Contract 2016.02
Addendum No. 2
01/19/16

No.	Revision	By	Date
2	ADDENDUM #2	FMK	01/16

Designed by:



vhb Engineers
Scientists
Planners
Designers

CONSULTANT PROJECT MANAGER: P. CLARY

By	Date	By	Date
Designed	M.B. 10\8\15	Checked	F.K. 10\8\15
Drawn	B.R. 10\8\15	In Charge of	P.C. 10\8\15

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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: R. NORWOOD

EXIT 63
GRAY, ME

ESTIMATED QUANTITIES (1 OF 2)

SHEET NUMBER: 15
15 OF 412

CONTRACT: 2016.02

Date: 1/18/2016

Filename: ... \MSTA.016 - Earthwork - sum.dgn

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
631.54	ELECTRICIAN'S APPRENTICE	20	HR
631.55	PLUMBER	20	HR
633.01	PROPANE SERVICE TRENCH	180	LF
633.21	PROPANE TANK SUPPORTS	4	EA
633.31	PROPANE TANK PAD	27	SY
633.41	PROPANE TANK RELOCATION	1	LS
634.16	HIGHWAY LIGHTING	1	LS
634.175	REPLACEMENT LED FIXTURE	5	EA
634.208	REMOVE AND RESET LIGHT STANDARD	5	EA
634.231	CONVENTIONAL LIGHT STANDARD WITH LED FIXTURE	43	EA
643.7111	TRAFFIC SIGNAL MODIFICATIONS: US 202/ME 4/ME 115 NB RAMPS	1	LS
643.7112	TRAFFIC SIGNAL MODIFICATIONS: US 202/ME 4/ME 115 AT SB RAMPS/ME 26A	1	LS
643.7113	TRAFFIC SIGNAL MODIFICATIONS: US 202/ME 4/ME 115 AT ME 115/ME 100	1	LS
643.7114	TRAFFIC SIGNAL MODIFICATIONS: US 202/ME 4 AT BROWN ST/SHAKER RD	1	LS
643.712	LANE USE SIGNAL INSTALLATION	3	EA
643.831	VIDEO DETECTION SYSTEM: US 202 AT NB RAMPS	1	LS
643.832	VIDEO DETECTION SYSTEM: US 202 AT SB RAMPS	1	LS
643.86	TRAFFIC SIGNAL LOOP DETECTOR	3	EA
643.901	INTERCONNECT WIRE BETWEEN: SB RAMP INTERSECTION TO NB RAMP INTERSECTION	1	LS
643.902	INTERCONNECT WIRE BETWEEN: SB RAMP INTERSECTION TO SB TOLL BUILDING	1	LS
643.903	INTERCONNECT WIRE BETWEEN: NB RAMP INTERSECTION TO US 202 AND ME 100/ME 115	1	LS
643.904	INTERCONNECT WIRE BETWEEN: US 202 AND ME 100/ME 115 TO US 202 AND BROWN/SHAKE	1	LS
643.91	MAST ARM POLE	4	EA
643.93	STRAIN POLE	1	EA
645.105	REMOVE AND STACK SIGN	141	EA
645.109	REMOVE AND RESET SIGN	67	EA
645.1091	CANOPY MOUNTED SIGN	2	EA
645.121	OVERHEAD GUIDE SIGN: STA 613+60	1	LS
645.122	OVERHEAD GUIDE SIGN: STA 628+17	1	LS
645.123	OVERHEAD GUIDE SIGN: STA 204+11	1	LS
645.124	OVERHEAD GUIDE SIGN: STA 417+03	1	LS
645.151	CANTILEVER GUIDE SIGN: STA 608+15	1	LS
645.152	CANTILEVER GUIDE SIGN: STA 704+09	1	LS
645.251	ROADSIDE GUIDE SIGN, TYPE 1	572	SF
645.271	REGULATORY, WARNING, CONFIRMATION AND ROUTE ASSEMBLY SIGN, TYPE 1	506	SF
645.289	STEEL H-BEAM POLES	3500	LBS
648.00	INSTALL FLAGPOLE AND LIGHTING	1	LS
650.1011	DYNAMIC MESSAGE SIGN (DMS) SYSTEM: STA 601+82 RT	1	LS
650.1012	DYNAMIC MESSAGE SIGN (DMS) SYSTEM: STA 622+15 LT	1	LS
650.1013	DYNAMIC MESSAGE SIGN (DMS) SYSTEM: STA 704+09 LT	1	LS
650.2011	DMS GROUND MOUNTED CONTROL CABINET: STA 601+82 RT	1	EA
650.2012	DMS GROUND MOUNTED CONTROL CABINET: STA 622+15 LT	1	EA
650.2013	DMS GROUND MOUNTED CONTROL CABINET: STA 704+09 LT	1	EA
650.9011	DMS SOLAR POWER SYSTEM: STA 601+82 RT	1	LS
650.9012	DMS SOLAR POWER SYSTEM: STA 622+15 LT	1	LS
650.9013	DMS SOLAR POWER SYSTEM: STA 704+09 LT	1	LS
652.312	TYPE III BARRICADES	6	EA
652.33	DRUM	250	EA
652.34	CONE	75	EA
652.35	CONSTRUCTION SIGNS	2214	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	1	LS
652.38	FLAGGER	470	HR
652.39	PORTABLE LIGHT TOWER	4	EA
652.41	PORTABLE CHANGEABLE MESSAGE SIGN	6	EA
652.45	TRUCK MOUNTED ATTENUATOR	100	CD
655.01	INSTALLATION OF ORT CONTROLLER CABINET	1	EA
655.012	INSTALLATION OF CASH LANE CONTROLLER CABINET	5	EA
655.02	DVAS MOUNT INSTALLATION	6	EA
655.04	INSTALLATION OF SENSOR LOOPS	1	LS
655.05	INSTALLATION OF AVI ANTENNAS	10	EA
655.06	INSTALLATION OF AVI READERS	2	EA
655.07	TRAFFIC CONTROL PEDESTAL PREPARATION WORK	3	EA

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
655.08	#2/0 WIRE FOR UPS	2000	LF
655.10	#4 AWG WIRE	2400	LF
655.101	#6 AWG WIRE	1200	LF
655.11	#10 AWG WIRE	3200	LF
655.12	#12 AWG WIRE	14000	LF
655.13	#14 AWG WIRE	1000	LF
655.14	4PR/24 (CATEGORY 5E) CABLE	4500	LF
655.15	LMR 400 CABLE	1200	LF
655.16	FIBER OPTIC CABLE - 6 FIBER	5500	LF
655.17	IVIS HOMERUN LOOP CABLE (IMSA 50-2 #16)	1200	LF
655.18	HALF DIAMOND LOOP WIRE (#16 XHHW OR XLP STRANDED WIRE)	500	LF
655.2021	1" SCHEDULE 80 PVC CONDUIT	120	LF
655.203	1 1/2" SCHEDULE 80 PVC CONDUIT	450	LF
655.2031	2" SCHEDULE 80 PVC CONDUIT	2300	LF
655.204	3" SCHEDULE 80 PVC CONDUIT	6450	LF
655.205	4" SCHEDULE 80 PVC CONDUIT	1800	LF
655.2051	5" SCHEDULE 80 PVC CONDUIT	1650	LF
655.2052	12" SCHEDULE 80 PVC CONDUIT	200	LF
655.206	1" GALVANIZED RIGID METAL CONDUIT	375	LF
655.207	1 1/2" GALVANIZED RIGID METAL CONDUIT	140	LF
655.208	3" GALVANIZED RIGID METAL CONDUIT	100	LF
655.209	1/2" LIQUID TIGHT METALLIC FLEXIBLE CONDUIT	50	LF
655.2101	1 1/2" LIQUID TIGHT METALLIC FLEXIBLE CONDUIT	100	LF
655.2102	2" LIQUID TIGHT METALLIC FLEXIBLE CONDUIT	100	LF
655.221	TYPE A PULL BOX INSIDE	6	EA
655.222	TYPE C PULL BOX INSIDE	12	EA
655.223	TYPE D PULL BOX OUTDOOR	3	EA
655.224	TYPE E PULL BOX INSIDE	4	EA
655.225	TYPE F PULL BOX OUTSIDE	7	EA
655.226	TYPE G PULL BOX OUTSIDE	2	EA
655.30	12" X 12" X 6" GALVANIZED JUNCTION BOX	4	EA
655.31	18" X 18" X 6" GALVANIZED JUNCTION BOX	4	EA
655.42	36" X 30" X 20" NEMA 4X CABINET	1	EA
655.63	4-INCH X 4-INCH PLASTIC NEMA 4R WIREWAY	20	LF
655.64	6-INCH X 6-INCH PLASTIC NEMA 4R WIREWAY	20	LF
655.71	REMOVAL OF EXISTING SELECT TOLL EQUIPMENT	1	LS
655.80	LIGHTNING SUPPRESSION SYSTEM	1	LS
655.81	KEY SWITCH	8	EA
655.82	DUPLEX RECEPTACLE	8	EA
655.83	NEMA L5-30R RECEPTACLE	4	EA
655.84	QUADPLEX RECEPTACLE	6	EA
655.90	DYNAMIC MESSAGE SIGN FOR SB CANOPY - CENTER LANE	1	LS
655.92	LED CANOPY LIGHT FIXTURE	6	EA
655.94	NEW STAND-BY GENERATOR AND TRANSFER SWITCH	1	LS
656.50	BALED HAY, IN PLACE	170	EA
656.632	30 INCH TEMPORARY SILT FENCE	14550	LF
659.10	MOBILIZATION	1	LS
670.01	SEWERAGE DISPOSAL SYSTEM	1	LS
800.01	TOLL BUILDING	1	LS
800.10	ELECTRICAL DEMOLITION	1	LS
800.20	MECHANICAL DEMOLITION	1	LS
800.30	TOLL PLAZA BOOTHS, CANOPY AND GANTRY DEMOLITION	1	LS
800.40	NEW TOLL BOOTH INSTALLATION	1	LS
800.90	GENERATOR PAD	1	LS
800.91	TRANSFORMER PAD	1	LS

COMMON EXCAVATION FOR ESTIMATE	
COMMON EXCAVATION (FROM CROSS SECTIONS)	48,530
GRUBBING IN FILL	844
PAVEMENT SALVAGE IN FILL	1,742
TOTAL COMMON EXCAVATION	51,116
ITEM 203.20 COMMON EXCAVATION	SAY 51,500 CY
FILL FOR BORROW CALCULATIONS	
COMMON FILL (FROM CROSS SECTIONS)	6,105
GRUBBING IN FILL	844
TOTAL FILL	6,949
AVAILABLE COMMON EXCAVATION FOR BORROW CALCULATIONS	
(1) TOTAL COMMON EXCAVATION	51,116
DEDUCTIONS:	
GRUBBING IN CUT	4,367
GRUBBING IN FILL	844
PAVEMENT SALVAGE IN FILL	1,742
(2) TOTAL DEDUCTIONS	6,953
TOTAL AVAILABLE COMMON EXCAVATION (1) MINUS (2)	44,163
TOTAL AVAILABLE STRUCT. EXCAVATIONS (USUALLY UNDERDRAIN ONLY)	
TOTAL AVAILABLE NON-ROCK EXCAVATION	44,163
COMPUTATION FOR COMMON BORROW FOR ESTIMATE	
(3) TOTAL FILL	6,949
TOTAL AVAIL. NON-ROCK EXCAV.	44,163 x 0.85 = 37,539
(4) TOTAL AVAILABLE EXCAVATION	37,539
BORROW NEEDED = TOTAL FILL MINUS TOTAL AVAILABLE EXCAVATION	-30,589
SURPLUS MATERIAL =	30589 CY

Contract 2016.02
Addendum No. 2
01/19/16

Scale:			
No.	Revision	By	Date
2	ADDENDUM #2	FMK	01/16

Designed by:



vhb Engineers
Scientists
Planners
Designers

CONSULTANT PROJECT MANAGER: P. CLARY

By	Date	By	Date
Designed M.B.	10\8\15	Checked F.K.	10\8\15
Drawn B.R.	10\8\15	In Charge of P.C.	10\8\15

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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: R. NORWOOD

**EXIT 63
GRAY, ME**

ESTIMATED QUANTITIES (2 OF 2)
& EARTHWORK SUMMARY

SHEET NUMBER: 16
16 OF 412

CONTRACT: 2016.02

Date: 1/18/2016

Filename: ... \MSTA\016_Ear\thwork_sum.dgn

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
631.54	ELECTRICIAN'S APPRENTICE	20	HR
631.55	PLUMBER	20	HR
633.01	PROPANE SERVICE TRENCH	180	LF
633.21	PROPANE TANK SUPPORTS	4	EA
633.31	PROPANE TANK PAD	27	SY
633.41	PROPANE TANK RELOCATION	1	LS
634.16	HIGHWAY LIGHTING	1	LS
634.175	REPLACEMENT LED FIXTURE	5	EA
634.208	REMOVE AND RESET LIGHT STANDARD	5	EA
634.231	CONVENTIONAL LIGHT STANDARD WITH LED FIXTURE	43	EA
643.7111	TRAFFIC SIGNAL MODIFICATIONS: US 202/ME 4/ME 115 NB RAMPS	1	LS
643.7112	TRAFFIC SIGNAL MODIFICATIONS: US 202/ME 4/ME 115 AT SB RAMPS/ME 26A	1	LS
643.7113	TRAFFIC SIGNAL MODIFICATIONS: US 202/ME 4/ME 115 AT ME 115/ME 100	1	LS
643.7114	TRAFFIC SIGNAL MODIFICATIONS: US 202/ME 4 AT BROWN ST/SHAKER RD	1	LS
643.712	LANE USE SIGNAL INSTALLATION	3	EA
643.831	VIDEO DETECTION SYSTEM: US 202 AT NB RAMPS	1	LS
643.832	VIDEO DETECTION SYSTEM: US 202 AT SB RAMPS	1	LS
643.86	TRAFFIC SIGNAL LOOP DETECTOR	3	EA
643.901	INTERCONNECT WIRE BETWEEN: SB RAMP INTERSECTION TO NB RAMP INTERSECTION	1	LS
643.902	INTERCONNECT WIRE BETWEEN: SB RAMP INTERSECTION TO SB TOLL BUILDING	1	LS
643.903	INTERCONNECT WIRE BETWEEN: NB RAMP INTERSECTION TO US 202 AND ME 100/ME 115	1	LS
643.904	INTERCONNECT WIRE BETWEEN: US 202 AND ME 100/ME 115 TO US 202 AND BROWN/SHAKE	1	LS
643.91	MAST ARM POLE	4	EA
643.93	STRAIN POLE	1	EA
645.105	REMOVE AND STACK SIGN	141	EA
645.109	REMOVE AND RESET SIGN	67	EA
645.1091	CANOPY MOUNTED SIGN	2	EA
645.121	OVERHEAD GUIDE SIGN: STA 613+60	1	LS
645.122	OVERHEAD GUIDE SIGN: STA 628+17	1	LS
645.123	OVERHEAD GUIDE SIGN: STA 204+11	1	LS
645.124	OVERHEAD GUIDE SIGN: STA 417+03	1	LS
645.151	CANTILEVER GUIDE SIGN: STA 608+15	1	LS
645.152	CANTILEVER GUIDE SIGN: STA 704+09	1	LS
645.251	ROADSIDE GUIDE SIGN, TYPE 1	572	SF
645.271	REGULATORY, WARNING, CONFIRMATION AND ROUTE ASSEMBLY SIGN, TYPE 1	506	SF
645.289	STEEL H-BEAM POLES	3500	LBS
648.00	INSTALL FLAGPOLE AND LIGHTING	1	LS
650.1011	DYNAMIC MESSAGE SIGN (DMS) SYSTEM: STA 601+82 RT	1	LS
650.1012	DYNAMIC MESSAGE SIGN (DMS) SYSTEM: STA 622+15 LT	1	LS
650.1013	DYNAMIC MESSAGE SIGN (DMS) SYSTEM: STA 704+09 LT	1	LS
650.2011	DMS GROUND MOUNTED CONTROL CABINET: STA 601+82 RT	1	EA
650.2012	DMS GROUND MOUNTED CONTROL CABINET: STA 622+15 LT	1	EA
650.2013	DMS GROUND MOUNTED CONTROL CABINET: STA 704+09 LT	1	EA
650.9011	DMS SOLAR POWER SYSTEM: STA 601+82 RT	1	LS
650.9012	DMS SOLAR POWER SYSTEM: STA 622+15 LT	1	LS
650.9013	DMS SOLAR POWER SYSTEM: STA 704+09 LT	1	LS
652.312	TYPE III BARRICADES	6	EA
652.33	DRUM	250	EA
652.34	CONE	75	EA
652.35	CONSTRUCTION SIGNS	2214	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	1	LS
652.38	FLAGGER	470	HR
652.39	PORTABLE LIGHT TOWER	4	EA
652.41	PORTABLE CHANGEABLE MESSAGE SIGN	6	EA
652.45	TRUCK MOUNTED ATTENUATOR	100	CD
655.01	INSTALLATION OF ORT CONTROLLER CABINET	1	EA
655.012	INSTALLATION OF CASH LANE CONTROLLER CABINET	5	EA
655.02	DVAS MOUNT INSTALLATION	6	EA
655.04	INSTALLATION OF SENSOR LOOPS	1	LS
655.05	INSTALLATION OF AVI ANTENNAS	10	EA
655.06	INSTALLATION OF AVI READERS	2	EA
655.07	TRAFFIC CONTROL PEDESTAL PREPARATION WORK	3	EA

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
655.08	#2/0 WIRE FOR UPS	2000	LF
655.10	#4 AWG WIRE	2400	LF
655.101	#6 AWG WIRE	1200	LF
655.11	#10 AWG WIRE	3200	LF
655.12	#12 AWG WIRE	14000	LF
655.13	#14 AWG WIRE	1000	LF
655.14	4PR/24 (CATEGORY 5E) CABLE	4500	LF
655.15	LMR 400 CABLE	1200	LF
655.16	FIBER OPTIC CABLE - 6 FIBER	5500	LF
655.17	IVIS HOMERUN LOOP CABLE (IMSA 50-2 #16)	1200	LF
655.18	HALF DIAMOND LOOP WIRE (#16 XHHW OR XLP STRANDED WIRE)	500	LF
655.2021	1" SCHEDULE 80 PVC CONDUIT	120	LF
655.203	1 1/2" SCHEDULE 80 PVC CONDUIT	450	LF
655.2031	2" SCHEDULE 80 PVC CONDUIT	2300	LF
655.204	3" SCHEDULE 80 PVC CONDUIT	6450	LF
655.205	4" SCHEDULE 80 PVC CONDUIT	1800	LF
655.2051	5" SCHEDULE 80 PVC CONDUIT	1650	LF
655.2052	12" SCHEDULE 80 PVC CONDUIT	200	LF
655.206	1" GALVANIZED RIGID METAL CONDUIT	375	LF
655.207	1 1/2" GALVANIZED RIGID METAL CONDUIT	140	LF
655.208	3" GALVANIZED RIGID METAL CONDUIT	100	LF
655.209	1/2" LIQUID TIGHT METALLIC FLEXIBLE CONDUIT	50	LF
655.2101	1 1/2" LIQUID TIGHT METALLIC FLEXIBLE CONDUIT	100	LF
655.2102	2" LIQUID TIGHT METALLIC FLEXIBLE CONDUIT	100	LF
655.221	TYPE A PULL BOX INSIDE	6	EA
655.222	TYPE C PULL BOX INSIDE	12	EA
655.223	TYPE D PULL BOX OUTDOOR	3	EA
655.224	TYPE E PULL BOX INSIDE	4	EA
655.225	TYPE F PULL BOX OUTSIDE	7	EA
655.226	TYPE G PULL BOX OUTSIDE	2	EA
655.30	12" X 12" X 6" GALVANIZED JUNCTION BOX	4	EA
655.31	18" X 18" X 6" GALVANIZED JUNCTION BOX	4	EA
655.42	36" X 30" X 20" NEMA 4X CABINET	1	EA
655.63	4-INCH X 4-INCH PLASTIC NEMA 4R WIREWAY	20	LF
655.64	6-INCH X 6-INCH PLASTIC NEMA 4R WIREWAY	20	LF
655.71	REMOVAL OF EXISTING SELECT TOLL EQUIPMENT	1	LS
655.80	LIGHTNING SUPPRESSION SYSTEM	1	LS
655.81	KEY SWITCH	8	EA
655.82	DUPLEX RECEPTACLE	8	EA
655.83	NEMA L5-30R RECEPTACLE	4	EA
655.84	QUADPLEX RECEPTACLE	6	EA
655.90	DYNAMIC MESSAGE SIGN FOR SB CANOPY - CENTER LANE	1	LS
655.92	LED CANOPY LIGHT FIXTURE	6	EA
655.94	NEW STAND-BY GENERATOR AND TRANSFER SWITCH	1	LS
656.50	BALED HAY, IN PLACE	170	EA
656.632	30 INCH TEMPORARY SILT FENCE	14550	LF
659.10	MOBILIZATION	1	LS
670.01	SEWERAGE DISPOSAL SYSTEM	1	LS
800.01	TOLL BUILDING	1	LS
800.10	ELECTRICAL DEMOLITION	1	LS
800.20	MECHANICAL DEMOLITION	1	LS
800.30	TOLL PLAZA BOOTHS, CANOPY AND GANTRY DEMOLITION	1	LS
800.40	NEW TOLL BOOTH INSTALLATION	1	LS
800.90	GENERATOR PAD	1	LS
800.91	TRANSFORMER PAD	1	LS

COMMON EXCAVATION FOR ESTIMATE	
COMMON EXCAVATION (FROM CROSS SECTIONS)	48,530
GRUBBING IN FILL	844
PAVEMENT SALVAGE IN FILL	1,742
TOTAL COMMON EXCAVATION	51,116
ITEM 203.20 COMMON EXCAVATION	SAY 51,500 CY
FILL FOR BORROW CALCULATIONS	
COMMON FILL (FROM CROSS SECTIONS)	6,105
GRUBBING IN FILL	844
TOTAL FILL	6,949
AVAILABLE COMMON EXCAVATION FOR BORROW CALCULATIONS	
(1) TOTAL COMMON EXCAVATION	51,116
DEDUCTIONS:	
GRUBBING IN CUT	4,367
GRUBBING IN FILL	844
PAVEMENT SALVAGE IN FILL	1,742
(2) TOTAL DEDUCTIONS	6,953
TOTAL AVAILABLE COMMON EXCAVATION (1) MINUS (2)	44,163
TOTAL AVAILABLE STRUCT. EXCAVATIONS (USUALLY UNDERDRAIN ONLY)	
TOTAL AVAILABLE NON-ROCK EXCAVATION	44,163
COMPUTATION FOR COMMON BORROW FOR ESTIMATE	
(3) TOTAL FILL	6,949
TOTAL AVAIL. NON-ROCK EXCAV.	44,163 x 0.85 = 37,539
(4) TOTAL AVAILABLE EXCAVATION	= 37,539
BORROW NEEDED = TOTAL FILL MINUS TOTAL AVAILABLE EXCAVATION	-30,589
SURPLUS MATERIAL =	30589 CY

Contract 2016.02
Addendum No. 2
01/19/16

Scale:			
No.	Revision	By	Date
2	ADDENDUM #2	FMK	01/16

Designed by:			
 vhb Engineers Scientists Planners Designers			
CONSULTANT PROJECT MANAGER: P. CLARY			
By	Date	By	Date
Designed	M.B. 10\8\15	Checked	F.K. 10\8\15
Drawn	B.R. 10\8\15	In Charge of	P.C. 10\8\15

Vanasse Hangen Brustlin, Inc.
500 Southborough Dr.
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South Portland, ME 04106
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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: R. NORWOOD

EXIT 63
GRAY, ME

ESTIMATED QUANTITIES (2 OF 2) & EARTHWORK SUMMARY

SHEET NUMBER: 16

CONTRACT: 2016.02

16 OF 412

1 ELECTRICAL SYMBOLS

NO SCALE

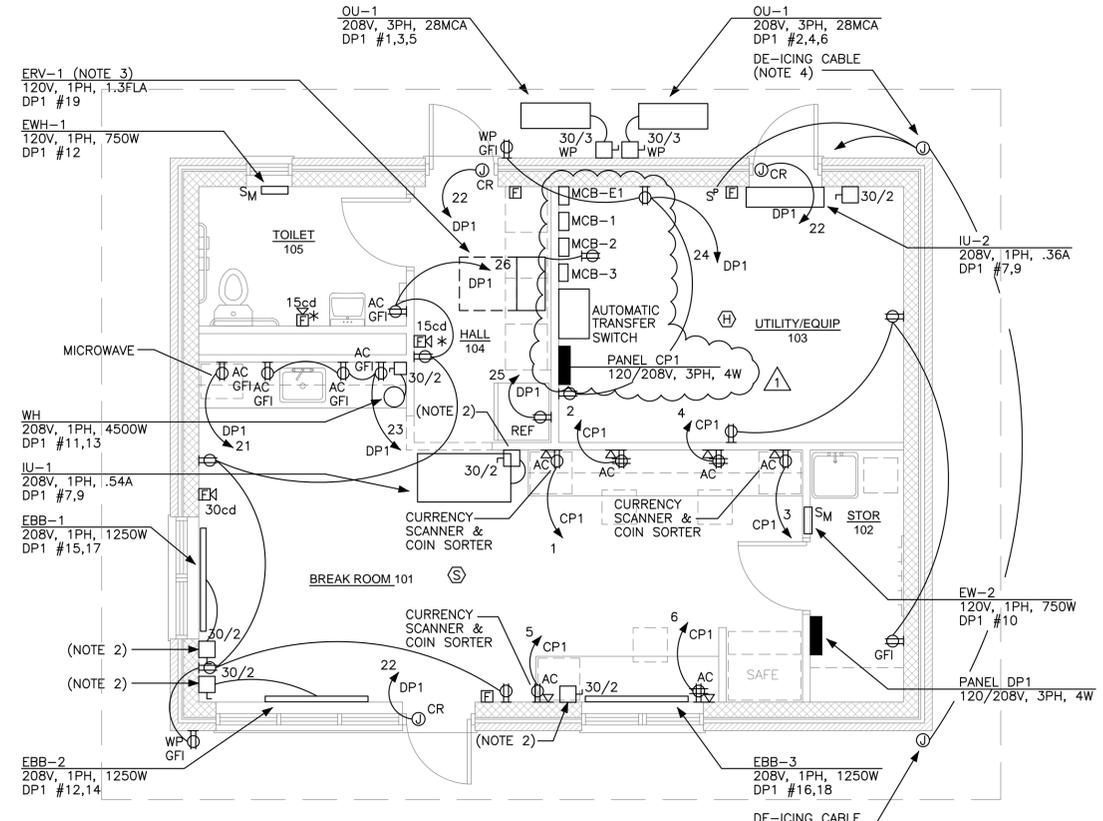
SYMBOL	PLAN SYMBOLS DESCRIPTION
	125V, 20A, DUPLEX GROUNDED RECEPTACLE GFI = Ground Fault Type WP = Weatherproof AC = Mount 6" Above Sink or Counter REF = Refrigerator
	125V, 20A, QUAD GROUNDED RECEPTACLE
	125/250V, 30A, GROUNDED DRYER RECEPTACLE
	TELEPHONE OUTLET
	CABLE TELEVISION OUTLET
	WIRELESS DATA NETWORK OUTLET Mount 12" Below Ceiling
	ELECTRIC PANELBOARD (See Plans for Details)
	CONTROL PANEL (See Plans for Details)
	FIRE ALARM SMOKE DETECTOR
	FIRE ALARM HEAT DETECTOR
	FIRE ALARM AUDIO VISUAL Indicates Visual Only
	FIRE ALARM PULL STATION

SYMBOL	DESCRIPTION
	CEILING MOUNTED LIGHT
J1 HP1 #2	Panelboard & Circuit Designation Fixture Designation
HP1 #2	RECESSED/CEILING/MTD LIGHT FIXTURE
R1	Panelboard & Circuit Designation Fixture Designation
S3	LIGHT/DEVICE SWITCH 3 = Three-Way Type P = Pilot Light
	CEILING MTD LTG CONTROL MOTION SENSOR
30/2	UNFUSED DISCONNECT SWITCH No. Of Poles Ampere Rating
SM	MANUAL MOTOR STARTER
CR	JUNCTION BOX CR = Card Reader

2 PROJECT NOTES

NO SCALE

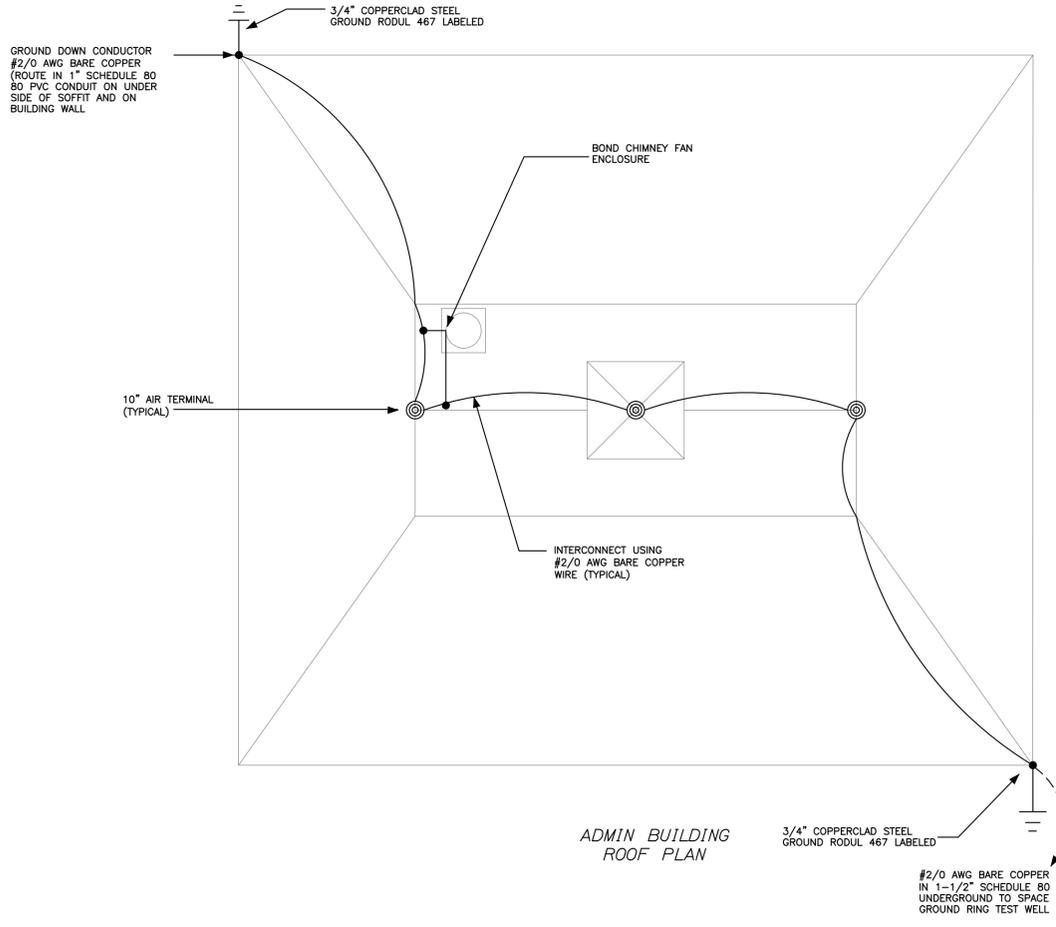
- PROVIDE LIGHTING FIXTURES AS FOLLOWS:
TYPE A1 CREE LIGHTING #ZR24-40L HE-35K-10V, OR APPROVED EQUAL
TYPE A2 CREE LIGHTING #ZR22-32L HE-35K-10V,
TYPE J1 CREE LIGHTING #LS8-80L-35K-10V, OR APPROVED EQUAL
TYPE E1 DUAL-LITE #LZ15
TYPE S1 CREE LIGHTING #LR6-18L-35K-120V-LT6A-DR
TYPE X1 DUAL-LITE #LX-U-R-W
- MOUNT DISCONNECT SWITCHES INDICATED ABOVE SUSPENDED ACOUSTICAL TILE CEILING.
- COORDINATE THE EXACT LOCATION AND MOUNTING HEIGHT OF RECEPTACLE POWERING MECHANICAL UNIT ERV-1 WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
- PLUMBING CONTRACTOR TO PROVIDE TWO LENGTHS OF DE-ICING CABLE WITHIN GUTTERS ON THE FRONT AND REAR OF THE BUILDING. ELECTRICAL CONTRACTOR SHALL PROVIDE THE POWER TO EACH CABLE LENGTH, WIRING BETWEEN THE TWO CABLE LENGTHS AND WIRING TO A SPST SWITCH WITH PILOT LIGHT MOUNTED WITHIN THE UTILITY ROOM.



4 BUILDING POWER PLAN

1/4" = 1'-0"

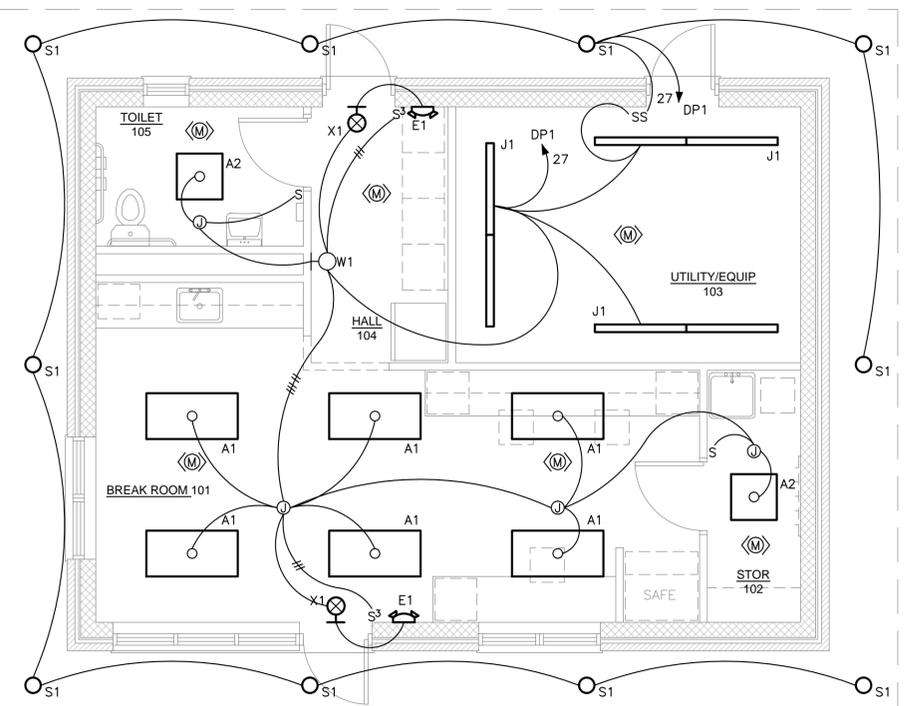
0 1'-0" 2'-0" 4'-0" 6'-0"



3 BUILDING LIGHTNING PROTECTION PLAN

1/4" = 1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"



5 BUILDING LIGHTING PLAN

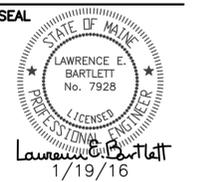
1/4" = 1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"

GRANT HAYS ASSOCIATES

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REVISIONS

- 2 UPDATED PANEL SCHEDULE

PROJECT NAME

MAINE TURNPIKE TOLL
ADMINISTRATION BUILDING
MILE MAKER (MM) 63.0
GRAY
MAINE 04039

SHEET

ADMIN BUILDING
LIGHTING &
POWER PLANS

DATE

SCALE

1/4" = 1'-0"

DRAWN

JLC

JOB NO.

01/19/16

SHEET

412

of 412

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Contract 2016.02
Addendum No. 2
01/19/16

