FROM: Allied Engineering, Inc.
160 Veranda Street
Portland, Maine 04103
Telephone: (207) 221-2260

TO: Prospective Bidders, Suppliers, and Other Parties

RE: Addendum No**. One (1)** to the Bidding Documents for:

York Maintenance Facility Electrical Repairs, Mile 6.8, York, ME

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated October 10, 2023. Acknowledge receipt of this Addendum in the space provided on the Proposal Form. Failure to do so may subject Bidder to disqualification.

PREBID AGENDA – ATTACHED.

PREBID MEETING NOTES

1. Addendum #1 will be issued Friday. Prebid meeting information, agenda, notes and any changes to bid docs.
2. Brian Taddeo of MTA covered overall project scope and agenda.
3. Bids due November 16, 2023
4. Project awarded November 30, 2023
5. Substantial Completion date May 8, 2024
6. Final Completion May 22, 2024
7. During the project, the contractor will be responsible for coordinating with MTA during the winter/plowing season. MTA must be able to continue to operate and function during this project. Any trenching completed during the day must be filled back in to grade to ensure MTA has to ability to get in and out and maintain the roads.
8. The site is available to visit during business hours. Coordinate with Steve Tartre of MTA at 207.482.8369; startre@maineturnpike.com.
9. Final date of submitted questions shall be November 8, 2023. All questions/forms shall be directed to Nate Carll of MTA via email; ncarll@mainturnpike.com.

PREBID ATTENDEES LIST- Attached

SPECIFICATIONS

1. **DELETE** PART II BID FORMS in its entirety. **ADD** in its place "BID FORM_Addendum 1_11-3-2023".

2. **DELETE** PART II - SPECIAL PROVISIONS in its entirety. **ADD** in its place "PART II - SPECIAL PROVISIONS_Addendum 1_11-3-2023".

PLANS SHEETS & SKETCHES

1. DELETE C101-SITE, UTILITY, AND EROSION CONTROL PLAN (Sheet 3 of 8), in its entirety. **ADD** Drawing C101- C101-SITE, UTILITY, AND EROSION CONTROL PLAN (Sheet 3 of 8) in its place, attached.

2. DELETE C401-DETAILS (Sheet 4 of 8), in its entirety. **ADD** Drawing C401-DETAILS (Sheet 4 of 8) in its place, attached.

ATTACHMENTS

A.	Addendum 1 Summary Document	(2 Pages)
B.	Prebid Agenda	(2 Pages)
C.	Prebid Attendees List	(1 Pages)
D.	Specifications	(49 Pages)
E.	Plan Sheets and Sketches	(2 Pages)
	Total Page Count	**56 Page**

Allied Engineering
A Salas O'Brien Company

PRE-BID OUTLINE

PROJECT MEETING NUMBER: Meeting Date: 10-31-2023

AEI PROJECT NUMBER:

Project Name: MTA York Maintenance Electrical Repair

Project Location: Mile 6.8

M:\FORMS - NEW!\AEI-PRE.BID OUTLINE.doc

The Pre-Bid meeting for the above referenced project was conducted at the project site. See the attached sign in sheet for the individuals/firms in attendance.

These minutes will be recorded and published by **allied** engineering, inc.

1. Preconstruction Meeting Outline

A. Introductions

B. Project contact personnel

C. **allied** engineering, inc.is the authorized agent

D. Shop drawings must have a letter of transmittal

E. Project Clerk

F. Owners representative

G. Tenant representative

H. Contractor

1. Contract and insurance certificates
2. Builders risk by owner
3. Pay down schedule
4. Schedule of values
5. Progress schedule
6. GC Responsibility / subcontractors
7. GC superintendent

8. Payment of material stored off site

9. Record drawings

10. RFI Forms

I. Progress meetings

J. Method of payment

K. Changes in contract

L. Request for inspection

M. Acceptance

Allied Engineering
A Sales O'Brien Company

PRE-BID MEETING SIGN IN SHEET

Date: October 31, 2023

Project: MTA York Maintenance Electrical Repairs

Name	Representing	Phone	E-mail
Brendan Whalen	RJ Grondin	207 749 5767	estimators@rjgrondin.com
Matt Rabasco	Gorrill Palmer	207-772-2515	Mrabasco@gorrillpalmer.com
Ken Moulison	Moulison Electric	617-719-5008	KMoulison@Moulison.com
Nate Carll	MTA	207-482-8115	ncarll@maineturnpike.com
Patrick Cotter	Allied Engineering	774-994-0734	Patrick.Cotter@salesobrien.com
Steve Tarte	MTA	831-5814	Starte@maineturnpike.com
Brian Taddeo	MTA	482-8297	btaddeo@maineturnpike.com

Please return this sheet to Allied engineering, Inc.

MAINE TURNPIKE AUTHORITY

YORK MAINTENANCE ELECTRICAL REPAIRS
MILE 6.8

PROPOSAL

CONTRACT 2023.11

The work consists of the following:

1. Electrical Scope:

    a. The work includes a new metal enclosure for the ATS and Panel DP, generator with enclosure, ATS, wiring and connection to existing panels that are being refed, removal of existing feeders after feeder replacement, electrical, as well as lighting, utilities, and all other work incidental thereto in accordance with the Plans and Specifications.

    b. Furnish and install secondary power conduit and wiring from the nearby utility transformer to the new Panel DP including trenching and backfilling, conduit, wire, supports, brackets, junction boxes, etc. required to provide all work.

    c. Remove and stack the existing temporary shed and equipment not to be reincorporated into the work.

    d. Removal of all fire damaged items: generator, ATS, panels, wiring, metering, conduit, etc.

    e. Furnishing and installing secondary power conduit and wiring from the nearby utility transformer, metering, conduit, wire, supports, brackets, junction boxes, etc. required to provide all work.

    f. Provision of emergency and exit lighting in existing garage. This shall include all wiring, conduit, fittings, lighting, connections, etc for a code compliant emergency egress installation.

2. Site/Civil Scope includes all site work as shown on the plans including.
    a. New conduit, including excavation and trench cap.
    b. Demolition and disposal of existing temporary generator shed.
    c. Installation of new Generator and shed onto existing generator pad with all specified equipment therein.
    d. Existing conduit to remain in place unless in direct interference with Work. All existing wire to be removed from abandoned conduit after energization of new feeder wires.

This Work will be done under a Contract known as Contract 2023.11 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.

Item No	**Item Description**	**Units**	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
203.2312	EXCAVATION AND EMBANKMENT (Contaminated Soil and Groundwater Management – Health & Safety Plan)	LS	1				
203.2333	EXCAVATION AND EMBANKMENT (Contaminated Soil and Groundwater Management – Disposal/Treatment of Special Excavation)	Ton	50				
203.2334	EXCAVATION AND EMBANKMENT (Contaminated Soil and Groundwater Management – Disposal/Treatment of Groundwater)	Gallon	500				
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	Cubic Yards	115				
304.14	AGGREGATE BASE COURSE – TYPE A	Cubic Yards	45				
304.141	AGGREGATE BASE COURSE – TYPE A (Temporary Backfill of Trenches)	Cubic Yards	35				
403.208	HOT MIX ASPHALT PAVEMENT, 12.,5 mm	Ton	70				
409.15	BITUMINOUS TACK COAT, APPLIED	Gallon	40				
419.05	SAWING BITUMINOUS PAVEMENT	Linear Foot	1,450				
619.1201	MULCH	Square Yard	100				
615.07	LOAM	Square Yard	12				
618.13	SEEDING METHOD NUMBER 1	UNIT/ 1,000 SF	1				

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				BALANCE FORWARD			
631.172	Truck – Large (Including Operator)	Hour	10				
631.22	Front End Loader (Including Operator	Hour	10				
631.36	FOREMAN	Hour	10				
631.37	LABORER	Hour	10				
655.102	500 KCMIL WIRE	Linear Foot	100				
655.106	#2/0 AWG WIRE	Linear Foot	700				
655.11	#6 AWG WIRE	Linear Foot	350				
655.12	#1 AWG WIRE	Linear Foot	200				
655.13	#3 AWG Wire	Linear Foot	56				
655.14	#10 AWG Wire	Linear Foot	420				
655.2001	3/4" SCHEDULE 80 PVC CONDUIT	Linear Foot	175				
655.2002	1" SCHEDULE 80 PVC CONDUIT	Linear Foot	350				
655.2003	2" SCHEDULE 80 PVC CONDUIT	Linear Foot	1300				

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				BROUGHT FORWARD:			
655.2013	3" SCHEDULE 80 PVC CONDUIT	Linear Foot	350				
655.2014	3 1/2" SCHEDULE 80 PVC CONDUIT	Linear Foot	100				
655.2100	1 " LIQUID TIGHT METALLIC FLEXIBLE CONDUIT	Linear Foot	40				
655.2102	2" LIQUID TIGHT METALLIC FLEXIBLE CONDUIT	Linear Foot	60				
655.31	UNDERGROUND PULL BOX	Each	1				
655.50	2" PVC CONDUIT FITTINGS	Each	110				
655.51	3 1/2" PVC CONDUIT FITTINGS	Each	15				
655.52	1" PVC CONDUIT FITTINGS	Each	35				
655.53	3/4" PVC CONDUIT FITTINGS	Each	20				
655.55	3" PVC CONDUIT FITTINGS	Each	35				
657.75	TERMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	Lump Sum	1				
659.10	MOBILIZATION	Lump Sum	1				
800.01	ELECTRICAL SERVICE AND DISTRIBUTION	Lump Sum	1				
832.41	TYPE A STEEL BOLLARDS	EACH	18				
				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)

_____ (SEAL)

Affix Corporate Seal or Power of Attorney
Where Applicable

By: _____

Its:_____

Information below to be typed or printed where applicable:

INDIVIDUAL:

(Name)	(Address)

PARTNERSHIP - Name and Address of General Partners:

(Name)	(Address)
(Name)	(Address)
(Name)	(Address)
(Name)	(Address)

INCORPORATED COMPANY:

(President)	(Address)
(Vice-President)	(Address)
(Secretary)	(Address)
(Treasurer)	(Address)

MAINE TURNPIKE AUTHORITY

YORK MAINTENANCE ELECTRICAL REPAIRS
MILE 6.8

PART II – SPECIAL PROVISIONS

CONTRACT 2023.11

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

1. Electrical Scope:

    a. The work includes a new metal enclosure for the ATS and Panel DP, generator with enclosure, ATS, wiring and connection to existing panels that are being refed, removal of existing feeders after feeder replacement, electrical, as well as lighting, utilities, and all other work incidental thereto in accordance with the Plans and Specifications.

    b. Furnish and install secondary power conduit and wiring from the nearby utility transformer to the new Panel DP including trenching and backfilling, conduit, wire, supports, brackets, junction boxes, etc. required to provide all work.

    c. Remove and stack the existing temporary shed and equipment not to be reincorporated into the work.

    d. Removal of all fire damaged items: generator, ATS, panels, wiring, metering, conduit, etc.

    e. Furnishing and installing secondary power conduit and wiring from the nearby utility transformer, metering, conduit, wire, supports, brackets, junction boxes, etc. required to provide all work.

    f. Provision of emergency and exit lighting in existing garage. This shall include all wiring, conduit, fittings, lighting, connections, etc for a code compliant emergency egress installation.

2. Site/Civil Scope includes all site work as shown on the plans including.

    a. New conduit, including excavation and trench cap.

    b. Demolition and disposal of existing temporary generator shed.

    c. Installation of new Generator and shed onto existing generator pad with all specified equipment therein.

    d. Existing conduit to remain in place unless in direct interference with Work. All existing wire to be removed from abandoned conduit after energization of new feeder wires.

    e. Existing plastic conduit over ground shall be remove stacked and stored on site for future use by Owner.

Plans

The drawings included in these Contract Documents, and referred to as the Plans, show the general character of the work to be done under this Contract. They bear the general title **"Maine Turnpike – Contract 2023.11 – York Maintenance Electrical Repairs"**. The right is reserved by the Resident to make such minor corrections or alterations in the Plans as he deems necessary without change in the unit prices on the Schedule of Prices of the Proposal.

101.2 Definition

Holidays

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

Christmas Day 2023	12:01 p.m. (Noon) preceding Friday to 6:00 a.m. the following Wednesday.
New Year's Day 2024	12:01 p.m. (Noon) preceding Friday to 6:00 a.m. the following Wednesday.
Independence Day 2024 (Fourth of July)	12:01 p.m. (Noon) preceding Wednesday to 6:00 a.m. the following Monday.

103.4 Notice of Award

The following sentence is added:

The Maine Turnpike Authority Board is scheduled to consider the Contract Award **on November 30, 2023.**

104.3.8 Wage Rates and Labor Laws

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

The fair minimum hourly rates determined by the State of Maine Department of Labor for this Contract are provided on the next page:

THIS DOCUMENT MUST BE CLEARLY POSTED AT ALL CONSTRUCTION SITES FUNDED IN PART WITH STATE FUNDS

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

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

2023 Fair Minimum Wage Rates
Building 2 York County
(other than 1 & 2 family homes)

Occupational Title	Minimum Wage	Minimum Benefit	Total
Brickmasons And Blockmasons	$33.00	$3.21	$36.21
Bulldozer Operator	$30.00	$7.29	$37.29
Carpenter	$32.59	$12.38	$44.97
Cement Masons And Concrete Finisher	$24.00	$4.02	$28.02
Construction And Maintenance Painters	$24.00	$2.79	$26.79
Construction Laborer	$22.00	$3.10	$25.10
Control And Valve Installers And Repairers - Except Mechanical Door	$31.00	$9.86	$40.86
Crane And Tower Operators	$31.50	$10.63	$42.13
Drywall And Ceiling Tile Installers	$26.50	$3.91	$30.41
Earth Drillers - Except Oil And Gas	$28.25	$4.94	$33.19
Electrical Power - Line Installer And Repairers	$54.08	$25.81	$79.89
Electricians	$29.64	$6.41	$36.05
Elevator Installers And Repairers	$65.62	$43.13	$108.75
Excavating And Loading Machine And Dragline Operators	$24.00	$6.73	$30.73
Excavator Operator	$28.00	$5.41	$33.41
Fence Erectors	$24.00	$4.59	$28.59
Floor Layers - Except Carpet/Wood/Hard Tiles	$24.00	$6.32	$30.32
Glaziers	$22.75	$4.75	$27.50
Grader/Scraper Operator	$24.76	$3.96	$28.72
Hazardous Materials Removal Workers	$26.00	$4.27	$30.27
Heating And Air Conditioning And Refrigeration Mechanics And Installers	$31.60	$4.80	$36.40
Heavy And Tractor - Trailer Truck Drivers	$23.50	$2.86	$26.36
Industrial Machinery Mechanics	$33.43	$2.38	$35.81
Insulation Worker - Mechanical	$27.00	$5.74	$32.74
Ironworker - Ornamental	$27.22	$5.55	$32.77
Light Truck Or Delivery Services Drivers	$22.00	$3.17	$25.17
Millwrights	$33.90	$10.37	$44.27
Mobile Heavy Equipment Mechanics - Except Engines	$25.00	$4.32	$29.32
Operating Engineers And Other Equipment Operators	$26.63	$7.17	$33.80
Pipelayers	$25.50	$3.54	$29.04
Plasterers And Stucco Masons	$42.18	$19.67	$61.85
Plumbers Pipe Fitters And Steamfitters	$32.00	$4.76	$36.76
Reinforcing Iron And Rebar Workers	$50.30	$24.67	$74.97
Riggers	$28.00	$9.74	$37.74
Roofers	$24.00	$3.94	$27.94
Sheet Metal Workers	$26.40	$2.47	$28.87
Structural Iron And Steel Workers	$32.02	$24.67	$56.69
Tapers	$28.00	$4.18	$32.18
Telecommunications Equipment Installers And Repairers - Except Line Installers	$33.00	$11.29	$44.29
Telecommunications Line Installers And Repairers	$24.00	$4.13	$28.13
Tile And Marble Setters	$25.00	$5.03	$30.03

Welders are classified as the trade to which welding is incidental (e.g. welding structural steel is Structural Iron and Steel Worker)

Apprentices – The minimum wage rates for registered apprentices are the rates recognized in the sponsorship agreement for registered apprentices working in the pertinent classification.

For any other specific trade on this project not listed above, contact the Bureau of Labor Standards for further clarification.

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

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

A true copy

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

Expiration Date: 12-31-2023

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 based on a single crew for each utility. Any times and dates mentioned are estimates only and are dependent upon favorable weather, working conditions, and freedom from emergencies. The Contractor shall have no claim against the Authority if they are exceeded.

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

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

AERIAL AND UNDERGROUND UTILITIES

ELECTRIC:
Central Maine Power Company
83 Edison Drive
Augusta, ME 04336
(207) 626-9443

WATER: N/A

CENTRAL MAINE POWER (CMP)

The contractor shall be responsible for the conduit and junction boxes from the existing generator pad to all new connections. All work involving the existing overhead wires as depicted on the electrical plan shall be coordinated with CMP.

The contractor shall notify CMP ten (10) working days prior to the utility coordination meeting. The coordination effort is to relay contractor's construction schedule, determine possible covering of aerial conductors and schedule of the new service.

104.4.6.1 Temporary Utilities

The Contractor will be required to maintain all services and utilities to the existing facility throughout construction. Existing services and utilities include, but are not necessarily limited to, power, telephone, water, sewer, propane, heat and site/roadway lighting.

The Contractor shall be responsible for all temporary connections, service runs, relocation, disconnections, reconnections, etc. required to maintain these services due to phasing of construction and constraints of the site and work area. This includes any needed temporary services for the building. Temporary power can be provided on wooden poles located outside the clear zone or protected. The contractor shall coordinate with the Resident and MTA on a temporary service.

Prior to start of construction, the Contractor shall submit a plan and schedule for maintaining existing services and utilities. The plan shall identify all proposed temporary connections, service runs, relocations, disconnections, reconnections, etc. and shall reflect construction phasing and the Contractor's proposed sequence of work. Maintaining existing services and utilities and all temporary utility work, including proposed temporary connections, service runs, relocations, disconnections, reconnections, etc. shall be incidental to Contract 2023.11.

107.1 Contract Time and Contract Completion Date

All work for Contract 2023.11 shall be completed **within 160 days of** starting the work or by the following dates, whichever comes first:

- Substantial Completion: **May 8, 2024**
- Final Completion: **May 22, 2024**

MTA will entertain a start date for this work that fits within the contractor's schedule beginning after a successful MTA **notice to proceed on November 30, 2023** and completed on or before the above completion dates. Liquidated damages will occur for each day **after 160 days** from start date or following the above completion dates.

107.1.1 Substantial Completion

This subsection is amended by the addition of the following:

Substantial completion is defined as having completed the following work:

1. Connection of all new feeder conduits to each panel depicted on the electrical site plan, backfilling, and paving of all trenches.
2. Demolition and removal of existing generator shed and generator.
3. Removal of all existing electrical that is unused or becomes unused because of this project.
4. Generator and cabinet installations complete and all systems activated/tested.
5. All emergency and exit lighting in existing buildings.

Supplemental Liquidated damages on a calendar day basis in accordance with Supplemental Specifications Subsection 107.8 shall be assessed for each calendar day that substantial completion is not achieved. The Contractor will be responsible for paying the per diem costs listed in the Supplemental Specifications Subsection 107.7.2 Schedule of Liquidated Damages for each day that substantial completion is not achieved by the specified date.

107.4.6 Limitations of Operations

Construction of the York Maintenance Electrical Repairs shall not interfere with Highway and Equipment Maintenance operations at any time.

Contractor shall coordinate with the Resident and Highway Maintenance personnel during all phases of indoor and outdoor construction. Provisions can be made to relocate the Crews Quarters to allow work within the main building, but access to the kitchenette and bathroom facilities in the Crew's Quarters shall be maintained at all times.

The Contractor shall submit his proposed staging and storage areas for approval by the Resident. All stored equipment must be located to not interfere with Highway and Equipment maintenance operations.

All excavations shall be backfilled as soon as possible and shall not interfere with Highway Maintenance activities at any time. At no time will excavations in heavily traveled areas of the yard be left open overnight.

If hot mix asphalt pavement for trench capping is not available to finish installation of new conduit runs, contractor shall match surrounding pavement grades with gravel and compact so as to maintain access throughout the site. Contractor will be responsible for maintaining grades until new pavement is placed.

The Contractor shall be responsible for maintaining all utility services, including backup power, at all times during construction. Contractor shall submit a detailed schedule as to how and when new electrical service will be activated. This will be coordinated with Highway Maintenance personnel and the Resident so as not to interfere with any winter maintenance operations. When the shutdown to switch to new services occurs, it shall be accomplished as expeditiously as possible and shall be a continuous effort until completed.

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

The provisions of Section 203 of the Maine DOT Standard Specifications (November 2014) and the Maine Turnpike Authority 2016 Supplemental Specification shall apply with the following additions and modifications:

203.01 Description

The following paragraph is added:

During excavation if suitable material is encountered, it may be left in place or re-used on other portions of the project with approval from the resident.

Fill to raise grades, in landscaped and/or seeded areas should be non-organic compactable earth meeting the requirements of the Maine DOT Standard Specification (November 2014) 703.18 Common Borrow.

203.04 General

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

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

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

203.18 Method of Measurement

These paragraphs shall be deleted in their entirety

203.19 Basis of Payment

These paragraphs shall be deleted in their entirety and replaced with the following:

All work under Section 203, Excavation and Embankment, shall be incidental to the conduit installation and no separate payment shall be made.

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

(Contaminated Soil and Groundwater Management)

203.01 General

Contaminated Soil and Groundwater is not known to be present within the project limits. Unanticipated soil and groundwater contamination, if encountered, shall be managed in accordance with this Specification.

The work under this Specification shall be performed in conformance with the procedures and requirements described herein for the following activities: contaminated soil handling, reuse, temporary stockpiling, transportation, storage and disposal and contaminated water handling, storage, treatment, and disposal. This Specification also addresses contaminated soil location, identification and classification. The intent of this Specification is to ensure that contaminated soil and/or water encountered during construction will be managed in a manner that protects worker health and safety, public welfare and the environment.

203.02 Unanticipated Contamination.

If the Contractor encounters previously undiscovered contamination or potentially hazardous conditions related to contamination, the Contractor shall suspend work and secure the area. The Contractor will then notify the Resident immediately. The Resident will then notify the Authority. Potentially hazardous conditions include, but are not limited to, buried containers, drums, tanks, oil saturated soils, strong odors, or the presence of petroleum sufficient to cause a sheen on the groundwater. The area of potential hazard shall be secured to minimize health risks to workers and the public and to prevent a release of contaminants into the environment. The source of the suspected contamination will be evaluated by the Resident (or MTA Environmental representative). As appropriate, the Resident will notify the Maine Department of Environmental Protection's Response Services Unit in Augusta and the Authority's Environmental Services Coordinator. The Contractor will evaluate the impact of the hazard on construction, Prepare a Heath and Safety Plan (HASP) and, with the Resident's approval, restart work in accordance with the procedures of this Special Provision.

203.03 General Procedure for Excavating Contaminated Soils and Groundwater

- The MTA and Resident Engineer will engage an environmental professional including a Maine Certified Geologist to oversee facility removal work, provide field screening services with a Photo-Ionization Detector (PID) and oleophilic dye tests in accordance with DEP SOP TS004, and prepare appropriate UST closure reports for MTA to submit to DEP in accordance with Chapter 691.
- The Contractor shall assume any groundwater encountered during excavation is contaminated and properly containerize and dispose of the groundwater offsite at a licensed disposal facility.
- Based on field screening results, the Contractor shall segregate soils for reuse onsite or offsite disposal. In accordance with TS004, the following criteria shall be used to characterize soils (based on using a MniRAE PID):

    - Soils for unrestricted reuse (i.e. "clean" soil)

        Any soil with no visual indications of contamination

        Any soil with an oleophilic dye test yielding a "negative" result, and

Any soil with a PID reading less than 40 parts per million (ppm), i.e. the leaching to groundwater field screening guideline

- Lightly contaminated soil

  Any soil with slight discoloration related to contamination

  Any soil with an oleophilic dye test yielding a "positive or slightly positive" result

  Any soil with a PID reading exceeding 40 ppm but less than 1,500 ppm

- Highly contaminated or petroleum saturated soil

  Any soil with visible gross contamination

  Any soil with an oleophilic dye test yielding a "saturated" result

  Any soil with a PID reading exceeding 1,500 ppm

The field screening guidelines may be adjusted by the Resident and their environmental planner using TS004 based on the PID instrument in use:

Table 1: Approved PID Field Cleanup and Notification Guidelines

Cleanup Scenario	Soil size [grams]	Ion	Thermo	Passport	Foxboro	MiniRAE	Photon
Leaching to GW/ Notification	200	80	60	60	50	40	40
Resident/ Park User	20	700	275	500	250	350	300
Outdoor Commercial Worker/ Excavation-Construction Worker	5	1200	500	850	375	1500	400

Note: No adjustment is made for set points; the response factor should be 1.0 for all instruments.

Based on these characterizations, the following soil management practices shall be employed:

- Soil characterized for unrestricted use can be relocated and reused as general construction material anywhere at the maintenance yard. If excess soil is generated that cannot be reused this soil should be appropriately evaluated and/or sampled for laboratory analysis prior to reuse.
- Soil characterized as lightly contaminated should be properly stockpiled, covered, and managed as a contaminated material, but can be reused in the vicinity of the foundation removal and this project's borrow needs. Any excess lightly contaminated soil that is not to be reused should be properly characterized and disposed or recycled offsite.
- Soil characterized as highly contaminated or petroleum saturated should either be live loaded or temporarily stockpiled until sufficient volume has been accumulated and shipped offsite for proper disposal or recycling. The Contractor my request Resident approval for on-site reuse of this material. A final determination will be made in concert with the MTA and MaineDEP Project Manager as to the level of contamination.
- Stockpiled contaminated soils shall be placed on an impervious surface atop polyethylene sheeting, be properly covered with poly sheeting at the end of each work day or during inclement weather, and appropriate erosion/sedimentation controls should be used in the vicinity of the stockpiles to prevent stormwater from leaching or washing contaminants to nearby impervious surfaces or stormwater management systems.

The Authority's designated representative is responsible for signing any manifests or bills of lading required to transport and dispose of contaminated soil. All documentation and paperwork associated with the transport and disposal of lightly or highly contaminated soils (i.e., manifests/bills of lading, weigh slips, invoices, permits, etc.) shall be forwarded to the Maine Turnpike Authority's Environmental Services Coordinator at 2360 Congress Street, Portland, Maine 04102 within 30 days of the last shipment of soil to the licensed facility.

203.04 Secured Stockpile Area

Should the Contractor utilize a Temporary Secured Stockpile Area (hereafter referred to as a "Secured Stockpile"), they shall install a continuous one-foot (0.30 m) high compacted soil berm around the Secured Stockpile (see Secured Stockpile Area – Materials below for Specifications pertaining to soil berm, liner, cover and barricades). The Secured Stockpile shall be placed on a liner of 20-mil polyethylene and securely covered with 20-mil polyethylene. The polyethylene liner and cover shall be placed over the soil berm and be installed to ensure that precipitation water drains directly to the outside of the berm perimeter while leachate from the contaminated soil is retained within the stockpile by covering with a polyethylene. The Secured Stockpile and soil berm shall be enclosed within a perimeter of temporary concrete barriers or security fence. The area within the temporary concrete barriers (or security fence) shall be identified as a "restricted area" to prevent unauthorized access to the contaminated soils. The Contractor shall submit to the Resident a plan (sketch and sections) of the proposed secured stockpile area.

203.05 Secured Stockpile Area - Materials

A. Polyethylene. Polyethylene used for liner and cover in the Secured Stockpile Area shall have a minimum of 20-mil thickness and shall meet the requirements of ASTM D3020.

B. Common Borrow. Fill used in the construction of the Temporary Secured Stockpile Area soil berm shall consist of Common Borrow and meet the requirements of Subsection 703.18.

C. Concrete Barriers or Security Fence. Concrete Barriers or Security Fence to form the sides of the Temporary Secured Stockpile Area shall meet the requirements of Section 526 or Subsection 607.

203.06 Health and Safety/Right-to-Know

Contractors and subcontractors are required to notify their workers of the history of the area and contamination that may be present and to be alert for evidence of contaminated soil and groundwater. The Contractor shall notify the Resident at least 72-hours prior to commencing any excavation.

The Contractor shall prepare a site specific Health and Safety Plan (HASP) for its workers and subcontractors who may work in the contaminated area of the site. A Qualified Health and Safety Professional shall complete the HASP. The HASP shall be submitted to the Authority in accordance with the Submittal section below. The Qualified Health and Safety Professional will be an expert in field implementation of the following federal regulations:

29 CFR 1910.120 or Hazardous Waste Operations, and
29 CFR 1926.65 Emergency Response
29 CFR 1910.134 Respiratory Protection
29 CFR 1926.650 Subpart D - Excavations

29 CFR 1926.651 General Requirements

29 CFR 1926.652 Requirements for Protective Systems

The Contractor shall designate a person to provide direct on-site supervision of the work in the contaminated area. This person shall have the training and medical surveillance under OSHA 1910.120 (e) and (f) respectively, as detailed above and in addition be qualified as a construction Competent Person [OSHA 1926.32 (f) and (l)]. It is the responsibility of this designated person to make those inspections necessary to identify situations that could result in hazardous conditions (e.g., possible caveins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions), and then to ensure that corrective measures are taken.

Work inside contaminated trench sections may be subject to OSHA's permit-required confined space regulations under 29 CFR 1910.146.

Submittals. If contaminated soils are encountered the Contractor shall prepare and submit a site specific Health and Safety Plan (HASP) to the Resident for review, and receive approval, prior to completing any additional excavation work in the vicinity of the contaminated area. The Maine Turnpike and its Environmental Services Coordinator will review and comment on the HASP within five business days.

Health and Safety Monitoring. Within the contaminated area of the Project, the Contractor's designated person shall monitor the worker breathing zone for those constituents specified in the Contractor's HASP. The Contractor shall provide all required health and safety monitoring equipment.

203.07 Dewatering

Groundwater may be encountered during excavation for the foundation and utility work. If encountered and should its removal become necessary to complete work, it will be treated as "contaminated" water. The Contractor shall inform the Resident before any dewatering commences. The "contaminated" water shall be pumped into a temporary holding tank(s). The Contractor will be responsible for the procurement of any holding tank(s). Any testing, treatment and/or disposal of the stored, petroleum contaminated water shall be undertaken by the Contractor in accordance with applicable Federal, State and local regulatory requirements.

203.08 On-Site Water Storage Tanks - Materials

If dewatering within the identified contaminated area becomes necessary the holding tanks used for temporary storage of contaminated water pumped from excavations shall be contamination-free and sized appropriately for Contractor's storage, treatment, and disposal process.

203.09 Dust Control

The Contractor shall employ dust control measures to minimize the creation of airborne dust during construction within the contaminated area. As a minimum, standard dust control techniques shall be employed where heavy equipment and the public will be traveling. These may include techniques such as watering-down the site or spreading hygroscopic salts.

203.10 Method of Measurement.

This work will be measured for payment as appropriate, and as approved by the Resident, if potentially contaminated soils are encountered on site.

- Health and Safety Plan (HASP) will be measured for payment by the Lump Sum.
- Disposal/Treatment of Special Excavation will be measured for payment by the Ton
- Disposal/Treatment of Groundwater will be measured for payment by the Gallon.

203.11 Basis of Payment.

Health and Safety Plan (HASP) will be paid for at the Contract Lump Sum price which payment shall be full compensation for development of an approved HASP and providing health and safety equipment and personnel.

Disposal/Treatment of Special Excavation (contaminated soils) will be paid for at the Contract unit price per Ton which payment shall be full compensation for excavating, loading, hauling, treatment, placing, grading and compacting, and all necessary equipment and labor. Only soil excavated from within the area shown on the plans or as designated by the Resident will be paid under this pay item.

Disposal/Treatment of Contaminated Groundwater will be paid for at the Contract unit price per Gallon which payment shall be full compensation for pumping excavations, loading, hauling, treatment, and all necessary equipment and labor. Only groundwater pumped, treated and disposed of properly from the site will be paid under this pay item. Any water that is not required to be treated will not be paid for. Contractor is to propose and submit for review measurement and calibration of meter for pumped water.

There will be no measurement for identification and environmental screening of contaminated soil material or groundwater (this will be done by the Resident or Authority's Environmental Services Coordinator).

Construction of a Temporary Secured Stockpile Area, or groundwater holding tank, if necessary, will not be measured separately for payment, but shall be incidental to Items 203.2312, 203.2333, and 203.2334.

Hauling Surplus contaminated soils to the Temporary Secure Stockpile area or placement and removal of contaminated soils in or out of the Temporary Secure Stockpile area will not be measured separately for payment, but shall be incidental to Items 203.2312, 203.2333, and 203.2334.

All hauling and any subsequent management/placement of contaminated soils and/or groundwater shall be incidental to Items 203.2312, 203.2333, and 203.2334.

There will be no separate measurement for additional laboratory testing of contaminated soil that is required by the landfill or treatment facility. Testing shall be incidental to Item 203.2333, and 203.2334.

Payment will be made under:

Pay Item		Pay Unit
203.2312	Health and Safety Plan	Lump Sum
203.2333	Disposal/Treatment of Special Excavation	Ton
203.2334	Disposal/Treatment of Groundwater	Gallon

SPECIAL PROVISION

SECTION 304

AGGREGATE BASE AND SUBBASE COURSES

The provisions of Section 304 of the Maine DOT Standard Specifications (November 2014) and the Maine Turnpike Authority 2016 Supplemental Specification shall apply with the following additions and modifications:

304.02 General

Sources of Aggregate and preliminary test results shall be submitted ten working days prior to any placement of material on the job. Failure of these preliminary tests will be grounds for rejection of material from that source. Aggregates will be tested on the job and shall meet these specifications as the material is incorporated into the work.

304.06 Method of Measurement

Quantities for base gravel shall be measured in Cubic Yards.

304.07 Basis of Payment

The cost for laboratory testing and source documentation shall be incidental to providing base and subbase gravel. The cost for all failing tests shall be the responsibility of the Contractor.

Payment will be made under:

Pay Item		**Pay Unit**
304.10	Aggregate Subbase Course - Gravel	Cubic Yard
304.141	Aggregate Base Course – Type A	Cubic Yard

SECTION 304

AGGREGATE BASE AND SUBBASE COURSES
(Temporary Backfill of Trenches)

The provisions of Section 304 of the Maine DOT Standard Specifications (November 2014) and the Maine Turnpike Authority 2016 Supplemental Specification shall apply with the following additions and modifications:

304.02 General

Sources of Aggregate and preliminary test results shall be submitted ten working days prior to any placement of material on the job. Failure of these preliminary tests will be grounds for rejection of material from that source. Aggregates will be tested on the job and shall meet these specifications as the material is incorporated into the work.

304.06 Method of Measurement

Quantities for base gravel shall be measured in Cubic Yards.

304.07 Basis of Payment

Payment will be made under:

Pay Item		**Pay Unit**
304.14	Aggregate Base Course – Type A	Cubic Yard

SPECIAL PROVISION

SECTION 403

HOT MIX ASPHALT PAVEMENT

The provisions of Section 403 of the Maine DOT Standard Specifications (November 2014) and the Maine Turnpike Authority 2016 Supplemental Specification shall apply with the following additions and modifications:

Project Pavement

Course	HMA Grading	Item Number	Total Thickness	No. of Layers	Complementary Notes
Wearing	**12.5mm**	**403.208**	**4 ½"**	**3**	

COMPLEMENTARY NOTES

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

403.04 Method of Measurement

This Subsection is deleted and replaced with the following:

Quantities for Hot Mix Asphalt shall be measured by weight in tons.

403.05 Basis of Payment

Payment will be made under:

Pay Item		Pay Unit
403.208	Hot Mix Asphalt, 12.5 mm Normal Asphalt Size	Ton

SPECIAL PROVISION

SECTION 409

BITUMINOUS TACK COAT

The provisions of Section 409 of the Maine DOT Standard Specifications (November 2014) and the Maine Turnpike Authority 2016 Supplemental Specification shall apply with the following additions and modifications:

409.01 Description

This Subsection is deleted and replaced with the following:

This work consists of furnishing and applying one uniform application of RS-1 or RS-1h tack or an approved equal as indicated in this specification and as per manufacturers' recommendation. The application rate shall be 0.06 gal/yd^2.

A tack coat is required between pavement lifts as well as on all sawcut butt joints.

409.05 Equipment

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

409.06 Preparation of Surface

The following paragraph is added:

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

409.08 Method of Measurement

The following paragraphs are added:

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

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

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

409.09 Basis of Payment

Payment will be made under:

Pay Item		**Pay Unit**
409.15	Bituminous Tack Coat	Ton

SPECIAL PROVISION

SECTION 419

SAWING AND SEALING JOINTS IN BITUMINOUS PAVEMENT

(Sawing Bituminous Pavement)

419.01 Description

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

419.02 General

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

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

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

419.03 Method of Measurement

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

419.04 Basis of Payment

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

Payment will be made under:

Pay Item		**Pay Unit**
419.05	Sawing Bituminous Pavement	Linear Foot

SPECIAL PROVISION

SECTION 631

EQUIPMENT RENTAL

The provisions of Section 631 of the Standard Specifications shall apply with the following additions and modifications:

These items will only be used at the discretion of the Authority's Representative.

627.08 Basis of Payment

Payment will be made under:

Pay Item		**Pay Unit**
631.12	All Purpose Excavator (Including Operator)	Hour
631.172	Truck – Large (Including Operator)	Hour
631.22	Front End Loader (Including Operator)	Hour
631.36	Foreman	Hour
631.37	Laborer	Hour

SPECIAL PROVISION

SECTION 655

E LECTRICAL WORK

655.01 Description

All work shall be governed by the Standard Specifications except for that work which applies to those sections of the Standard Specifications which are amended by the following modifications, additions and deletions.

Specifically, for the electrical work (in addition to standards specified in individual work sections), the following standards are imposed, as applicable to the work in each instance:

- NEC, National Electrical Code (NFPA No. 70)
- NFPA No. 101, Life Safety Code
- ANSI C 2, National Electrical Safety Code
- ANSI C 73, Dimensions of Attachment Plugs and Receptacles
- NECA standards for installation
- NEMA standards for materials and products
- UL, Underwriters Laboratories

The Contractor will warranty the material supplied by them and their workmanship for a minimum of one (1) year from acceptance of the project.

655.02 General Provisions

RELATED DOCUMENTS

General provisions of this Contract, including General Provisions and Special Provisions, apply to work of this section.

SUMMARY

This Section specifies several categories of provisions for electrical work, including:

1. Certain adaptive expansions of requirements specified in the Special Provisions.

2. General performance requirements within the electrical systems.

3. General work to be performed as electrical work, because of its close association.

SUMMARY OF ELECTRICAL WORK

General Outline: The facilities and systems of the electrical work can be described (but not by way of limitation) as follows:

1. Installation of underground wiring in conduit, including the electrical connections to equipment.

2. Installation of temporary and interim provisions.

Permits and Fees: This work shall include the procurement of and payment for any and all permits and fees required for the performance of the electrical work including those that may be required from local utilities for services.

COORDINATION OF ELECTRICAL WORK

Refer to Part II, Special Provisions for general coordination requirements applicable to the entire work. It is recognized that the Contract documents are often diagrammatic in showing certain physical relationships, which shall be established within the electrical work, and in its interface with other work including utilities and mechanical work, and that such establishment is the exclusive responsibility of the Contractor.

Arrange electrical work in a neat, well-organized manner with conduit and similar services running parallel with primary lines of the building construction, and with a minimum of 7'0" overhead clearance where physical limitations permit.

Locate operating and control equipment properly and in accordance with the NEC, to provide easy access, and arrange entire electrical work with adequate access for operation and maintenance.

Coordination of Options and Substitutions: Where the Contract documents permit the selection from several product options, and where it becomes necessary to authorize a substitution, the Contractor shall not proceed with purchases until coordination of all interface requirements has been checked and satisfactorily established. Substitutions are subject to approval by the Authority or designated representative per the requirements of the Contract documents.

SUBMITTALS FOR ELECTRICAL WORK

For electrical work, submittals are required for each category of items listed below.

- Shop Drawings, Product Data, Certifications, Test Reports, Warranties, Guarantees, Installation Drawings, and Work Checklist in Appendix G.
- Installation Drawings shall be modified and submitted to reflect any changes during installation of electrical equipment.

The Contractor, prior to forwarding shop drawings and product data to the Resident, shall check all conditions, make all corrections and sign and date each set. No shop drawings will be reviewed by the Resident without the signature of the Contractor, which shall signify that he has checked the submittals.

PRODUCTS, ELECTRICAL WORK

Refer to Divisions 600 and 700 of the Standard Specifications for general requirements on products, materials and equipment. The following provisions expand or modify the requirements as applicable to electrical work:

Compatibility: Provide products, which are compatible with other products of the electrical work and with other work requiring interface with the electrical work, including electrical connections and control devices. For exposed electrical work, coordinate colors and finishes with other work.

FLOOR AND WALL PENETRATIONS

Where electrical materials penetrate walls or floors that are a part of a fire separation or assembly, the opening shall be effectively sealed to maintain separation integrity. Openings shall be closed using General Electric RTV850 Silicone RTV Foam, or approved equal to form a fire rated, water-tight seal, and be installed with automatic mixing only. The penetration seal materials shall pass ASTM E 814 (UL 1479) Standard Method of Fire Tests for Through Penetration Fire Stops up to the required fire resistance.

Where conduits penetrate a wall, floor or ceiling that is part of a weatherproof barrier, a non-shrink weatherproof type grout and or Sika 1A caulking shall be used, in accordance with manufacturer's installation instructions.

All work, materials, labor to fireproof or waterproof conduit penetrations shall be incidental to the various pay items.

EXCAVATING FOR ELECTRICAL WORK

The work of this article is defined to include whatever excavating and back-filling is necessary to install the electrical work. Coordinate the work with other excavating and back-filling in the same area, including de-watering; flood protection provisions, and other temporary facilities. Coordinate the work with other work in the same area, including other underground services (existing and new), paving, and concrete work. Coordinate with weather conditions and provide temporary facilities needed for protection and proper performance of installations, excavating and back-filling.

General Standards: Except as otherwise required, comply with the applicable provisions of Divisions 600 and 700 of the Standard Specifications for information related to electrical-work excavating and back-filling. Refer instances of uncertain applicability to the Resident for resolution before proceeding.

ELECTRICAL WORK CLOSEOUT

Construction Equipment: After completion of performance testing with the Authority's representative, remove Contractor's tools, test facilities, construction equipment and similar devices and materials used in execution of the work but not incorporated in the work.

RELATED DOCUMENTS

General provisions of the Contract, including General Provisions and Special provisions, apply to work of this section.

SUMMARY

The requirements of this section apply to electrical wireway work specified elsewhere in these Specifications.

The types of electrical wireways required for the project may include the following:

- Electrical metallic tubing.
- Liquid tight metallic flexible conduit.
- Galvanized rigid metal conduit.
- Nonmetallic conduit. (PVC)

QUALITY ASSURANCE

Manufacturers: Firms regularly engaged in manufacture of electrical wireways of types and capacities required, whose products have been in satisfactory used in similar service for at least three years

Contractor: A firm with at least three years of successful installation experience on projects with electrical wiring installation work similar to that required for the project. Under this definition, Contractor can also be a subcontractor to the General Contractor for the Project.

NEMA Compliance: Comply with applicable portions of National Electrical Manufacturers Association standards pertaining to nonmetallic duct and fittings for underground installation.

UL Labels: Provide electrical wireways, which have been listed and labeled by Underwriters Laboratories.

NEC Compliance: Comply with National Electrical Code (NFPA No. 70) as applicable to construction and installation of electrical wireways.

PRODUCT DELIVERY, STORAGE AND HANDLING

Provide color-coded end-cap thread protectors on exposed threads of threaded metal conduit. Handle conduit and tubing carefully to prevent bending and end-damage and to avoid scoring finish. Store pipe and tubing inside and protect from weather. When necessary to store outdoors, elevate well above grade and enclose with durable, watertight wrapping.

MATERIALS AND COMPONENTS

For each electrical wireway system required, provide a complete assembly of conduit or tubing with fittings including, but not necessarily limited to, connectors, nipples, couplings, elbows, expansion fittings, supports, and other components and accessories as needed to form a complete system for the type required.

Metal Conduit, Tubing and Fittings: Provide metal conduit, tubing and fittings of type, grade, size and weight (wall thickness) required for each service. Where type and grade are not indicated, provide

proper selection determined to fulfill wiring requirements, and comply with National Electrical Code for electrical wireways.

Rigid Steel Conduit: FS WW-C-581 and ANSI C80.1.

Intermediate Steel Conduit: FS WW-C-581 and ANSI C80.1.

EMT – Electrical Metallic Tubing: FS WW-C-563A, ANSI C80.3 and UL 797. Installation shall comply with NEC Article 348. Provide high quality, hot dip galvanized, electrical metallic tubing conduit and fittings of type, size and weight (wall thickness) required for each application. EMT shall only be used in enclosed areas that are not subject to possible collision or interference. Where type and grade are not indicated, provide proper selection determined to fulfill wiring requirements, and comply with National Electrical Code. Rain-tight compression type connectors shall be used in all cases. Set-screw type conduit connections or fittings shall not be used.

Galvanized Rigid Metal Conduit Fittings: FS W-F-408, Type and Classes as required.

Liquid-tight Flexible Metal Conduit: Provide liquid-tight flexible metal conduit comprised of single strip, continuous, flexible interlocked, double-wrapped steel, galvanized inside and outside; forming smooth internal wiring channel; with liquid-tight jacket of flexible polyvinyl chloride (PVC).

Liquid-tight Flexible Metal Conduit Fittings: FS W-F-406, Type as required.

Nonmetallic Conduit and Fittings (PVC): Provide nonmetallic conduit and fittings of type, size and weight (wall thickness) required for each service. Where type and grade are not indicated, provide proper selection determined to fulfill wiring requirements, and comply with National Electrical Code for electrical wireways, and with type selected in accordance with applicable standards.

Conduit and Tubing and Wireway Accessories: Provide conduit, tubing and wireway accessories including straps, hangers, angles expansion and deflection fittings as recommended by conduit, tubing and wireway manufacturers.

Mounting strut materials and hardware: Provide corrosion-resistant hot-dip galvanized strut members and stainless-steel hardware for all equipment and cabinet mounting applications.

INSTALLATION

Install conduit and tubing products as required, in accordance with manufacturer's written instructions, applicable requirements of NEC and National Electrical Contractors Association's "Standard of Installation", and in accordance with recognized industry practices to ensure that products serve intended function.

Complete the installation of electrical wireways before starting installation of cables within wireways.

Where conduit is installed in earth, it shall be Polyvinyl Chloride (PVC) conduit as specified in the Plans.

PVC conduit shall be used in concrete slabs on grade and where noted in the Plans. Metallic conduit is not permitted in the concrete slabs or in substitution of any PVC conduit locations specified on the Plans without specific authorization by the Authority.

Wherever possible, install horizontal wireway runs above water and steam piping.

At any point where a conduit crosses an expansion joint, or where movement between adjacent sections of conduit can be expected, bronze or alloy expansion fittings shall be installed equal to Type AX as made by the O.Z. Electrical Manufacturing Co., Inc., or equivalent by Hope or Spring City unless such locations are within conduit specified as non-metallic. Such locations shall be handled with a non-metallic equivalent or as specified in Plans.

The Contractor shall submit a proposed method of attaching all ancillary components to the space frame to the Resident for approval. The proposed attachment method shall not require drilling, welding or other attachment methods that will damage the space frame or its galvanized coating. Any areas of galvanized coating that are damaged by the Contractor during installation of ancillary components shall be repaired in accordance with ASTM A780.

655.03 Wires and Connectors

RELATED DOCUMENTS

The general provisions of the Contract, including General Provisions and Special Provisions, apply to the work specified in this section.

QUALITY ASSURANCE

Manufacturers: Firms regularly engaged in the manufacture of electrical products of the types and ratings required, whose products have been in satisfactory use in similar service for at least three years.

Contractor: A firm with at least three years of successful installation experience on projects with electrical wiring installation work similar to the work required for the project. Under this definition, Contractor can also be a subcontractor to the General Contractor for the Project.

NEC Compliance: Comply with National Electrical Code (NFPA 70) as applicable to construction and installation of electrical cable, wire and connectors.

UL Labels: Provide electrical cable, wire and connectors, which have been listed and labeled by Underwriters Laboratories.

NEMA/ICEA Compliance: Comply with National Electrical Manufacturers Association/Insulated Power Cable Authorities Association Standards publications pertaining to materials, construction and testing wire cable, where applicable.

PRODUCT DELIVERY, STORAGE AND HANDLING

Provide factory-wrapped water-proof flexible barrier material for covering wire and cable on wood reels, where applicable; and weather resistant fiberboard containers for factory-packaging of cable, wire and connectors, to protect against physical damage in transit. Do not install damaged cable, wire or connectors. Damaged materials must be removed from project site as soon as possible after damage is discovered.

Store wire and connectors in factory-installed coverings in a clean, dry indoor space which provides protection against the weather and elements.

MANUFACTURERS

Provide products produced by one of the following or approved equal (for each type of cable, wire and connectors):

Cable and Wire:

- Anaconda Wire and Cable Co.
- Belden Corp.
- General Cable Corp.
- Phelps Dodge Cable and Wire Co.
- Wire and Cable Dept., General Electric Co.
- Rome Cable Corp.

Connectors:

- AMP Inc.
- Burndy Corp.
- Minnesota Mining and Mfg. Co.
- OZ/Gedney Co.
- Thomas & Betts Co.

WIRE AND CONNECTORS

Except as otherwise required, provide wire and connectors of manufacturer's standard materials, as required by published product information and designed and constructed as recommended by the manufacturer as required for the installation.

Wire: Provide factory-fabricated wire of the size, rating, material and type as required for each service. Where not indicated, provide proper selection as determined by Installer to comply with installation requirements and with NEC standards. Select from only the following types, materials, conductor configurations, insulations, and coverings for 120/208 Volt circuits for a 3- phase system:

UL Type: THW. (Sizes #6 AWG wire and larger) UL
Type: THHW. (Sizes up to #4 AWG wire) UL Type:
USE. (Underground installation) Material: Copper.

Conductors: (AWG wire 20 to AWG wire 16).

Concentric-lay-stranded (standard flexibility) (AWG wire 14 and larger).

Interconnection for data communication shall be performed with cables that shall be submitted for approval. The general cable types are designated on the Plans/ Specifications. Minimum bend radius should meet the requirements of the manufacturer and the requirements of the system.

Wire shall be color-coded as noted in the wiring schedules provided in the Plans.

INSTALLATION

Install electrical wire and connectors as required, in accordance with the manufacturer's written instructions, the applicable requirements of NEC and the National Electrical Contractors Association's "Standard of Installation", and in accordance with recognized industry practices to ensure that products serve the intended functions.

Coordinate cable and wire installation work with electrical wireway and equipment installation work, as necessary for proper interface.

All wire and cable shall be in first class condition when installed. Lo-leak lubricants manufactured for the purpose of a pulling lubricant may be used when necessary.

All wires shall be continuous from outlet and there shall be no unnecessary slack in the conductors.

FIELD QUALITY CONTROL

Prior to energizing, check wire for continuity of circuitry and for short circuits with ohmmeter type testing equipment. The Contractor shall correct any malfunctions when they are detected.

Subsequent to wire hook-ups, energize circuitry and demonstrate functioning in accordance with requirements.

655.04 Electrical Boxes and Fittings

RELATED DOCUMENTS

The general provisions of the Contract, including General Provisions and Special Provisions, apply to the work specified in this section.

SUMMARY

The types of electrical boxes and fittings required for the project may include the following:

- Pull boxes
- Conduit bodies
- Bushings
- Locknuts

QUALITY ASSURANCE

Manufacturers: Firms regularly engaged in the manufacture of electrical units of types and sizes required, whose products have been in satisfactory use in similar service for at least three years.

Contractor: A firm with at least three years of successful installation experience on projects with electrical installation work similar to that required for the project. Under this definition, Contractor can also be a subcontractor to the General Contractor for the Project.

NEC Compliance: Comply with National Electrical Code (NFPA 70) as applicable to construction and installation of electrical boxes and fittings.

U.L. Labels: Provide boxes and fittings, which have been listed and labeled by Underwriters Laboratories.

NEMA Compliance: Comply with National Electrical Manufacturers Association standards as applicable to nonmetallic fittings for underground installation.

NECA Standard: Comply with applicable portions of the National Electrical Contractors Association's "Standard of Installation".

MANUFACTURERS

Provide products produced by one of the following or approved equal (for each type of box and fitting):

Interior Outlet Boxes:
- Appleton Electric Co.
- Arrow Conduit and Fittings Corp.
- National Electric Products Co.
- OZ/Gedney Co.
- Steel City, Midland-Ross Corp.

Junction and Pull Boxes:
- Arrow-Hart, Inc.
- General Electric Co.
- OZ/Gedney Co.
- Square D Co.
- Until

Conduit Bodies:
- Appleton Electric Co.
- Crouse-Hinds Co.
- Killark Electric Mfg. Co.
- Pyle-National Co.

Bushings, Knockout Closures and Locknuts:
- Allen-Stevens Conduit Fittings Corp.
- Allied Metal Stamping, Inc.

- Appleton Electric Co.
- Carr Co.
- Raco, Inc.
- Steel City, Midland-Ross Corp.
- Thomas and Betts Co., Inc.

FABRICATED MATERIALS

Junction and Pull Boxes: Provide galvanized sheet steel, PVC or concrete junction and pull boxes as called for in the Plans with screw-on covers; of the type shape and size, to suit each respective location and installation; with welded seams and equipped with stainless steel nuts, bolts, screws and washers.

Conduit Bodies: Provide galvanized cast-metal conduit bodies, of the type, shape and size, to suit each respective location and installation, constructed with threaded conduit ends, removable cover, and corrosion-resistant screws.

Bushings, Knockout Closures and Locknuts: Provide corrosion-resistant punched-steel box knockout closures, conduit locknuts and malleable iron conduit bushings of the type and size to suit each respective use and installation.

Mounting strut materials and hardware: Provide corrosion-resistant hot dipped galvanized members and stainless-steel hardware for all equipment mounting applications. Where strut material is exposed to the weather, and less than 10 feet off the ground, struts shall be stainless steel. If any galvanized strut member or hardware is cut or the galvanizing is compromised, the affected area shall be wire brushed and cleaned to bare metal and the area shall be given two coats of cold galvanizing (following application instructions).

INSTALLATION OF BOXES AND FITTINGS

Install in compliance with NEC requirements, in accordance with the manufacturer's written instructions, and with recognized industry practices to ensure the boxes and fittings serve the intended purposes. Contractor shall coordinate all associated conduit, wiring and related work with the Resident and SI to confirm appropriate placement in coordination with ORT Control cabinet installation. Given the final installation of the ORT Control cabinets will likely take place several weeks following the placement of the cabinets in the plaza tunnel, the Contractor shall work with the Resident to provide adequate protection of the cabinets until they are mounted in their final location.

Install electrical boxes and fittings in compliance with NEC requirements, in accordance with the manufacturer's written instructions and with recognized industry practices to ensure that the boxes and fittings serve the intended purposes:

Provide weatherproof outlets for interior and exterior locations exposed to weather or moisture.

Provide knockout closures to cap unused knockout holes where blanks have been removed Locate boxes and conduit bodies to ensure accessibility of electrical wiring.

All boxes shall be rigidly secured in position unless otherwise directed by the Resident.

Where standard boxes are not suitable, provide boxes of special design to suit space and function.

Conduit bushings shall be used on the end of all pipes terminated in a raceway or boxes.

The Contractor shall submit a proposed method of attaching all ancillary components to the space frame to the Resident for approval. The proposed attachment method shall not require drilling, welding or other attachment methods that will damage the space frame or its galvanized coating. Any areas of galvanized coating that are damaged by the Contractor during installation of ancillary components shall be repaired in accordance with ASTM A780.

EQUIPMENT

Furnish and install all boxes and/or access plates required for installation and inspection of grounding connections to cold water piping system or other made electrodes.

Provide brass identifying tags on all ground clamps.

INSTALLATION

Ground connections made to metallic cold-water piping system at such locations as will be readily available for inspection. Provide jumper connections around all meters and shut off devices.

Where cold water piping is not available for ground connections, use other available or made electrodes as described in NEC Sections 250-81 or 250-83.

Conduit Grounding: All grounding bushings within all enclosures, including equipment enclosures, shall be wired together and connected internally to the enclosure grounding lug or grounding bus with bare copper conductor. Grounding conductors sized in accordance with NEC shall be used with all grounding bushings.

Equipment Grounding: All electrical equipment shall be grounded. Most other equipment will be furnished with grounding pads or grounding lugs. All ground connections shall be cleaned immediately prior to connection. The Contractor shall provide all grounding material required but not furnished with the equipment.

No grounding conductor shall be smaller than 12 AWG wire unless it is a part of an acceptable cable assembly.

SPECIAL PROVISION

SECTION 655

ELECTRICAL

(AWG Wire)

Description

This task shall include the providing and installation of the AWG wire, as described herein for wiring, for grounding wires (where applicable) and other locations called for in the Plans and Specifications. All wire installed in conduit must be burial grade, suitable for wet locations.

Basis of Payment

Measurement and payment for the installation of the AWG wire as described herein will be per foot, to the nearest 10-foot interval per run. It shall include the furnishing, installation, routing, termination, splices and connection of the wire per the wiring schedule.

Payment will be made under:

Pay Item		Pay Unit
655.102	500 KCMIL	Linear Foot
655.106	#2/0 AWG Wire	Linear Foot
655.11	#6 AWG Wire	Linear Foot
655.12	#1 AWG Wire	Linear Foot
655.13	#3 AWG Wire	Linear Foot
655.14	#10 AWG Wire	Linear Foot

SPECIAL PROVISION

SECTION 655
ELECTRICAL
(PVC Conduit)

Description

This task shall include providing and the installation of PVC Conduit as shown on the Plan drawings and described herein. All conduits shall be installed per NEC specification. Connections to specialized fittings are to be compatible with adjoining conduit.

Joints shall be made in accordance with ASTM D 2855. Solvent cement shall meet the requirements of ASTM D 2564 with particular attention paid to matching the viscosity to the conduit size.

Joint adhesives shall be in accordance with ASTM D2517.

All conduit runs shall be watertight. Slope conduit to drain into junction boxes.

All empty conduits shall have a labeled pull string. Pull strings shall have length markings and should be used for long conduits over 50 feet or for all underground installations. Clean, plug and seal conduit ends after installation.

Basis of Payment

Measurement and payment for installing PVC Conduit as shown on the Plan drawings and described herein will be per linear foot of each type of underground or exposed conduit actually furnished, installed, and accepted at the Contract price per linear foot. It shall include the furnishing, installing, supporting and connection of the conduit and all various hardware necessary for the installation. This price shall include the cost of hand digging, trenching, or plowing; furnishing and installing the conduit; furnishing special backfilling materials, pull string, fittings, groundings and bonding; test cleaning interiors of conduits and all materials, labor, equipment and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
655.2001	3/4” Schedule 80 PVC Conduit	Linear Foot
655.2002	1” Schedule 80 PVC Conduit	Linear Foot
655.2003	2” Schedule 80 PVC Conduit	Linear Foot
655.2013	3” Schedule 80 PVC Conduit	Linear Foot
655.2014	3 1/2” Schedule 80 PVC Conduit	Linear Foot

SPECIAL PROVISION

SECTION 655

ELECTRICAL (Liquid Tight Metallic Flexible Conduit)

Description

This task shall include providing and the installation of Liquid Tight Metallic Flexible Conduit as shown on the Plan drawings and described herein. All conduit shall be watertight with flexible PVC coating over galvanized steel flex tubing. Conduit shall be installed and grounded per NEC regulations. All supports for shall be hot dipped galvanized or stainless steel. Connections shall be specialized fittings to be compatible with adjoining conduit and watertight.

Basis of Payment

Measurement and payment for installing the Liquid Tight Metallic Flexible Conduit as shown on the Plan drawings and described herein will be per linear foot furnished, installed, and accepted at the Contract price per linear foot. This price shall include the cost of: furnishing and installing the conduit; pull string, fittings, groundings and bonding; test cleaning interiors of conduits and all materials, labor, equipment and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
655.2100	1” Liquid Tight Metallic Flexible Conduit	Linear Foot
655.2102	2” Liquid Tight Metallic Flexible Conduit	Linear Foot

SPECIAL PROVISION

SECTION 655

ELECTRICAL
(Underground Pull Boxes)

Description

This task shall include providing and installing:

- Pull box as shown on the Plan drawings and detailed herein. The F pull box shall be installed in building utility pits, or where this size is to be used in a wet location or in an exterior location.
- Precast concrete pull box, sized as shown on plans, H-20 traffic rating, galvanized cover with ID plates, and tamper proof locking capability.

Basis of Payment

Measurement and payment for installing the pull boxes as shown on the Plan drawings and described herein will be per each item. It shall include the furnishing, installation, mounting of the box, and the drilling of holes into the box for conduits.

Payment will be made under:

Pay Item		Pay Unit
655.31	Underground Pull Box	Each

SPECIAL PROVISION

SECTION 655

ELECTRICAL

(PVC Conduit Fittings)

Description

This task shall include the installation of PVC fittings where called for on the plans, or where required. Fittings for PVC fittings are to be joined using couplings and approved solvent, as recommended by the manufacturer. Types of fittings include, but are not limited to “LB”, “T”, “LR”, “LL”. All openings shall have rubber gaskets.

Basis of Payment

Measurement and payment for installing the PVC fittings as described herein will be per item. It shall include the furnishing, installation and mounting of the fittings, and all associated hardware.

Pay Items are as follows:

Pay Item		Pay Unit
655.50	2” PVC Conduit Fittings	Each
655.51	3 1/2” PVC Conduit Fittings	Each
655.52	1” PVC Conduit Fittings	Each
655.53	3/4" PVC Conduit Fittings	Each
655.55	3" PVC Conduit Fittings	Each

SPECIAL PROVISION

SECTION 659

MOBILIZATION

659.01 Description

When this item is listed as a Pay Item in the Bid, it shall consist of preparatory work and operations including, but not limited to those necessary to the movement of personnel, equipment, supplies and incidentals to the project site; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various items on the project site.

659.02 Basis of Payment

The total sum of payments under this item shall not exceed the original Contract amount bid regardless of the fact that the Contractor may shut down their work on the Project or move equipment away from the Project and then back again.

Payment will be made under:

Pay Item		**Pay Unit**
659.10	Mobilization	Lump Sum

SPECIAL PROVISION

SECTION 800

ELECTRICAL DISTRIBUTION AND GENERATOR REPLACEMENT

800.1 Description

Division 800 specifies materials, procedures, and requirements for the Electrical Distribution and Generator replacement complete with all appurtenances, including any and all items as shown on the Drawings.

The Contractor shall submit to the Resident for approval a cost breakdown of the major components of work required by standard specification Division 26. This breakdown will be used as a basis for monthly pay estimates.

A site walk-thru shall occur 30 days prior to anticipated completion of the building. This shall be one week prior to the completion of the project.

The Contractor shall ensure and be responsible for the total and complete coordination of all work. Coordination drawings shall:

1. Be computer generated.
2. Show a dimensionally accurate representation of all equipment that was approved by the shop drawing process.
3. Be submitted to and approved by the MTA prior to the purchasing of any approved equipment.

800.2 Work Included

Construction includes, but is not necessarily limited to, the following:

1. Remove and stack the existing temporary shed and equipment not to be reincorporated into the work.
2. The work includes a new metal enclosure for the ATS and Panel DP, generator with enclosure, ATS, wiring and connection to existing panels that are being refed, removal of existing feeders after feeder replacement, electrical, as well as lighting, utilities, and all other work incidental thereto in accordance with the Plans and Specifications.
3. Removal of all fire damaged items: generator, ATS, panels, wiring, metering, conduit, etc.

4. Furnishing and installing secondary power conduit and wiring from the nearby utility transformer, metering, conduit, wire, supports, brackets, junction boxes, etc. required to provide all work.

5. Provision of emergency and exit lighting in existing garage. This shall include all wiring, conduit, fittings, lighting, connections, etc for a code compliant emergency egress installation.

Note: The conduits outside of these limits are paid under unit pricing per MDOT 2014 standards.

800.3 Method of Measurement

The scope will be measured for payment by the lump sum, complete and accepted.

Work outside of the horizontal pay limit of 5' from generator pad and 5' from each building that houses existing panels that are to be refed shall be performed under other portions of the Contract documents.

800.4 Basis of Payment

Electrical distribution and Generator replacement will be paid for at the lump sum price bid which shall be full compensation for the cost of furnishing all materials, equipment, supplies, tools, incidentals, labor and supervision necessary to satisfactorily complete the work in all respects, to the satisfaction of the Resident.

Mobilization shall not be within the lump sum pay limit but will be paid for and meet the specifications of pay item 659.10.

Payment will be made under:

Pay Item		Pay Unit
800.01	Electrical distribution and Generator replacement	Lump Sum

SPECIAL PROVISION

SECTION 832

SITE BOLLARDS

832.01 Description

This work shall consist of furnishing and installation of Type A Steel Site Bollards with cast in place concrete base and LDPE bollard sleeves in accordance with these specifications, and as shown on the Plans.

832.04 Basis of Payment

The accepted quantity of bollards will be paid for at the Contract unit price each. The bollards will be provided by MTA and installed by the Contractor at the Pay Item provided in the bid form.

Payment will be made under:

Pay Item		**Pay Unit**
832.41	Type A Steel Bollards	Each

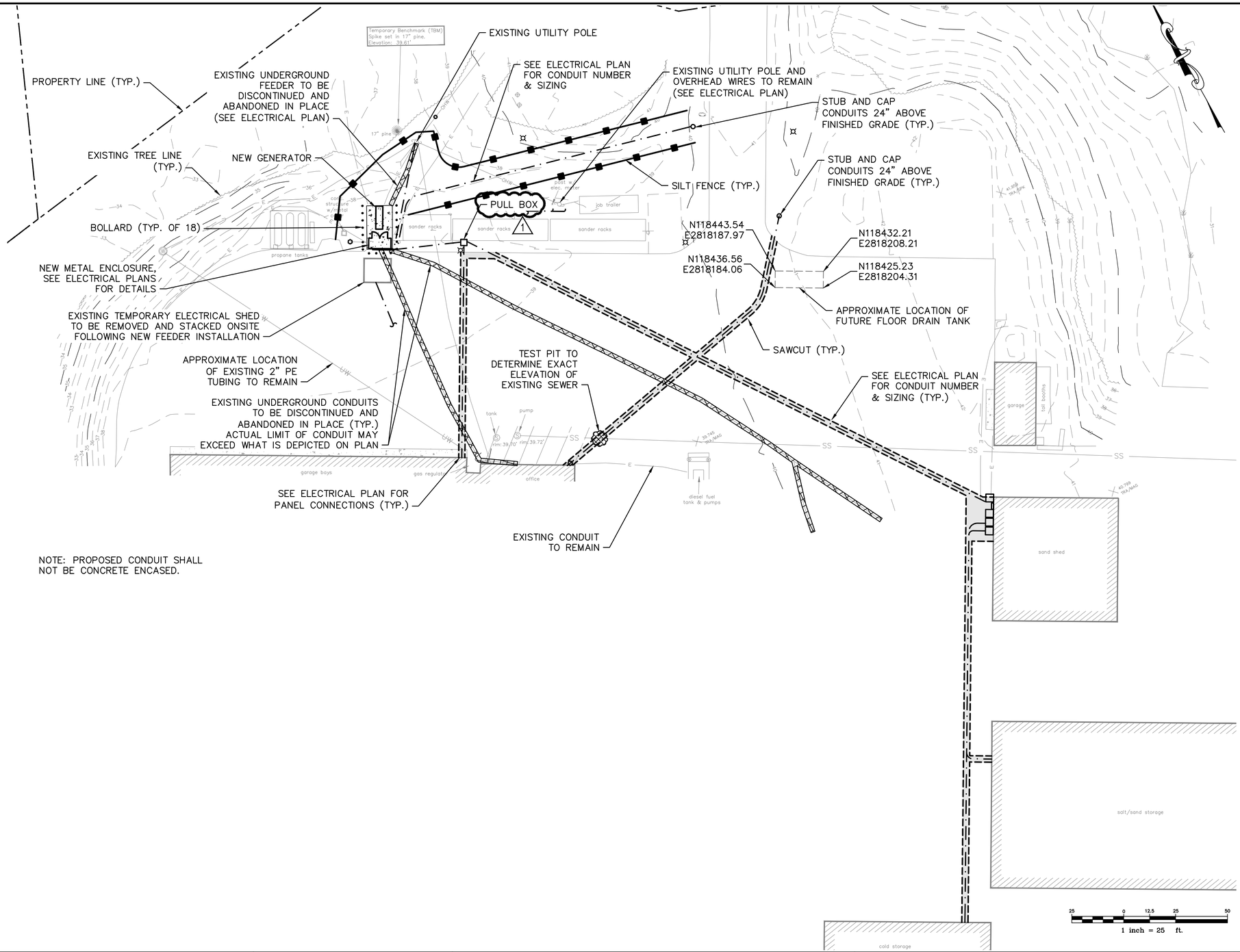
CIVIL LEGEND

SYMBOL	DESCRIPTION
	EXISTING RIGHT-OF-WAY
	EXISTING SETBACK
	EXISTING EDGE OF PAVEMENT
	EXISTING TREELINE
x	EXISTING CHAINLINK FENCE
	EXISTING GUARDRAIL
249	EXISTING CONTOUR
	EXISTING BUILDING
UG	EXISTING UNDERGROUND GAS
OHW	EXISTING OVERHEAD WIRE
UC	EXISTING UNDERGROUND CABLE
UW	EXISTING UNDERGROUND WATER
UE	EXISTING UNDERGROUND ELECTRIC
15" RCP SD	EXISTING UNDERGROUND STORM DRAIN
	EXISTING CATCH BASIN
	EXISTING FREE STANDING SIGN
	EXISTING WATER SHUT OFF
	EXISTING LIGHT POLE
	EXISTING PROPANE TANK
	EXISTING UTILITY POLE
	EXISTING HYDRANT
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED SILT FENCE
	PROPOSED SAWCUT
	PROPOSED TEST PIT

PAVEMENT LEGEND
HEAVY DUTY BITUMINOUS PAVEMENT

SITE PLAN NOTES

1. NORTH IS REFERENCED TO GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD83.
2. ELEVATIONS ARE BASED ON GPS OBSERVATIONS, NAVD88 DATUM. BENCHMARK IS A SPIKE SET IN A 17" PINE LOCATED NORTHEASTERLY OF THE GENERATOR BUILDING. ELEVATION: 39.61'.
3. UTILITY INFORMATION ON THIS PLAN IS APPROXIMATE, BASED ON LOCATION OF VISIBLE FEATURES.
4. SEE BOUNDARY SURVEY AND EXISTING CONDITIONS PLAN PREPARED BY TITCOMB ASSOCIATES DATED APRIL 2020.
5. LOCATIONS OF SAND STORAGE, SAND/SALT STORAGE, AND COLD STORAGE BUILDINGS ARE APPROXIMATE BASED ON "YORK MAINTENANCE FACILITY – SITE PLAN" BY HNTB DATED APRIL 1995.



NOTE: PROPOSED CONDUIT SHALL NOT BE CONCRETE ENCASED.

Scale: 1"=25'						
No.	Revision	By	Date			
-	-	-	-			
Designed:	MYR	10/10/23	Checked:	AMP	10/10/23	
Drawn:	CG	10/10/23				

Designed by: MATT RABASCO

ISSUED FOR BID - NOT FOR CONSTRUCTION

STATE OF MAINE ALTON M. PALMER III No. 9231 LICENSED PROFESSIONAL ENGINEER

GORRILL PALMER

PROJ.NO.: 3660 CAD FILE: 3660-SP-P2.dwg

MAINE TURNPIKE

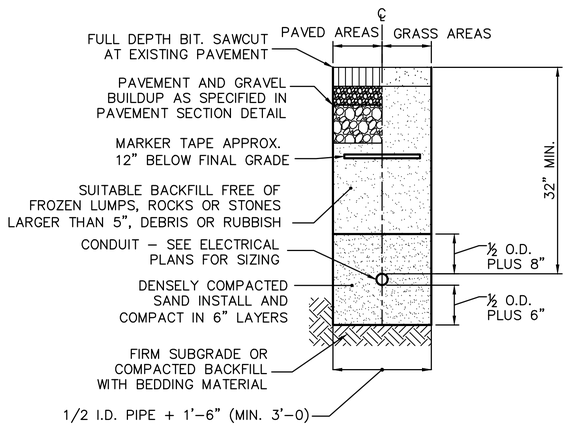
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: **Brian A. Taddeo, P.E.**

CONTRACT 2023.11
YORK MAINTENANCE ELECTRICAL REPAIRS
SITE, UTILITY, AND EROSION CONTROL PLAN

SHEET NUMBER: C-101

CONTRACT: 2023.11



NOTES:

1. THE BEDDING SHALL BE COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY. USE HAND TAMPERS OR VIBRATORY COMPACTORS.

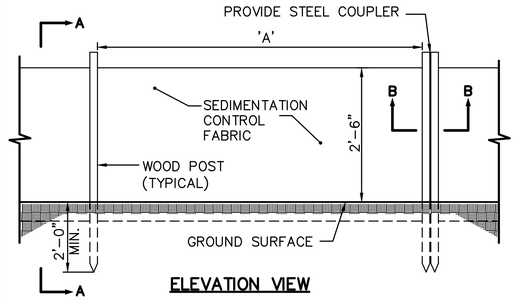
2 CONTRACTOR SHALL SHORE TRENCH SIDES WHEN REQUIRED OR AS DIRECTED BY THE RESIDENT.

3. CONTRACTOR TO INSTALL TRACER WIRE OVER PIPE.

4. ADJACENT CONDUITS SHOULD BE SEPARATED HORIZONTALLY BY A MINIMUM OF 6".

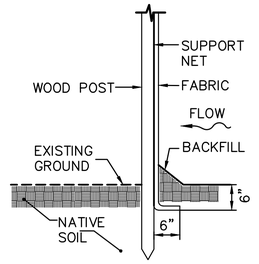
UTILITY TRENCH – PRIMARY AND SECONDARY POWER

NOT TO SCALE

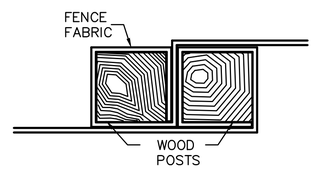


ELEVATION VIEW

SILT FENCE	
SILT FENCE REINFORCEMENT	MAXIMUM SPACING "A"
NONE	6"
WIRE REINFORCE,MENT 14 GUAGE,6" MESH	10'



SECTION A–A



SECTION B–B

SILTATION FENCE DETAIL

NOT TO SCALE

NOTES:

1. THE WOOD WASTE COMPOST/BARK MIX SHALL CONFORM TO THE FOLLOWING STANDARDS:

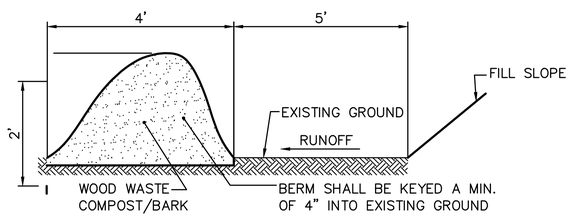
   A. MOISTURE CONTENT – 30–60%.
   B. pH – 5.0 – 8.0.
   C. SCREEN SIZE – 100% LESS THAN 3", MAX. 70% LESS THAN 1".
   D. NO LESS THAN 40% ORGANIC MATERIAL (DRY WEIGHT) BY LOSS OF IGNITION.
   E. NO STONES LARGER THAN 2" IN DIAMETER.
   F. SILTS, CLAYS OR SUGAR SANDS ARE NOT ACCEPTABLE IN THE MIX.

2. THE COMPOST BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.

3. THE WOOD WASTE COMPOST/BARK FILTER BERM MAY BE USED IN LIEU OF SILTATION FENCE, AT THE TOE OF SHALLOW SLOPES, ON FROZEN GROUND, LEDGE OUT CROPS, VERY ROOTED FORESTED AREA OR AT THE EDGE OF GRAVEL PARKING AREAS.

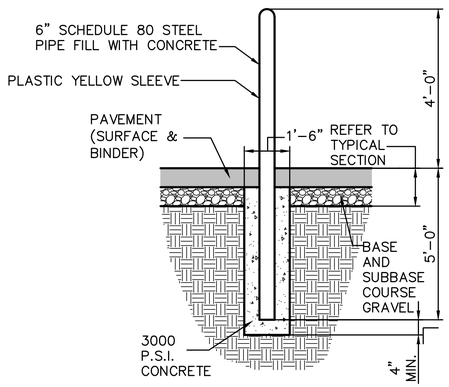
4. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS COMPLETED OR 70% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED BY SPREADING SUCH THAT NATIVE EARTH CAN BE SEEN BELOW.

5. WOODWASTE COMPOST BARK FILTER SHALL NOT BE USED IN WETLAND AREAS.



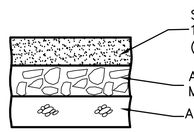
WOOD WASTE COMPOST/BARK FILTER BERM DETAIL

NOT TO SCALE



BOLLARD DETAIL

NOT TO SCALE



THICKNESS AND ORDER OF LAYERS
4.5" SURFACE COURSE BITUMINOUS 12.5mm HOT MIX ASPHALT
6" AGGREGATE BASE GRAVEL MAINEDOT 703.06 TYPE A
15" AGGREGATE SUBBASE GRAVEL MAINEDOT 703.06 TYPE D

NOTES:

1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D–1557.

2. IN AREAS OF NEW PAVEMENT THE CONTRACTOR SHALL PROVIDE FULL DEPTH GRAVEL CONSTRUCTION.

HEAVY DUTY BITUMINOUS PAVEMENT SECTION

NOT TO SCALE

NOTES:

1. JUNCTION BOX SHALL BE DESIGNED TO COMPLY WITH NATIONAL ELECTRICAL SAFETY CODE SECTION 323A. PROVIDE SHOP DRAWINGS STAMPED BY AN ENGINEER LICENSED IN THE STATE OF MAINE UPON REQUEST.

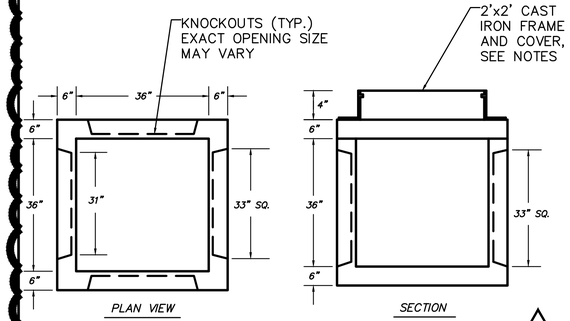
2. JUNCTION BOX AND SLAB SHALL BE SET ON A SUITABLE GRAVEL BASE.

3. FRAME AND LID SHALL BE NEENAH R–6662–RH OR APPROVED EQUAL.

4. PULL BOX DIMENSIONS MAY VARY DEPENDING ON THE SPECIFIC INSTALL REQUIREMENTS. THE MINIMUM DIMENSIONS SHALL BE 18"x18"x12". CONTRACTOR TO SUBMIT SHOP DRAWING FOR APPROVAL BY ENGINEER PRIOR TO CONSTRUCTION.

NOTES:

- CONCRETE TO TEST 4000 PSI @ 28 DAYS



36"x36" ELECTRIC PULL BOX

NOT TO SCALE

1

Scale: N/A				Designed by: MATT RABASCO						
No.	Revision	By	Date	ISSUED FOR BID - NOT FOR CONSTRUCTION						
-	-	-	-		By	Date		By	Date	
				Designed:	MYR	10/10/23	Checked:	AMP	10/10/23	
				Drawn:	CG	10/10/23				

STATE OF MAINE — ALTON M. PALMER III — No. 6251 — LICENSED PROFESSIONAL ENGINEER

GORRILL PALMER

PROJ.NO.: 3660 | CAD FILE: 3660-DETAILS-P2.dwg

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2023.11
YORK MAINTENANCE ELECTRICAL REPAIRS
DETAILS

CONTRACT: 2023.11

SHEET NUMBER: C-401