



JOHN ELIAS BALDACCI
GOVERNOR

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0016

DAVID A. COLE
COMMISSIONER

May 28, 2009
Subject: **South Portland**
Federal Project No's: STP-1123(100)X &
IM-A280(000)
State Pin No's: 011231.00 & 012800.00
Amendment No. 2

Dear Sir/Ms:

Make the following changes to the Bid Documents:

In the Bid Book (pages 4 through 11) **REMOVE** the "SCHEDULE OF ITEMS" 8 pages dated 090508 and **REPLACE** with the attached new "SCHEDULE OF ITEMS", 11 pages dated 090514.

In the Bid Book (after page 110), **INSERT** the attached "SPECIAL PROVISION, SECTION 626, FOUNDATIONS, CONDUIT AND JUNCTION BOXES FOR HIGHWAY SIGNING, LIGHTING AND SIGNALS", 1 page dated May, 2009.

In the Bid Book (before page 111), **INSERT** the attached "SPECIAL PROVISION, SECTION 633, INSTALLATION OF SIGN SUPPORT EQUIPMENT, 4 pages dated May, 2009.

In the Bid Book (before page 112), **INSERT** the attached "SPECIAL PROVISION, SECTION 645, HIGHWAY SIGNING", 3 pages dated May, 2009.

In the Bid Book (after page 121), **INSERT** the attached "SPECIAL PROVISION, SECTION 715, LIGHTING MATERIAL", 1 page dated May, 2009.

In the Bid Book (before page 122), **INSERT** the attached "SPECIAL PROVISION, Section 715.11, Service Equipment", 2 pages dated May, 2009.

NOTE: The original Plans, when advertised, were incomplete. The portion of the plans that were not included will be sent either via FedEx or Mail in the quantity and size ordered. Due to the size of the Plan portion of the amendment, it will not be attached to this amendment. Plans purchased after May 26, 2009 are complete.



PRINTED ON RECYCLED PAPER

Consider these changes and information prior to submitting your bid on **June 10**, 2009.

Sincerely,

A handwritten signature in red ink, appearing to read "Scott Bickford". The signature is stylized and written in a cursive-like font.

Scott Bickford
Contracts & Specifications Engineer

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 011231.00

PROJECT(S): STP-1123(100)X
IM-A280(000)

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
SECTION 0001 PROJECT ITEMS						
0010	201.11 CLEARING	2.600 AC				
0020	202.202 REMOVING PAVEMENT SURFACE	3250.000 SY				
0030	203.20 COMMON EXCAVATION	17600.000 CY				
0040	203.24 COMMON BORROW	5903.000 CY				
0050	203.25 GRANULAR BORROW	200.000 CY				
0060	203.26 GRAVEL BORROW	100.000 CY				
0070	203.61 CONSTRUCT TEMPORARY ACCESS ROAD	LUMP	LUMP			
0080	203.62 REMOVAL OF TEMPORARY ACCESS ROAD	LUMP	LUMP			
0090	206.061 STRUCTURAL EARTH EXCAVATION - DRAINAGE AND MINOR STRUCTURES, BELOW GRADE	100.000 CY				

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0100	304.09 AGGREGATE BASE COURSE - CRUSHED	19130.000 CY				
0110	403.207 HOT MIX ASPHALT 19.0 MM HMA	2050.000 T				
0120	403.2072 19 MM ASPHALT RICH BASE MIXTURE	2050.000 T				
0130	403.208 HOT MIX ASPHALT 12.5 MM HMA SURFACE	1500.000 T				
0140	403.2081 12.5 MM POLYMER MODIFIED HOT MIX ASPHALT	535.000 T				
0150	403.209 HOT MIX ASPHALT 9.5 MM HMA (SIDEWALKS, DRIVES, INCIDENTALS)	2.000 T				
0160	403.213 HOT MIX ASPHALT 12.5 MM BASE	1740.000 T				
0170	409.15 BITUMINOUS TACK COAT - APPLIED	1140.000 G				
0180	504.07 CONCRETE PIPE TIES	8.000 GP				
0190	526.301 TEMPORARY CONCRETE BARRIER TYPE I	LUMP	LUMP			
0200	527.303 ENERGY ABSORBING SYSTEM (ET-PLUS)	1.000 EA				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0210	534.09 PREFABRICATED NOISE BARRIER WALL SYSTEM	LUMP	LUMP			
0220	603.155 12 INCH REINFORCED CONCRETE PIPE CLASS III	4.000 LF				
0230	603.195 24 INCH REINFORCED CONCRETE PIPE CLASS III	44.000 LF				
0240	603.205 30 INCH REINFORCED CONCRETE PIPE CLASS III	4.000 LF				
0250	604.072 CATCH BASIN TYPE A1-C	1.000 EA				
0260	604.182 CLEAN EXISTING CATCH BASIN AND MANHOLE	13.000 EA				
0270	605.09 6 INCH UNDERDRAIN TYPE B	209.000 LF				
0280	605.11 12 INCH UNDERDRAIN TYPE C	250.000 LF				
0290	605.39 UNDERDRAIN DITCH SOIL FILTER	LUMP	LUMP			
0300	606.24 GUARDRAIL TYPE 3D - SINGLE RAIL	2220.000 LF				
0310	606.259 ANCHORAGE ASSEMBLY	3.000 EA				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0320	606.353 REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	6.000 EA				
0330	606.363 GUARDRAIL REMOVE AND DISPOSE	441.000 LF				
0340	606.3651 GUARDRAIL-REMOVE, MODIFY, AND RESET EXISTING TO 3D	2075.000 LF				
0350	606.79 GUARDRAIL 350 FLARED TERMINAL	2.000 EA				
0360	606.90 CABLE BARRIER, HIGH TENSION, TL-4	4280.500 LF				
0370	606.91 CABLE BARRIER TERMINAL, HIGH TENSION, TL-3	6.000 EA				
0380	607.17 CHAIN LINK FENCE - 6 FOOT	250.000 LF				
0390	607.25 REMOVE AND RESET CHAIN LINK FENCE	250.000 LF				
0400	609.11 VERTICAL CURB TYPE 1	395.000 LF				
0410	609.38 RESET CURB TYPE 1	66.000 LF				
0420	610.08 PLAIN RIPRAP	22.000 CY				

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			DOLLARS	CTS	DOLLARS	CTS
0430	610.16 HEAVY RIPRAP	4600.000 CY				
0440	610.18 STONE DITCH PROTECTION	20.000 CY				
0450	613.319 EROSION CONTROL BLANKET	3205.000 SY				
0460	615.07 LOAM	1420.000 CY				
0470	618.1301 SEEDING METHOD NUMBER 1 - PLAN QUANTITY	7.000 UN				
0480	618.1401 SEEDING METHOD NUMBER 2 - PLAN QUANTITY	65.000 UN				
0490	618.1411 SEEDING METHOD NUMBER 3 - PLAN QUANTITY	162.000 UN				
0500	618.20 ANNUAL RYE GRASS SEED	29.000 LB				
0510	618.25 APPLIED WATER	1.000 MGAL				
0520	619.12 MULCH	359.000 UN				
0530	620.54 STABILIZATION GEOTEXTILE	3360.000 SY				

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			DOLLARS	CTS	DOLLARS	CTS
0540	620.58 NON WOVEN GEOTEXTILE	25.000 SY				
0550	626.11 PRECAST CONCRETE JUNCTION BOX	10.000 EA				
0560	626.111 PRECAST CONCRETE JUNCTION BOX 36 INCH	1.000 EA				
0570	626.23 PREWIRED CONDUIT SECONDARY WIRING (2" C-(3) #6)	6617.000 LF				
0580	626.231 PRE-WIRED CONDUIT SECONDARY WIRING (2" C-(3) #4)	3470.000 LF				
0590	626.25 UNDER PAVEMENT DUCT (6" DIR. BORE OR JACK)	150.000 LF				
0600	626.32 24 INCH FOUNDATION	49.000 EA				
0610	626.321 24 INCH FOUNDATION - TYPE B REMOVE OR MODIFY EXISTING	4.000 EA				
0620	627.711 WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE (PLAN QUANTITY)	24400.000 LF				
0630	627.75 WHITE OR YELLOW PAVEMENT AND CURB MARKING	150.000 SF				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0640	627.76 TEMPORARY PVMT. MARK LINE, W OR YELLOW	LUMP	LUMP			
0650	627.77 REMOVING PAVEMENT MARKINGS	200.000 SF				
0660	629.05 HAND LABOR, STRAIGHT TIME	50.000 HR				
0670	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	50.000 HR				
0680	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	50.000 HR				
0690	631.18 CHAIN SAW RENTAL (INCLUDING OPERATOR)	20.000 HR				
0700	631.20 STUMP CHIPPER (INCLUDING OPERATOR)	10.000 HR				
0710	631.22 FRONT END LOADER (INCLUDING OPERATOR)	50.000 HR				
0720	631.32 CULVERT CLEANER (INCLUDING OPERATOR)	10.000 HR				
0730	633.05 INSTALLATION OF SIGN SUPPORT EQUIPMENT DMS SIGN	LUMP	LUMP			
0740	634.191 STREET LIGHTING CONDUIT (2" SPARE)	260.000 LF				

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			DOLLARS	CTS	DOLLARS	CTS
0750	634.2041 LUMINAIRES (250 W HPS FULL CUT-OFF	EA 49.000				
0760	634.206 LIGHT STANDARD FOR POST TOP LUMINAIRE (40" ROUND TAPERED ALUM. W/ BREAKAWAY BASE)	EA 29.000				
0770	634.2061 LIGHT STANDARD FOR POST TOP LUMINAIRES (24" ROUND TAPERED ALUM. W/ BREAKAWAY BASE)	EA 20.000				
0780	634.2071 REMOVE EXISTING HIGH-MAST POLE & LUMINAIRES	EA 2.000				
0790	634.25 SERVICE POLE COMPLETE WITH CABINET AND CONTROLS	EA 2.000				
0800	639.18 FIELD OFFICE TYPE A	EA 1.000				
0810	645.103 DEMOUNT GUIDE SIGN	EA 8.000				
0820	645.106 DEMOUNT REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	EA 11.000				
0830	645.108 DEMOUNT POLE	EA 22.000				
0840	645.113 REINSTALL GUIDE SIGN	EA 2.000				

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			DOLLARS	CTS	DOLLARS	CTS
0850	645.116 REINSTALL REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	6.000 EA				
0860	645.118 REINSTALL POLE	4.000 EA				
0870	645.12 OVERHEAD GUIDE SIGN: AT STA. 163+50	LUMP	LUMP			
0880	645.12 OVERHEAD GUIDE SIGN: AT STA. 63+25	LUMP	LUMP			
0890	645.155 DYNAMIC MESSAGE SIGN DMS SIGN	LUMP	LUMP			
0900	645.162 BREAKAWAY DEVICES MULTI-POLE	4.000 EA				
0910	645.251 ROADSIDE GUIDE SIGNS	1455.000 SF				
0920	645.271 REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS, TYPE I	53.000 SF				
0930	645.285 10 INCH ALUMINUM POLE	2.000 EA				
0940	645.286 12 INCH ALUMINUM POLE	8.000 EA				

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			DOLLARS	CTS	DOLLARS	CTS
0950	645.306 FLEXIBLE REFLECTORIZED DELINEATOR	88.000 EA				
0960	652.31 TYPE I BARRICADE	20.000 EA				
0970	652.311 TYPE II BARRICADE	20.000 EA				
0980	652.33 DRUM	50.000 EA				
0990	652.34 CONE	50.000 EA				
1000	652.35 CONSTRUCTION SIGNS	200.000 SF				
1010	652.36 MAINTENANCE OF TRAFFIC CONTROL DEVICES	200.000 CD				
1020	652.38 FLAGGER	5000.000 HR				
1030	652.381 TRAFFIC OFFICERS	1410.000 HR				
1040	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP	LUMP			
1050	657.24 SEEDING PITS	126.000 UN				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1060	659.10 MOBILIZATION	LUMP	LUMP			
1070	801.03 TEST PITS	8.000 EA				
	SECTION 0001 TOTAL					
	TOTAL BID					

SPECIAL PROVISION
SECTION 633
INSTALLATION OF SIGN SUPPORT EQUIPMENT

This Section is amended by addition of the following:

633.01 Description

This work shall consist of furnishing all labor, material, and equipment necessary to support the installation of a dynamic message sign (DMS) at the location indicated on drawings. This work shall include installation of service poles, guy wires, electrical service equipment and connections, telephone service equipment and connections, grounding, metallic conduit, directional boring and wires, modifications to existing riser posts and all miscellaneous work required for a complete operational system.

633.02 Materials

Requirements

All materials shall be governed by the contract documents; the “State of Maine, Department of Transportation, Standard Specifications, Highway and Bridges”, latest edition, and Supplemental Specifications thereto; and the latest edition of the Maine DOT Standard Details.

Weatherhead

Service entrance caps shall be metal and UL listed.

Metallic Conduit

All exposed conduit, including fittings and sweeps that are partially exposed, shall comply with Section 715.02 of the Standard Specifications.

Meter Base

Where new electrical service is shown, provide an aluminum or stainless steel meter base that meets the requirements of the power company that will provide the service. The base shall be UL listed and marked as being suitable for service equipment. Deviations from these requirements are acceptable if required by the power company.

Disconnect Switch

The enclosures shall be NEMA 3R or 4X, made of aluminum or stainless steel. All hinges, catches and other hardware shall be non-ferrous metal or stainless steel. The enclosures shall have provisions for padlocking the enclosure and for padlocking the switch in the on and off positions. The switches shall be heavy duty and shall meet the requirements of UL Standard 98 Enclosed and Dead-

Front Switches. Ensure that the switches are UL listed and marked as being suitable for use as service equipment.

Service Poles

Wood service stub poles shall be Class 4, corresponding to Section 720.10 of the Maine DOT's Standard Specifications. The length shall permit installation of power and telephone equipment and lines in accordance with details on drawings.

Telephone Boxes

Telephone boxes shall be network interface devices listed in section mid-a of the Rural Utility Service's "List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrower's - IP 344-2" and shall include the protector specified on that list. Deviations from these requirements are acceptable if required by the telephone company.

Wire and Cable

Power conductors shall meet the requirements of the National Electrical Code and shall be rated for 600 volts. The conductors shall consist of soft-drawn or annealed copper wire, insulated with flame retardant material. The cable shall be UL approved and listed as THW. Wire shall be of size indicated on plans.

Ground wire shall be AWG #6 solid copper wire.

Telephone cable shall be four-pair, 24 gauge wire listed in Section sa, "Filled Buried Wires" of the Rural Utility Service's "List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrower's - IP 344-2." It shall not have a gopher resistance shield.

Ground Rod

Ground rods shall be copper clad steel, 10 ft by 3/4 inches.

Enclosures

The enclosures shall be NEMA 4X aluminum enclosures equipped with binding post terminal blocks. The enclosures shall have provision for padlocking. The terminal blocks shall have filled backs. The number of posts and the wire size shall be appropriate for the cables involved.

633.03 Construction Requirements

General

The Contractor shall place poles, equipment, conduits and wires at locations identified on the Plans, and approved by the Resident in the field. Minor relocations may be required based on site conditions. No additional payment, other than modified unit quantities, will be allowed for these minor

relocations. Follow all requirements listed in Section 626 of the Maine DOT's Standard Specifications for conduit installation.

Pole Installation

Install wood service poles in accordance with Section 634.04 of the Standard Specifications.

New Utility Service

Where new power or telephone service will be installed, comply with the requirements of the utility providing the service, as well as with the requirements of the National Electrical Code and the National Electrical Safety Code. Determine these requirements prior to bidding. Perform all work and provide all materials needed to meet these requirements, even if not specifically mentioned in the Contract Documents.

Wiring

Shall be as indicated in lighting drawings.

Wires and cables may only be spliced in above-ground enclosures and junction boxes.

Grounding

Use a single grounding point for the pole or riser post. Ground the boxes housing terminal blocks. At riser poles, ground the disconnect switch, meter base, and conduits.

Use exothermic welds to connect ground wire to ground rods. Ensure that ground rods and ground wires are buried at least six inches below the surface of the ground. Ensure that ground wire on vertical surfaces is protected against damage from mowing equipment.

Enclosures

Route the conduits into enclosures through the bottom or at the bottom of the side. Use sealing lock washers on both sides of the cabinet wall.

633.04 Method of Measurement

The Lump Sum Item 633.05, Installation of Sign Support Equipment, includes the work indicated on lighting drawings.

Precast Concrete junction boxes shall be measured per each in place for the quantity shown on the Plans and identified in these Specifications and shall include all conduit connections.

Non-metallic conduit shall be measured per linear foot for the quantity and sizes shown on the Plans and identified in these Specifications and shall include trenching and restoration. Cutting holes in

panels and junction boxes for access; cutting, bending or threading new or existing conduits, providing drains and bushings, grounding, and sealing open conduits will not be paid for separately, but shall be incidental to the linear foot price.

633.05 Basis of Payment

Precast Concrete Junction Box and Non-Metallic Conduit will be paid for under the Maine DOT's standard pay items.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
633.05 Installation of Sign Support Equipment	Lump Sum

SPECIAL PROVISION
SECTION 645
HIGHWAY SIGNING

This Section is amended by addition of the following:

645.01 Description

This work shall consist of furnishing all labor, material, and equipment necessary to install a dynamic message sign (DMS) at the location indicated on drawings. Under a separate contract (DMS procurement contract PIN 12448.02) the DMS signs will be fabricated, tested and delivered to the MaineDOT's Maintenance Facility in Fairfield (10 Mountain Ave, near the I-95/Route 201 Interchange) complete with controller cabinets and controller equipment. Field testing and troubleshooting will be performed by the Contractor. Correcting any issues that arise from testing will be the responsibility of the contractor.

The sign manufacturer is required to provide a four hour training course on installing the signs. The course will be at the Fairfield maintenance facility. The Contractor's installation team must attend; personnel who do not attend are not allowed participate in the installation. The course will cover proper transport, lifting, attachment, aiming, connections to communication and power, and setup activities. The manufacture is also required to witness the Contractor's first installation and to provide additional training based on observed problems. The training will not cover support structure installation or site work.

The work shall consist of designing and furnishing all labor, materials, and equipment necessary for 1.) transporting the dynamic message signs, controller cabinets and controller equipment from Fairfield to the site, 2.) installing dynamic message sign and controller cabinets/equipment with the connecting power and communication service from the DMS signs to the controller cabinet, 3.) installing butterfly sign support structures and foundations, all in accordance with the standard and contract specifications and plans, in reasonable close conformity with the plans or as directed by the Resident.

The installation of service poles, electrical service equipment and connections, telephone service equipment and connections, grounding, metallic conduit, directional boring and wires, modifications to existing riser posts and all miscellaneous work required for connecting offsite utilities to the controller cabinet will be paid as indicated on lighting drawings and under separate pay items and is not considered part of this work.

Work shall include removal, modification, and relocation of signs as shown in the plans. Sign work shall include but not be limited to providing foundations, sign posts, and breakaway devices.

645.021 Materials

Conduit and wiring shall be in accordance with lighting drawings and conform to the requirements of the National Electrical Code and Special Provision 633.

Hardware: All anchor bolts, U-bolts, caps, hangers and miscellaneous hardware required for a complete installation shall be furnished and installed by the Contractor.

645.022 Sign Layout Drawings

The Contractor shall field verify all measurements required to design, fabricate and erect each support. The Contractor shall field verify all elevations required to determine the exact height of each structure as well as field verify vertical tilt and horizontal skew of each sign.

The Contractor shall submit shop drawings of the support structure, foundation and sign attachment in accordance with the Standard Specifications 645. Fabrication of the structure shall not commence until the Contractor has received approval of these drawings.

Details of the erection methods and procedures shall be submitted to the Resident for approval prior to the erection work.

The DMS, controller cabinet, and controller equipment are being procured under a separate contract (PIN 12448.02). The DMS enclosure is approximately 8' high and 20' wide. The contractor shall be responsible for contacting the MaineDOT to verify necessary parameters prior to the above submittals.

645.023 Support Structures

Design of the DMS supports shall be coordinated with the sign manufacturer, MaineDOT and the selected contractor for PIN 12448.02. Contractor shall take into consideration any special design requirements associated with the procured dynamic message signs.

645.064 Installation of Dynamic Message Signs

General

The Contractor shall place DMS, controller cabinet, cabinet equipment at locations identified on the Plans, and approved by the Resident in the field. Minor relocations may be required based on site conditions. No additional payment, other than modified unit quantities, will be allowed for these minor relocations. Follow all requirements listed in Section 645 of the Maine DOT's Standard Specifications for support and foundation design and installation.

New Utility Service

New power and telephone service will be installed as indicated on lighting drawings, comply with the requirements of the utility providing the service, as well as with the requirements of the National

Electrical Code and the National Electrical Safety Code. Perform all work and provide all materials needed to meet these requirements, even if not specifically mentioned in the Contract Documents.

645.08 Method of Measurement

The dynamic message signs including the foundations, structural supports and structural connections, complete in place and operational as called for on the plans and specifications will be measured by each unit per lump sum for each site.

645.09 Basis of Payment

The accepted quantity of dynamic message signs, supports and foundations will be paid for at the contract unit price per lump sum per site. Such price will be full compensation for transporting the signs to each site, designing, fabricating and installing sign support structure, designing and installing the foundation, wiring between the DMS and controller cabinet, mounting the cabinet on the DMS support structure and all other incidentals necessary to complete the work. Relocation of traffic and guide signs as noted on the plans and in this specification also considered part of these payment items.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
645.155 Dynamic Message Sign and Supports	Lump Sum

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

ADD the following paragraph to subsection 626.032:

METALLIC CONDUIT INSTALLATION

Where noted on the drawings, under pavement ducts shall be provided to facilitate conduit crossing of the existing highway and ramps without disruption to the existing highway and ramp pavement surface. Under pavement ducts shall consist of metallic conduit to be hydraulically jacked or directional bored below the highway and ramp at a depth of not less than 900 mm (36 inches). Under pavement duct shall extend for a distance of 3 meters (10 feet) beyond the highway or ramp edge at each side.

ADD the following paragraph to subsection 626.05

Payment will be made for the total number of meters (linear feet) of under pavement duct actually furnished, installed and accepted at the contract price per meter (linear foot). This price shall include the cost of: furnishing and installing the conduit; excavating; furnishing special backfilling materials, pull wire, fittings, grounding and bonding; test cleaning interiors of conduits and all materials, labor, equipment and incidentals necessary to complete the work.

Pay Item	Pay Unit
626.25 Under pavement duct	Meter (Linear Foot)

SPECIAL PROVISION
SECTION 715
LIGHTING MATERIAL

DELETE paragraph 715.10 and replace with the following new paragraph 715.10:

715.10 PHOTOELECTRIC/TIMER CONTROL The control will meet the following minimum requirements:

- a. Unit Design The photoelectric/Timer Control unit will consist of a silicon photocell sensor and solid state timer device which control an integral single pole, single throw relay having contacts which are in the normally closed position at night.
- b. Housing The photoelectric/Timer Control housing will be constructed of UV stabilized high-impact polypropylene and be of weatherproof design.
- c. Operating Levels The operating levels will be factory set to turn on at dusk (2.6 foot-candles) with a 60 second time delay and turn off at a pre-set time as determined and adjusted by the user.
- d. Supply Voltage The photoelectric/Timer Control unit will be capable of operation on a supply voltage of 105 to 285 VAC.
- e. Base The base of the unit will be of high temperature engineered polymer material rated at 125 degrees C and be provided with a 3-prong, EEI-NEMA standard twist lock plug mounting.
- f. Directional Design The photoelectric/Timer Control unit will be oriented in a northerly direction as recommended by the manufacturer.
- g. Surge Protection The photoelectric/Timer Control unit will have built-in surge protection consisting of a 320 joule rated Metal Oxide Varistor for protection of the unit from induced high voltage surges.
- h. The photoelectric/Timer Control unit will be Model ESC-124DS as manufactured by Precision Multiple Controls or approved equal by Tork or Intermatic.

SPECIAL PROVISION
Section 715.11
Service Equipment

Replace section 715.11 in its entirety with the following:

715.11 Service Equipment/Lighting Control Cabinet The Service Equipment/Lighting Control Cabinet and other entrance equipment shall be as detailed on the plans and as specified herein.

The control cabinet shall be fabricated from sheet aluminum or stainless steel. The following are required:

- a. Hinged cover with weather protected hasp for padlocking. The lock will be provided by others.
- b. Pole mounting brackets suitable for mounting on wood pole of the class indicated on drawings.
- d. Independent double pole thermal-magnetic trip circuit breakers. Quantity and trip ratings of breakers, spares and spaces for future breakers as indicated on drawings.
- e. Manual control switch.
- f. Photoelectric/Timer control.
- g. Lightning arresters in load and line side - rated 650 Volts RMS, indoor type.
- h. Contactors - Double pole, single throw magnetic contactor with contacts rated at 600 volts, 30 amperes. The coil shall be capable of operating at 120 volts, 60 hertz. The contactors shall be normally open unless otherwise specified. The contacts shall be heavy silver plated. No mercury contactors will be allowed.
- i. Ground rods shall be copper-clad steel, 3/4" diameter, 10 Ft long, complete with ground clamp and square head bolt.

SPECIAL PROVISION

Section 715.11

Service Equipment

(continued)

j. Dry-Type control transformer shall be designed for indoor installation. The following are required:

1. Fused primary and secondary circuits with integral mounted fuse holders.
2. Frequency - 60 hertz.
3. Primary Voltage – 480
4. Secondary Voltage – 120
5. VA rating - 500
6. Insulation system for 115°C rise at 40°C ambient.

k. The main breaker shall be 2 pole rated for, 100 amperes, 600 volt, 2-wire service. Lugs for padlocking shall be supplied.

l. Meter socket 100 Ampere, 240/480 Volt, 3-wire for self-contained utility meter in accordance with Central Maine Power standards.

Service Equipment/Lighting Control Cabinet shall be U.L listed as service equipment and be provided with dead front grounded steel barriers behind the exterior door for protection of an operator from exposure to live parts when operating control switch or inspecting equipment.

Steel barriers shall be designed as required to protect operating personnel from exposure to arc flash injury without requiring the use of arc flash protective clothing or shields.

The Service Equipment/Lighting Control Cabinet shall have a UL short circuit withstand rating of a minimum of 14,000 Amp RMS Symmetrical at 480 Volts AC.

Minor bolts and hardware shall be hot-dipped galvanized steel or stainless steel.

End of Section 715.11