

Updated 12/01/08

FEDERAL PROJECT

BIDDING INSTRUCTIONS

FOR ALL PROJECTS:

1. Use pen and ink to complete all paper Bids.
2. As a minimum, the following must be received prior to the time of Bid opening:

For a Paper Bid:

- a) a copy of the Notice to Contractors, b) the completed Acknowledgement of Bid Amendments form, c) the completed Schedule of Items, d) two copies of the completed and signed Contract Offer, Agreement & Award form, e) a Bid Guaranty, and f) any other certifications or Bid requirements listed in the Bid Documents as due by Bid opening.

For an Electronic Bid:

- a) a completed Bid using Expedite® software and submitted via the Bid Express™ webbased service, b) a Bid Guaranty (as described below) or a faxed copy of a Bid Bond (with original to be delivered within 72 hours), and c) any other certifications or Bid requirements listed in the Bid Documents as due by Bid opening.
3. Include prices for all required items in the Schedule of Items. ("Zero is not considered a Bid price.")
4. Include a Bid Guaranty. Acceptable forms are:
 - a) a properly completed and signed Bid Bond on the Department's prescribed form (or on a form that does not contain any significant variations from the Department's form as determined by the Department) for 5% of the Bid Amount or
 - b) an Official Bank Check, Cashier's Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors.
5. If a paper Bid is to be sent, Federal Express overnight delivery is suggested as the package is delivered directly to the DOT Headquarters Building located at 16 Child Street in Augusta.
6. Other means, such as U.S. Postal Service's Express Mail has proven not to be reliable.

IN ADDITION, FOR FEDERAL AID PROJECTS:

7. Complete the DBE Proposed Utilization form in the proper amounts, and submit with your bid on bid opening day. If you are submitting your bid electronically, you must FAX your DBE Utilization Form to (207) 624-3431.

*If you need further information regarding Bid preparation, call the DOT
Contracts Section at (207) 624-3410.*

*For complete bidding requirements, refer to Section 102 of the Maine Department
of Transportation, Standard Specifications, Revision of December 2002.*

January 30, 2004
Supercedes February 11, 2003

NOTICE

The Maine Department of Transportation is attempting to improve the way Bid Amendments/Addendums are handled, and allow for an electronic downloading of bid packages from our website, while continuing to maintain a planholders list.

Prospective bidders, subcontractors or suppliers who wish to download a copy of the bid package and receive a courtesy notification of project specific bid amendments, must provide an email address to Diane Barnes or David Venner at the MDOT Contracts mailbox at: MDOT.contracts@maine.gov. Each bid package will require a separate request.

Additionally, interested parties will be responsible for reviewing and retrieving the Bid Amendments from our web site, and acknowledging receipt and incorporating those Bid Amendments in their bids using the Acknowledgement of Bid Amendment Form.

The downloading of bid packages from the MDOT website is not the same as providing an electronic bid to the Department. Electronic bids must be submitted via <http://www.BIDX.com>. For information on electronic bidding contact Larry Childs at Larry.Childs@maine.gov.

NOTICE

For security and other reasons, all Bid Packages which are mailed, shall be provided in double (one envelope inside the other) envelopes. The *Inner Envelope* shall have the following information provided on it:

Bid Enclosed - Do Not Open

PIN:

Town:

Date of Bid Opening:

Name of Contractor with mailing address and telephone number:

In Addition to the usual address information, the *Outer Envelope* should have written or typed on it:

Double Envelope: Bid Enclosed

PIN:

Town:

Date of Bid Opening:

Name of Contractor:

This should not be much of a change for those of you who use Federal Express or similar services.

Hand-carried Bids may be in one envelope as before, and should be marked with the following information:

Bid Enclosed: Do Not Open

PIN:

Town:

Name of Contractor:

October 16, 2001

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
Bid Guaranty-Bid Bond Form

KNOW ALL MEN BY THESE PRESENTS THAT _____

_____, of the City/Town of _____ and State of _____

as Principal, and _____ as Surety, a

Corporation duly organized under the laws of the State of _____ and having a usual place of

Business in _____ and hereby held and firmly bound unto the Treasurer of

the State of Maine in the sum of _____, for payment which Principal and Surety bind

themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

The condition of this obligation is that the Principal has submitted to the Maine Department of

Transportation, hereafter Department, a certain bid, attached hereto and incorporated as a

part herein, to enter into a written contract for the construction of _____

_____ and if the Department shall accept said bid

and the Principal shall execute and deliver a contract in the form attached hereto (properly

completed in accordance with said bid) and shall furnish bonds for this faithful performance of

said contract, and for the payment of all persons performing labor or furnishing material in

connection therewith, and shall in all other respects perform the agreement created by the

acceptance of said bid, then this obligation shall be null and void; otherwise it shall remain in full

force, and effect.

Signed and sealed this _____ day of _____ 20_____

WITNESS:

WITNESS

PRINCIPAL:

By _____

By: _____

By: _____

SURETY:

By _____

By: _____

Name of Local Agency: _____

NOTICE

Bidders:

Please use the attached “Request for Information” form when faxing questions and comments concerning specific Contracts that have been Advertised for Bid. Include additional numbered pages as required. Questions are to be faxed to the number listed in the Notice to Contractors. This is the only allowable mechanism for answering Project specific questions. Maine DOT will not be bound to any answers to Project specific questions received during the Bidding phase through other processes.

NOTICE

Disadvantaged Business Enterprise Proposed Utilization

The Apparent Low Bidder must submit the Disadvantaged Business Enterprise Proposed Utilization form with their bid.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form contains additional information that is required by USDOT.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form must be used.

A copy of the new Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan and instructions for completing it are attached.

Note: Questions about DBE firms, or to obtain a printed copy of the DBE Directory, contact The Office of Civil Rights at (207) 624-3066.

MDOT's DBE Directory of Certified firms can also be obtained at www.maine.gov/mdot/disadvantaged-business-enterprises/dbe-home.php

INSTRUCTIONS FOR PREPARING THE CONTRACTOR'S DISADVANTAGED BUSINESS ENTERPRISE UTILIZATION PLAN

The Contractor Shall:

1. Submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan with your bid on the Bid day.
2. Extend equal opportunity to MDOT certified DBE firms (as listed in MDOT's DBE Directory of Certified Businesses) in the selection and utilization of Subcontractors and Suppliers.

SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

Insert Contractor name, the name of the person(s) preparing the form, and that person(s) telephone and fax number.

Provide total Bid price, Federal Project Identification Number, and location of the Project work.

In the columns, name each DBE firm to be used, provide the Unit or Item cost of the Work/Product to be provided by the DBE firm, give a brief description of the Work, and the dollar value of the Work.

If no DBE firm is to be utilized, the Contractor must document the reason(s) why no DBE firms are being used. Specific supporting evidence of good faith efforts taken by Contractors to solicit DBE Bidders must be attached. This evidence, as a minimum, includes phone logs, e-mail and/or mail DBE solicitation records, and the documented results of these solicitations.

NOTICE

Maine Department of Transportation Disadvantaged Business Enterprise Program

Notice is hereby given that in accordance with US DOT regulation 49 CFR Part 26, the Maine Department of Transportation has established a DBE Program for disadvantaged business participation in the federal-aid construction program; MaineDOT contracts covered by the program include consulting, construction, supplies, manufacturing, and service contracts.

For FFY 2009 (October 1, 2008 through September 30, 2009), MaineDOT has established a DBE participation goal of 5.8% to be achieved through race/gender neutral means.

Interested parties may view MaineDOT's DBE goal setting methodology for the next 45 days during normal business hours (8-4, M-F) at the Maine Department of Transportation, Civil Rights Office, 16 State House Station, Augusta ME 04333-0016. Appointments may be scheduled by telephone at (207) 624-3519. The goal setting methodology is also available for viewing on the MaineDOT website: <http://www.maine.gov/mdot/disadvantaged-business-enterprises/dbe-home.php>.

Public comment will be accepted for 45 days following the last date of publication. The public comment period will be complete on September 26th, 2008. The goal will be submitted for approval to the FHWA on September 1st, 2008. Updated goal will be submitted to FHWA, if necessary, based on public comment.

Comments on the goal will be accepted, in writing, for 45 days from the date of this notice. Written comments should be addressed to Jackie LaPerriere, Maine Department of Transportation, Civil Rights Office, 16 State House Station, Augusta, Maine 04333-0016 or by e-mail at: jackie.laperriere@maine.gov.

Several interested stakeholders will be notified directly by e-mail of the goal publication, including Maine Small Business Administration, Associated General Contractors, and ACEC, and Maine DBEs.

**MaineDOT CONTRACTOR'S DBE/SUBCONTRACTOR
PROPOSED UTILIZATION FORM**

All Bidders must furnish this form with their bid on Bid Opening day

Contractor: _____ Telephone: _____ Ext. _____

Contact Person: _____ Fax: _____

E-mail: _____

BID PRICE: \$ _____ BID DATE: ____/____/____

FEDERAL PROJECT PIN # _____ PROJECT LOCATION: _____

TOTAL DBE _____ % PARTICIPATION FOR THIS SUBMISSION

W B E•	D B E•	Non DBE	Firm Name	Unit/Item Cost	Unit #	Description of Work & Item Number	Actual \$ Value
Total >							

Contractors must make a good faith effort to include Certified DBE firms in all aspects of the project. If no DBE firms are to be part of this project, a detailed explanation is required. Attach supporting evidence to the maximum participation of DBEs on this project. This is a requirement. This evidence must include name of firm(s) contacted, date contacted, and outcome of solicitation.

Equal Opportunity Use:

Form received: ____/____/____ Verified by: _____

____ Accepted ____ Rejected _____

cc: Contracts Other _____

For a complete list of certified firms and company designation (WBE/DBE) go to <http://www.maine.gov/mdot>

September 14, 2007

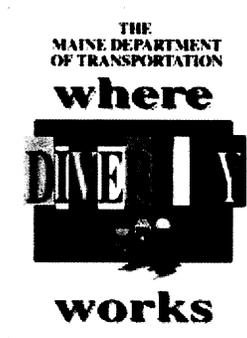
Vendor Registration

Prospective Bidders must register as a vendor with the Department of Administrative & Financial Services if the vendor is awarded a contract. Vendors will not be able to receive payment without first being registered. Vendors/Contractors will find information and register through the following link –

<http://www.maine.gov/purchases/vendorinfo/vss.htm>

NOTICE

All bids for Federal Projects opened after December 1, 2008 **MUST** be accompanied by the DBE Proposed Utilization form. If you are submitting an electronic bid, the DBE Utilization Form may be faxed to 207-624-3431.



**Maine Department of Transportation
Civil Rights Office**

**Directory of Certified Disadvantaged
Business Enterprises**

**Listing can be found at:
[www.maine.gov/mdot/disadvantaged-
business-enterprises/dbe-home.php](http://www.maine.gov/mdot/disadvantaged-business-enterprises/dbe-home.php)**

**For additional information and guidance
contact: Civil Rights Office at (207) 624-3066**

**STATE OF MAINE
DEPARTMENT OF TRANSPORTATION**



**PORTLAND
CUMBERLAND COUNTY**

**PROJECT NO. STP-1184(400)S
PIN 011844.00**

BAYSIDE TRAIL PROJECT

JUNE 2009

Bayside Trail Project

Portland - Cumberland County

PIN 011844.00

TABLE OF CONTENTS

SECTION 1

Notice to Contractors
Acknowledgement of Bid Amendments & Submission of Bid Bond Validation Number
Schedule of Items
Contract Agreement, Offer & Award (2- copies)
Sample Contract Agreement, Offer & Award
Sample Payment Bond
Sample Performance Bond
Federal Wage Rate Determination

SECTION 2

Division 100 Special Provisions
Supplemental Specifications
Permit Documents

SECTION 3

SPECIAL PROVISIONS - TECHNICAL

Bayside Trail Project

**Portland
Cumberland County**

PIN 011844.00

SECTION 1

**STATE OF MAINE DEPARTMENT OF TRANSPORTATION
NOTICE TO CONTRACTORS**

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper "Bids for New Construction for Bike/ Pedestrian Rail Trail in the city of Portland" will be received from contractors at the Reception Desk, Maine DOT Building, Child Street, Augusta, Maine, until 11:00 o'clock A.M. (prevailing time) on June 24, 2009 and at that time and place publicly opened and read. Bids will be accepted from all bidders. The lowest responsive bidder must have completed, or successfully complete, a Highway Construction prequalification, or project specific prequalification to be considered for the award of this contract. We now accept electronic bids for those bid packages posted on the bidx.com website. Electronic bids do not have to be accompanied by paper bids. Please note: the Department will accept a facsimile of the bid bond; however, the original bid bond must then be received at the MDOT Contract Section within 72 hours of the bid opening. Until further notice, dual bids (one paper, one electronic) will be accepted, with the paper copy taking precedence.

Description: Maine Federal Aid Project No. STP-1184(400)S, PIN. 11844.00

Location: In Cumberland County, project is located in Portland and extends Portland Trails System along Union Branch Rail Line from the Eastern Promenade Trail near Tukey's Bridge to Preble St.

Outline of Work: New Construction for Bike/ Pedestrian Rail Trail and other incidental work.

The basis of award will be Section 0001 only

For general information regarding Bidding and Contracting procedures, contact Scott Bickford at (207)624-3410. Our webpage at http://www.maine.gov/mdot/contractor-consultant-information/contractor_cons.php contains a copy of the schedule of items, Plan Holders List, written portions of bid amendments (not drawings), and bid results. For Project-specific information fax all questions to **Project Manager Paul Pottle** at (207)624-3431. Questions received after 12:00 noon of Monday prior to bid date will not be answered. Bidders shall not contact any other Departmental staff for clarification of Contract provisions, and the Department will not be responsible for any interpretations so obtained. Hearing impaired persons may call the Telecommunication Device for the Deaf at 888-516-9364.

Plans, specifications and bid forms may be seen at the Maine DOT Building in Augusta, Maine and at the Department of Transportation's Regional Office in Scarborough. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Full size plans \$33.00 (\$38.00 by mail). Half size plans \$17.00 (\$21.00 by mail), Bid Book \$10 (\$13 by mail), Single Sheets \$2, payment in advance, all non-refundable.

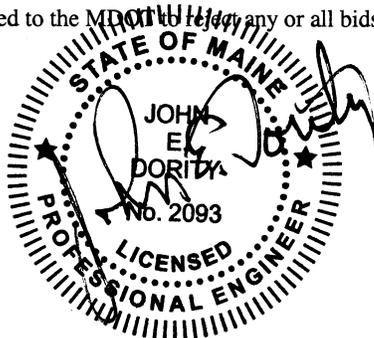
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of \$60,000.00 payable to Treasurer, State of Maine as a Bid guarantee. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each in the amount of 100 percent of the Contract price, will be required of the successful Bidder.

This Contract is subject to all applicable Federal Laws. This contract is subject to compliance with the Disadvantaged Business Enterprise program requirements as set forth by the Maine Department of Transportation.

All work shall be governed by "State of Maine, Department of Transportation, Standard Specifications, Revision of December 2002", price \$10 [\$13 by mail], and Standard Details, Revision of December 2002, price \$20 [\$25 by mail]. Standard Detail updates found at http://www.maine.gov/mdot/contractor-consultant-information/contractor_cons.php

The right is hereby reserved to the MDOT to reject any or all bids.

Augusta, Maine
June 3, 2009



JOHN E. DORITY
CHIEF ENGINEER

NOTICE

All bids for Federal Projects opened after December 1, 2008 **MUST** be accompanied by the DBE Proposed Utilization form. If you are submitting an electronic bid, the DBE Utilization Form may be faxed to 207-624-3431.

SPECIAL PROVISION 102.7.3
ACKNOWLEDGMENT OF BID AMENDMENTS

With this form, the Bidder acknowledges its responsibility to check for all Amendments to the Bid Package. For each Project under Advertisement, Amendments are located at <http://www.maine.gov/mdot/comprehensive-list-projects/project-information.php> It is the responsibility of the Bidder to determine if there are Amendments to the Project, to download them, to incorporate them into their Bid Package, and to reference the Amendment number and the date on the form below. The Maine DOT will not post Bid Amendments any later than noon the day before Bid opening without individually notifying all the planholders.

Amendment Number	Date

The Contractor, for itself, its successors and assigns, hereby acknowledges that it has received all of the above referenced Amendments to the Bid Package.

CONTRACTOR

Date

Signature of authorized representative

(Name and Title Printed)

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 011844.00

PROJECT(S): STP-1184(400)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	CTS	BID AMOUNT DOLLARS	CTS
SECTION 0001 PROJECT ITEMS						
0010	201.111 CLEARING	LUMP	LUMP			
0020	202.01 REMOVING STRUCTURES AND OBSTRUCTIONS	LUMP	LUMP			
0030	202.211 DECORATIVE BOULDER RELOCATION	17.000 EA				
0040	203.200 COMMON EXCAVATION	LUMP	LUMP			
0050	203.233 DISPOSAL OF SPECIAL EXCAVATION SURPLUS GRP 2 SOILS	1560.000 CY				
0060	203.24 COMMON BORROW	2790.000 CY				
0070	203.25 GRANULAR BORROW	10.000 CY				
0080	203.35 CRUSHED STONE FILL TYPE 'A' (OVERDEPTH)	10.000 CY				
0090	206.061 STRUCTURAL EARTH EXCAVATION - DRAINAGE AND MINOR STRUCTURES, BELOW GRADE	10.000 CY				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 011844.00

PROJECT(S): STP-1184(400)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0100	206.07 STRUCTURAL ROCK EXCAVATION - DRAINAGE AND MINOR STRUCTURES	10.000 CY				
0110	304.09 AGGREGATE BASE COURSE - CRUSHED	78.000 CY				
0120	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	2341.000 CY				
0130	403.207 HOT MIX ASPHALT 19.0 MM HMA	159.000 T				
0140	403.208 HOT MIX ASPHALT 12.5 MM HMA SURFACE	741.000 T				
0150	403.209 HOT MIX ASPHALT 9.5 MM HMA (SIDEWALKS, DRIVES, INCIDENTALS)	15.000 T				
0160	411.14 CRUSHED STONE DUST SURFACE COURSE	LUMP	LUMP			
0170	603.149 10" DIAMETER PVC PIPE	699.000 LF				
0180	603.157 12 INCH PVC PIPE	538.000 LF				
0190	603.167 15 INCH POLYVINYLCHLORIDE (PVC) PIPE	120.000 LF				
0200	603.177 18 INCH PVC PIPE	1104.000 LF				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 011844.00

PROJECT(S): STP-1184(400)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0210	603.195 24 INCH REINFORCED CONCRETE PIPE CLASS III	442.000 LF				
0220	603.199 24 INCH CULVERT PIPE OPTION III	88.000 LF				
0230	604.131 4' DIAMETER CATCH BASIN	14.000 EA				
0240	604.15 MANHOLE	5.000 EA				
0250	604.153 60 INCH MANHOLE	2.000 EA				
0260	604.156 96 INCH MANHOLE	1.000 EA				
0270	604.164 REBUILDING CATCH BASIN	1.000 EA				
0280	604.18 ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	1.000 EA				
0290	604.2411 24" NYLOPLAST AREA DRAIN	26.000 EA				
0300	606.611 TIMBER GUARDRAIL	55.000 LF				
0310	607.163 CHAIN LINK FENCE - 4 FOOT P.V.C. COATED	240.000 LF				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 011844.00

PROJECT(S): STP-1184(400)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0320	607.173 CHAIN LINK FENCE - 6 FOOT PVC COATED	228.000 LF				
0330	607.24 REMOVE AND RESET FENCE	116.000 LF				
0340	608.15 BRICK SIDEWALK WITH BITUMINOUS BASE	205.000 SY				
0350	608.241 PRECAST CONCRETE PAVERS	4176.000 SF				
0360	608.25 CONCRETE PAVING STONES WITH SAND BASE	183.000 SY				
0370	608.291 PERVIOUS CONCRETE WITH BASE	99.000 SY				
0380	609.38 RESET CURB TYPE 1	893.000 LF				
0390	613.319 EROSION CONTROL BLANKET	429.000 SY				
0400	614.14 MASONRY PLUG	1.000 EA				
0410	615.071 LOAM, SEED, MULCH	15487.000 SY				
0420	615.12 RAIN GARDEN SOIL ENHANCEMENT	244.000 CY				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 011844.00

PROJECT(S): STP-1184(400)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0430	620.54 STABILIZATION GEOTEXTILE	6722.000 SY				
0440	620.58 NON WOVEN GEOTEXTILE	17515.000 SY				
0450	626.2111 WIRING DEVICE, FOUNDATIONS, CONDUIT, JUNCTION BOXES, SECONDARY WIRING, LUMINAIRES, SERVICE EQUIPMENT	LUMP	LUMP			
0460	627.711 WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE (PLAN QUANTITY)	1153.000 LF				
0470	639.19 FIELD OFFICE TYPE B	1.000 EA				
0480	645.3031 SIGNAGE POLES	LUMP	LUMP			
0490	648.53 REMOVE EXISTING TRACK - AT GRADE	4575.000 TF				
0500	652.31 TYPE I BARRICADE	40.000 EA				
0510	652.311 TYPE II BARRICADE	10.000 EA				
0520	652.33 DRUM	40.000 EA				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 011844.00

PROJECT(S): STP-1184(400)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0530	652.34 CONE	200.000 EA				
0540	652.35 CONSTRUCTION SIGNS	24.000 SF				
0550	652.36 MAINTENANCE OF TRAFFIC CONTROL DEVICES	50.000 CD				
0560	652.38 FLAGGER	400.000 HR				
0570	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP	LUMP			
0580	659.10 MOBILIZATION	LUMP	LUMP			
0590	803.01 TEST PITS	11.000 EA				
0600	830.1011 WATER MAIN RELOCATION	LUMP	LUMP			
0610	832.071 CONTRACTOR ALLOWANCE - CMP	\$10,000	\$10,000			
0620	841.02 RECYCLED GRANITE BOLLARDS AND BLOCKS	22.000 EA				
0630	841.46 WOOD BOLLARD	244.000 EA				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 011844.00

PROJECT(S): STP-1184(400)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	CTS	BID AMOUNT DOLLARS	CTS
0640	841.481 REMOVABLE BOLLARD	11.000 EA				
0650	890.07 BIKE RACKS	1.000 EA				

	SECTION 0001 TOTAL					

SECTION 0002 OPTION {						
0670	201.111 CLEARING	LUMP	LUMP			
0680	202.01 REMOVING STRUCTURES AND OBSTRUCTIONS	LUMP	LUMP			
0690	203.200 COMMON EXCAVATION	LUMP	LUMP			
0700	203.24 COMMON BORROW	540.000 CY				
0710	203.25 GRANULAR BORROW	10.000 CY				
0720	203.35 CRUSHED STONE FILL TYPE 'A' (OVERDEPTH)	10.000 CY				
0730	206.061 STRUCTURAL EARTH EXCAVATION - DRAINAGE AND MINOR STRUCTURES, BELOW GRADE	10.000 CY				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 011844.00

PROJECT(S): STP-1184(400)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS CTS	BID AMOUNT DOLLARS CTS
0740	206.07 STRUCTURAL ROCK EXCAVATION - DRAINAGE AND MINOR STRUCTURES	10.000 CY		
0750	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	104.000 CY		
0760	403.208 HOT MIX ASPHALT 12.5 MM HMA SURFACE	46.000 T		
0770	603.149 10" DIAMETER PVC PIPE	251.000 LF		
0780	603.157 12 INCH PVC PIPE	175.000 LF		
0790	604.131 4' DIAMETER CATCH BASIN	1.000 EA		
0800	604.15 MANHOLE	1.000 EA		
0810	604.164 REBUILDING CATCH BASIN	1.000 EA		
0820	604.2411 24" NYLOPLAST AREA DRAIN	3.000 EA		
0830	608.15 BRICK SIDEWALK WITH BITUMINOUS BASE	482.000 SY		
0840	608.241 PRECAST CONCRETE PAVERS	2412.000 SF		

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 011844.00

PROJECT(S): STP-1184(400)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	CTS	BID AMOUNT DOLLARS	CTS
0850	608.25 CONCRETE PAVING STONES WITH SAND BASE	275.000 SY				
0860	608.291 PERVIOUS CONCRETE WITH BASE	314.000 SY				
0870	609.38 RESET CURB TYPE 1	98.000 LF				
0880	613.319 EROSION CONTROL BLANKET	360.000 SY				
0890	615.071 LOAM, SEED, MULCH	3791.000 SY				
0900	615.12 RAIN GARDEN SOIL ENHANCEMENT	69.000 CY				
0910	620.54 STABILIZATION GEOTEXTILE	1284.000 SY				
0920	620.58 NON WOVEN GEOTEXTILE	4399.000 SY				
0930	626.2111 WIRING DEVICE, FOUNDATIONS, CONDUIT, JUNCTION BOXES, SECONDARY WIRING, LUMINAIRES, SERVICE EQUIPMENT	LUMP	LUMP			
0940	627.711 WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE (PLAN QUANTITY)	12.000 LF				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 011844.00

PROJECT(S): STP-1184(400)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0950	633.01 SEAT WALLS	202.000 LF				
0960	645.3031 SIGNAGE POLES	LUMP	LUMP			
0970	652.311 TYPE II BARRICADE	10.000 EA				
0980	652.33 DRUM	10.000 EA				
0990	652.34 CONE	40.000 EA				
1000	652.35 CONSTRUCTION SIGNS	8.000 SF				
1010	652.36 MAINTENANCE OF TRAFFIC CONTROL DEVICES	13.000 CD				
1020	652.38 FLAGGER	40.000 HR				
1030	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP	LUMP			
1040	803.01 TEST PITS	1.000 EA				
1050	841.02 RECYCLED GRANITE BOLLARDS AND BLOCKS	9.000 EA				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 011844.00

PROJECT(S): STP-1184(400)S

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1060	841.481 REMOVABLE BOLLARD	1.000 EA				
SECTION 0002 TOTAL						
SECTION 0003 OPTION 2						
1070	626.41 POWER TO PLAZAS	LUMP	LUMP			
SECTION 0003 TOTAL						
SECTION 0004 OPTION 3						
0660	890.07 BIKE RACKS	4.000 EA				
SECTION 0004 TOTAL						
TOTAL BID						

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

_____ with its principal place of business located at _____

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. **11844.00**, for **New Construction for Bike/ Pedestrian Rail Trail** in the city of **Portland**, County of **Cumberland**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **June 25, 2010**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002 and related Special Provisions.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is

Section 0001 \$ _____

Section 0002 \$ _____

Section 0003 \$ _____

Section 0004 \$ _____

Performance Bond and Payment Bond each being 100% of the amount awarded under this Contract (see award amount in Section G below).

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **PIN. 11844.00 – New Construction for Bike/ Pedestrian Rail Trail in the city of Portland**, State of Maine, on which bids will be received until the time specified in the “Notice to Contractors” do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached “Schedule of Items”.

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached “Schedule of Items” in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached “Schedule of Items”, which may be ordered by the Resident, and to accept as full compensation the amount determined upon a “Force Account” basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier’s check, certificate of deposit or U. S. Postal Money Order in the amount given in the “Notice to Contractors”, payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the Standard Specifications Revision of December 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor’s Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

_____ Date

(Signature of Legally Authorized Representative
of the Contractor)

_____ Witness

(Name and Title Printed)

G. Award.

Your offer is hereby accepted for (see checked boxes):

- Section 0001
- Section 0002
- Section 0003
- Section 0004

Contract Amount: _____

This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

_____ Date

By: David A. Cole, Commissioner

_____ Witness

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

_____ a corporation or other legal entity organized under the laws of the State of _____, with its principal place of business located at _____

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. **11844.00**, for **New Construction for Bike/ Pedestrian Rail Trail** in the city of **Portland**, County of **Cumberland**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **June 25, 2010**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002 and related Special Provisions.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is

Section 0001 \$ _____

Section 0002 \$ _____

Section 0003 \$ _____

Section 0004 \$ _____

Performance Bond and Payment Bond each being 100% of the amount awarded under this Contract (see award amount in Section G below).

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **PIN. 11844.00 – New Construction for Bike/ Pedestrian Rail Trail in the city of Portland**, State of Maine, on which bids will be received until the time specified in the “Notice to Contractors” do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached “Schedule of Items”.

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached “Schedule of Items” in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached “Schedule of Items”, which may be ordered by the Resident, and to accept as full compensation the amount determined upon a “Force Account” basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier’s check, certificate of deposit or U. S. Postal Money Order in the amount given in the “Notice to Contractors”, payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the Standard Specifications Revision of December 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor’s Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

Date

(Signature of Legally Authorized Representative
of the Contractor)

Witness

(Name and Title Printed)

G. Award.

Your offer is hereby accepted for (see checked boxes):

- Section 0001
- Section 0002
- Section 0003
- Section 0004

Contract Amount: _____

This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: David A. Cole, Commissioner

Witness

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and (Name of the firm bidding the job) a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at (address of the firm bidding the job)

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PDN No. 1224.00, for the Hot Mix Asphalt Overlay in the town/city of South Nowhere, County of Washington, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before November 15, 2006. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002 and related Special Provisions.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is (Place bid here in alphabetical form such as One Hundred and Two dollars and 10 cents)
\$ (repeat bid here in numerical terms, such as \$102.10) Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details, Revision of December 2002, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

PIN 1234.00 South Nowhere, Hot Mix Asphalt Overlay

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the Standard Specifications Revision of 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan by 4:30pm on the day of bid opening to the Contracts Engineer.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

Date

(Witness Sign Here)
Witness

(Sign Here)
(Signature of Legally Authorized Representative of the Contractor)

(Print Name Here)
(Name and Title Printed)

CONTRACTOR

G. Award.

Your offer is hereby accepted. documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: David A. Cole, Commissioner

(Witness)

BOND # _____

CONTRACT PERFORMANCE BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____
_____ and the State of _____, as principal,
and.....
a corporation duly organized under the laws of the State of and having a
usual place of business
as Surety, are held and firmly bound unto the Treasurer of the State of Maine in the sum
of _____ and 00/100 Dollars (\$ _____),
to be paid said Treasurer of the State of Maine or his successors in office, for which
payment well and truly to be made, Principal and Surety bind themselves, their heirs,
executors and administrators, successors and assigns, jointly and severally by these
presents.

The condition of this obligation is such that if the Principal designated as Contractor in
the Contract to construct Project Number _____ in the Municipality of
_____ promptly and faithfully performs the Contract, then this
obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the State
of Maine.

Signed and sealed this day of, 20.....

WITNESSES:

SIGNATURES:

Signature.....

CONTRACTOR:

Print Name Legibly

Print Name Legibly

SURETY:

Signature

Print Name Legibly

Print Name Legibly

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

.....

ADDRESS

.....

.....

.....

.....

TELEPHONE.....

.....

BOND # _____

CONTRACT PAYMENT BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____
_____ and the State of _____, as principal,
and.....
a corporation duly organized under the laws of the State of and having a
usual place of business in
as Surety, are held and firmly bound unto the Treasurer of the State of Maine for the use
and benefit of claimants as herein below defined, in the sum of
_____ and 00/100 Dollars (\$))
for the payment whereof Principal and Surety bind themselves, their heirs, executors and
administrators, successors and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal designated as Contractor in
the Contract to construct Project Number _____ in the Municipality of
_____ promptly satisfies all claims and demands incurred for all
labor and material, used or required by him in connection with the work contemplated by
said Contract, and fully reimburses the obligee for all outlay and expense which the
obligee may incur in making good any default of said Principal, then this obligation shall
be null and void; otherwise it shall remain in full force and effect.

A claimant is defined as one having a direct contract with the Principal or with a
Subcontractor of the Principal for labor, material or both, used or reasonably required for
use in the performance of the contract.

Signed and sealed this day of, 20 ...

WITNESS:

SIGNATURES:

CONTRACTOR:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

.....

ADDRESS

.....

.....

TELEPHONE

.....

GENERAL DECISION: ME20080003 07/25/2008 ME3

Date: July 25, 2008

General Decision Number: ME20080003 07/25/2008

Superseded General Decision Number: ME20070003

State: Maine

Construction Type: Highway

Counties: Androscoggin and Cumberland Counties in Maine.

Highway Construction Projects Excluding Major Bridging (for example: bascule, suspension and spandrel arch bridges; those bridging waters presently navigating or to be navigable; and those involving marine construction in any degree); tunnels, building structures in rest area projects and railroad construction.

Modification Number	Publication Date
0	02/08/2008
1	07/25/2008

* SUME2000-011 10/24/2000

	Rates	Fringes
CARPENTER.....	\$ 11.30	1.95
ELECTRICIAN.....	\$ 17.90	2.30
Laborers:		
Flaggers.....	\$ 6.55	
Landscape.....	\$ 7.99	.72
Unskilled.....	\$ 8.69	1.08
Power equipment operators:		
Backhoes.....	\$ 12.39	2.00
Bulldozers.....	\$ 11.13	1.94
Excavators.....	\$ 11.24	1.31
Loaders.....	\$ 11.19	1.82
Rollers.....	\$ 10.16	1.56
Truck drivers:		
Dump.....	\$ 9.02	1.39
Two axle.....	\$ 9.08	1.28

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.
=====

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

SPECIAL PROVISION
SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES
(Electronic Payroll Submission)

104.3.8.1 Electronic Payroll Submission The prime contractor and all subcontractors and lower-tier subcontractors will submit their certified payrolls electronically on this contract utilizing the Elation System web based reporting. There is no charge to the contracting community for the use of this service. The successful contractor will receive detailed instruction on the use of this system to pass onto their subcontractors.

Bayside Trail Project

**Portland
Cumberland County**

PIN 011844.00

SECTION 2

SPECIAL PROVISIONS
SECTION 104
Utilities

MEETING

A Preconstruction Utility Conference, as defined in Subsection 104.4.6 of the Standard Specifications is required.

GENERAL INFORMATION

These Special Provisions outline the arrangements that have been made by the Department for utility and/or railroad work to be undertaken in conjunction with this project. The following list identifies all known utilities or railroads having facilities presently located within the limits of this project or intending to install facilities during project construction.

Overview:

Utility/Railroad	Aerial	Underground	Railroad
Central Maine Power Company	x		
City of Portland Fire Alarm System	x		
City of Portland Wastewater Division		x	
Fairpoint Communications	x		
Portland Water District (water utility)		x	
Time Warner Cable	x		
Unutil Serice Corp.		x	

Temporary utility adjustments are **not** anticipated.

Unless otherwise specified, any underground utility facilities shown on the project plans represent approximate locations gathered from available information. The Department cannot certify the level of accuracy of this data. Underground facilities indicated on the topographic sheets (plan views) have been collected from historical records and/or on-site designations provided by the respective utility companies. Underground facilities indicated on the cross-sections have been carried over from the plan view data and may also include further approximations of the elevations (depths) based upon straight-line interpolation from the nearest manholes, gate valves, or test pits.

All adjustments are to be made by the respective utility/railroad unless otherwise specified herein.

All clearing and tree removal in areas where utilities are involved must be completed before the utilities are able to relocate their facilities.

Fire hydrants shall not be disturbed until all necessary work has been accomplished to provide proper fire protection.

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 Department if they are exceeded.

Utility working days are Monday through Friday, conditions permitting. Times are estimated on the basis of a single crew for each utility.

AERIAL - *No utility changes anticipated.*

Summary:

Utility	Pole Set	New Wires/Cables	Trans. Wires/Cables	Remove Poles	Estimated Working Days
Total:					

Utility Specific Issues: *No utility changes anticipated.*

SUBSURFACE

Summary:

Utility	Summary of Work	Estimated Working Days
Portland Water District	Inspection of Contractor's work to lower water main at Plowman Street, notification of shutdown, main shut down, and main reactivation.	0
Total:		0

Utility Specific Issues:

Portland Water District (PWD)

PWD has underground water utility facilities in the following locations in the project area: Chestnut Street, Wilmot Street and the adjacent trail corridor, Marginal Way, Diamond Street, and Plowman Street. The existing water main in Plowman Street appears to be at the same

elevation as the proposed storm drain. Therefore, the water main has to be lowered (or raised) to eliminate the conflict. The work required to lower (or raise) the water main is included in this contract and a separate bid item is provided for this work. PWD personnel will provide the following services at no cost to the contractor: inspection of work, notification of water main shutdown, water main shutdown, and water main reactivation. The Contractor shall coordinate with PWD staff at the Preconstruction Conference to schedule the water main lowering work and notify PWD staff at least 7 days in advance of the work.

Contact at PWD: Frank Meader
Telephone: 207-774-5961 ex. 3069

SAFE PRACTICES AROUND UTILITY FACILITIES

The contractor shall be responsible for complying with M.R.S.A. Title 35-A, Chapter 7-A Sections 751 - 761 Overhead High-Voltage Line Safety Act. Prior to commencing any work that may come within ten (10) feet of any aerial electric line, the Contractor shall notify the aerial utilities as per Section 757 of the above act.

The Contractor will be responsible for maintaining the buried utility location markings following the initial locating by the appropriate utility or their designated representative.

DIG SAFE

The Contractor shall be responsible for determining the presence of underground utility facilities prior to commencing any excavation work and shall notify utilities of proposed excavation in accordance with M.R.S.A. Title 23 Section 3360-A, Maine "Dig Safe" System.

THE CONTRACTOR SHALL PLAN AND CONDUCT HIS WORK ACCORDINGLY.

**SPECIAL PROVISION
SECTION 104.4**

**Project Coordination and Communication
(Project Meetings)**

Weekly Coordination Meetings:

Progress meetings shall be held weekly in the Departments Field Office. A time shall be determined for the meetings, this time shall be agreeable to all parties; the Department, the Contractor and the City of Portland. The current schedule will be discussed and updates will be given to all parties on what the next two weeks activities are and their potential impact on the site, traffic, the adjacent properties and the City streets.

Access to Construction Site:

The Contractor shall allow the City and Trust for Public Land (TPL) access to the site for the purpose of observing and reviewing the construction progress. This access will not interfere with the contractor's work.

Allowances:

The City and TPL shall have the opportunity to participate in the development of allowances.

Communication:

The contractor shall be required to copy the City and TPL on any communications with the project's designers (Terrance J. DeWan and Associates and Woodard & Curran) regarding change orders or the development of allowances.

**SPECIAL PROVISION
SECTION 104.7**

Previously Purchased Materials

In September of 2009, the City of Portland purchased certain materials for use on the trail between Franklin Street and Elm Street. These materials were purchased with an EPA Brownfields Grant and they were purchased last fall in order to meet the Grant's expenditure deadline. The materials outlined below will be provided to the contractor, as outlined below. **These materials may only be used on the portion of the trail from Elm Street to Franklin Street.** This is a requirement of the Brownfield's Grant. With the exception of the contractor's responsibilities listed below, the previously purchased materials will be provided to the contractor at no cost. Please adjust your bids accordingly.

Certain materials such as bricks pavers and geotextile are already in the City possession while the remaining 'loose' materials such as loam, gravel and pavement remain in the supplier's possession.

Copies of the City of Portland's Notice and Specifications (BID #2309) and the City's purchase orders for these materials are attached to this specification for your reference.

1. Materials in the City of Portland's Possession

The materials listed below will be provided to the contractor at their current locations (indicated below) on Portland's waterfront. **The contractor will be responsible for scheduling a pick up time with the City of Portland, loading these materials and delivering them to the project site.**

The contact for the City of Portland is Kathy Alves of Portland's Public Facilities Department
Phone: 233-8523
Email: kra@portlandmaine.gov

The City of Portland will provide perspective bidders an opportunity to view the materials on the _____ of _____, 2009. Perspective bidders should meet at the International Marine Terminal on Commercial Street in Portland at _____.

Geotextile

10,200 square yards of geotextile is currently located on the Maine State Pier off of Commercial Street in Portland. This material will satisfy the requirements for **Geotextile Filter Fabric: 620.60**

Permeable Concrete Pavers

5,000 square feet of permeable concrete pavers are currently located at the International Marine Terminal off of Commercial Street in Portland. This material will satisfy the requirements for **Permeable Concrete Unit Pavers with Base: 608.27**

Concrete Pavers

7,000 square feet of concrete pavers are currently located at the International Marine Terminal off of Commercial Street in Portland. This material will satisfy the requirements for **Concrete Unit Pavers with Base: 608.28**

Bricks

5,000 square feet of concrete pavers are currently located at the International Marine Terminal off of Commercial Street in Portland. This material will satisfy the requirements for **Brick Sidewalk with Base: 608.15**

2. Materials Remaining in the Supplier's Possession

The materials listed below will be delivered to the project site by the material suppliers listed below. The Contractor is required to contact the material suppliers listed below within 3 weeks (21 days) executing a contract with the Maine Department of Transportation to arrange a schedule for delivery.

Stone Choker Course

46 cubic yards of stone choker course will be provided by Portland Sand and Gravel Inc. of 61 Rose Drive in Cumberland, ME. This material will satisfy the requirements for **Permeable Concrete Unit Pavers with Base: 608.27 or Pervious Concrete with Base: 608.29**

To schedule delivery contact Anthony Mancini at: 657-3226

Drainage Stone

417 cubic yards of drainage stone will be provided by Portland Sand and Gravel Inc. of 61 Rose Drive in Cumberland, ME. This material will satisfy the requirements for **Permeable Concrete Unit Pavers with Base: 608.27 or Pervious Concrete with Base: 608.29**

To schedule delivery contact Anthony Mancini at: 657-3226

MDOT Type A Gravel

450 cubic yards of MDOT Type A Gravel will be provided by Portland Sand and Gravel Inc. of 61 Rose Drive in Cumberland, ME. This material will satisfy the requirements for **Aggregate Base Course – Crushed Type “B”: 304.09**

To schedule delivery contact Anthony Mancini at: 657-3226

Pervious Concrete

50 cubic yards of Pervious Concrete will be provided by Dragon Products Co. Inc. of Portland Maine. This material will satisfy the requirements for **Pervious Concrete with Base: 608.29**

To schedule delivery contact Phillip Nunley at: 774-6355

Loam

1,700 cubic yards Loam will be provided by CPRC Management LLC of Scarborough, ME. This material will satisfy the requirements for **Loam Seed and Mulch: 615.071**

To schedule delivery contact Tom Kane at: 883-3325

MDOT Type D Gravel

600 cubic yards MDOT Type D Gravel will be provided by Shaw Brothers Construction Inc of Gorham, ME. This material will satisfy the requirements for **Aggregate Subbase Course – Gravel Type “D”**: **304.10**

To schedule delivery contact Mark Barnes at: 839-2552

MDOT Gravel Borrow

3,345 cubic yards MDOT Type D Gravel will be provided by Shaw Brothers Construction Inc of Gorham, ME. This material will satisfy the requirements for **Common Borrow: 203.24 or Granular Borrow: 203.25**

To schedule delivery contact Mark Barnes at: 839-2552

Hot Bituminous Pavement, Grading “B” (19.0mm)

150 tons of Hot Bituminous Pavement, Grading “B” (19.0mm) will be provided by Pike Industries of 58 Main Street in Westbrook ME. This material will satisfy the requirements for **Hot Bituminous Pavement, Grading “B” (19.0mm): 403.207**

To schedule delivery contact James Hanley at: 854-2561

Hot Bituminous Pavement, Grading “C” (12.5 mm)

200 tons of Hot Bituminous Pavement, Grading “C” (12.5 mm) will be provided by Pike Industries of 58 Main Street in Westbrook ME. This material will satisfy the requirements for **Hot Bituminous Pavement, Grading “C” (12.5 mm): 403.208**

To schedule delivery contact James Hanley at: 854-2561

END OF SECTION.

CITY OF PORTLAND, MAINE
PROVIDE VARIOUS CONSTRUCTION
RELATED MATERIALS
FOR THE BAYSIDE TRAIL PROJECT

Notice and Specifications

Sealed bids for furnishing the City with Various Construction Related Materials for the Bayside Trail Project, will be received at the Purchasing Office, Room 103, City Hall, 389 Congress Street, Portland, ME 04101, until 3:00 P.M., Friday, September 19, 2008, at which time they will be publicly opened.

Bids shall be submitted on the provided forms and returned in sealed envelopes plainly marked with the bid's number and title. Late or facsimile bids will not be accepted. All bids shall be held open for acceptance for thirty (30) days.

All questions shall be directed, in writing, to the Purchasing Office at the above address and be received at least five business days prior to the bid opening date (FAX 207-874-8652, e-mail krc@portlandmaine.gov). Questions received after this time will not be addressed. Responses from the City that substantially alter this bid will be issued in the form of a written addendum to all bid holders registered in the Purchasing Office. Oral explanations or interpretations given before the award of the contract will not be binding.

Bids from vendors not registered with the Purchasing Office may be rejected; receipt of this document directly from the City of Portland indicates registration. Should a vendor receive this Invitation from a source other than the City, please contact 207-874-8654 to ensure that your firm is listed as a vendor for this project.

INSURANCE REQUIREMENTS

Where bidders are required to enter or go onto City property to deliver materials, perform work or services as a result of this Invitation, or a bid award, such bidders and their agents will assume the full duty, obligation and expense of obtaining all necessary permits, licenses and insurance as required. The successful bidder(s) shall, to the fullest extent permitted by law, defend, indemnify and hold harmless the City, its officers and employees, from and against all claims, losses and expenses. The City disclaims any and all responsibility for injury to bidders, their agents or others while examining the job site or at any other time.

The successful bidder(s) shall produce evidence satisfactory to the Corporation Counsel of the City of Portland that they have secured both Public and Automobile Liability insurance coverage in the amount of not less than \$400,000 combined single limit for personal or bodily injury, death and property damage, protecting the Contractor and the City from all such claims, and naming the City as an additional insured, and Worker's Compensation insurance also.

The successful bidders for the "loose" materials, as noted, will be responsible for producing evidence of insurance protecting against theft of any/all stored materials.

SPECIAL DELIVERY REQUIREMENTS

The successful bidders for Items 2, 3, 6, 7, 8, 9 & 10 will receive purchase order(s) on or around September 30; the successful bidder(s) will be paid in advance for the materials ordered and shall store them at their site until required by the construction contractor. These materials must be set aside, in the quantity ordered; these materials will be owned by the City and must be available for inspection during the successful bidders' normal business hours. The successful bidder shall provide insurance certificates showing evidence of coverage for theft of the City's materials. Any costs for storage, including, but not limited to the cost of insuring materials, at the bidders' site(s) shall be included in the price(s) bid.

Delivery for stored items shall be by the bidder F.O.B. jobsite located on Somerset Street. It is estimated that those materials will be delivered in May/June 2009.

Items 1, 4 & 5 will be ordered, no later than September 30, 2008, and delivered to the Portland Ocean Terminal location. Those items will be accepted for delivery as soon as they become available. Payment for those items shall be based upon inspection and acceptance of the materials and approval of the invoice(s).

All work to be furnished to the City shall be performed with equipment, methods and the use of personnel, all being in full conformance with all applicable Federal, O.S.H.A., MDOT, State AND/OR local requirements.

Bidders are to state prices for each separate item of material, or enter a "NO BID" if unable to supply them. Bid prices are to cover all expenses incidental to their supply and are to be for materials that are in full conformity with the specifications, no additional amounts/fees will be allowed, including, but not limited to fuel surcharges. Except as otherwise provided herein, all materials shall conform to the specifications entitled "*State of Maine, Department of Transportation, Standard Specifications for Highways and Bridges*", April 1995 revision (or latest). Awards will be made separately for each bid item, so a particular bidder may receive the award for all, some, one or none of the items on which bid.

Should a contracted vendor fail to supply the City with its requirements of material as specified in the bid, or as may be mutually agreed, and/or at the prices quoted, the City reserves the right to cancel the award to that vendor and to purchase the material elsewhere.

It is the custom of the City of Portland, Maine to pay its bills 30 days following delivery and acceptance of product, and receipt of invoices for all items covered by the Field Purchase Order. In submitting bids under these specifications, bidders should take into account all discounts, both trade and time, allowed in accordance with the above payment policy and quote a net price. The City is exempt from Federal Excise Taxes and the State's Sales and Use Tax.

The City reserves the right to waive any informalities in bids, to accept any bid or portions thereof (bidders are advised to note this and quote accordingly) and to reject any or all bids should it be deemed for the best interest of the City to do so. The City reserves the right to substantiate the bidder's qualifications, capability to perform, availability, past performance record and to verify that the bidder is current in its obligations to the City, as follows:

Pursuant to City procurement policy and ordinance, the City is unable to contract with businesses or individuals who are delinquent in their financial obligations to the City. These obligations may include but are not limited to real estate and personal property taxes and sewer user fees. Bidders who are delinquent in their financial obligations to the City must do one of the following: bring the obligation current, negotiate a payment plan with the City's Treasury office, or agree to an offset which shall be established by the contract which shall be issued to the successful bidder.

September 5, 2008

Karen C. Marston
Assistant Purchasing Manager

PROPOSAL

The UNDERSIGNED hereby declares that he, she or they are the only person(s), firm or corporation interested in this proposal as principal; that it is made without any connection with any other person(s), firm or corporation submitting a bid for the same.

The UNDERSIGNED hereby declares that they have read and understand all conditions as outlined herein, and that the proposal is made in accordance with same.

The UNDERSIGNED hereby declares that any person(s) employed by the City of Portland, Maine, who has direct or indirect personal or financial interest in this proposal, or in any profits which may be derived therefrom has been identified and the interest disclosed by separate attachment. (Please include in your disclosure any interest which you know of. An example of a direct interest would be a City employee who would be paid to perform services under this proposal. An example of an indirect interest would be a City employee who is related to any officers, employees, principals or shareholders of your firm or you. If in doubt of status or interest, please disclose to the extent known).

Bidder acknowledges receipt of the following Addenda _____

COMPANY NAME: _____
(Corporation, Firm or Company)

AUTHORIZED SIGNATURE: _____ DATE: _____
(Officer, Authorized Individual or Owner)

PRINT NAME & TITLE: _____

ADDRESS: _____

Zip Code

TELEPHONE: _____ FAX _____

EMAIL ADDRESS: _____ WEBSITE: _____

FEDERAL TAX I.D. NUMBER: _____

NOTE: All bids must bear the handwritten signature of a duly authorized member or employee of the organization making the bid.

PROPOSAL (CON'TD)

Item	Qty.	Description	Unit Price	Total
1.	10,200 sy	Section 02070, Geotextile	\$ _____ sy	\$ _____
BRAND NAME/TYPE: _____				
*2.	46 cy	Section 02720, Stone Choker Course	\$ _____ cy	\$ _____
*3.	417 cy	Section 02720, Drainage Stone	\$ _____ cy	\$ _____
4	5,000 sf	Section 02780, Permeable Pavers	\$ _____ sf	\$ _____
BRAND NAME/TYPE: _____				
5.	7,000 sf	Section 02780, Concrete Pavers	\$ _____ sf	\$ _____
BRAND NAME/TYPE: _____				
*6.	50 cy	Section 02795, Pervious Concrete	\$ _____ cy	\$ _____
*7.	1,700 cy	Section 02910, Loam	\$ _____ cy	\$ _____
*8.	600 cy	MDOT, 703.06(a) Type D Gravel	\$ _____ cy	\$ _____
*9.	440cy	MDOT, 703.06(a) Type A Gravel	\$ _____ cy	\$ _____
*10	2,900cy	MDOT, 703.20 Gravel Borrow	\$ _____ cy	\$ _____

*These items shall be stored at successful bidders' location(s) as specified (see page 2, paragraph 1)

ITEM #1 - Geotextile

**SECTION 02070
GEOTEXTILE**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This work shall consist of the furnishing of nonwoven separation geotextile fabric, as shown in the Contract, or otherwise directed.

1.02 QUALITY ASSURANCE

- A. Materials and methods of construction shall comply with the standards of the American Society for Testing Materials, (ASTM).

- B. Sampling and Acceptance: Geotextiles shall be subject to sampling and testing to verify conformance with this specification. Sampling for testing shall be in accordance with the most current ASTM D4354, using the section titled, "Procedure for Sampling for Purchaser's Specification Conformance Testing." In the absence of purchaser's testing, verification may be based on manufacturer's certifications as a result of testing by the manufacturer of quality assurance samples obtained using the procedure for Sampling for Manufacturer's Quality Assurance (MQA) Testing. A lot size for conformance or quality assurance sampling shall be considered the shipment quantity of the given product or a truckload of the given product, whichever is smaller. The number of specimens to test per sample is specified by each test method. Geotextile product acceptance shall be based on ASTM D4759. Product acceptance is determined by comparing the average test results of all specimens within a given sample to the specification MARV. Refer to ASTM D4759 for more details regarding geotextile acceptance procedures.

- C. Installation: NOT INCLUDED (N.I.)

- D. Sample panel: N.I.

1.03 SUBMITTALS

- A. The Contractor shall provide to the Landscape Architect/Engineer a certificate stating the name of the manufacturer, product name, style number, chemical composition of the filaments or yarns and other pertinent information to fully describe the geotextile. This information shall be furnished to the Landscape Architect/Engineer for approval of the fabric before delivery.

- B. Certification: The Manufacturer is responsible for establishing and maintaining a quality control program. Documentation describing the quality control program shall be made available upon request. The Manufacturer's certificate shall state that the furnished geotextile meets MARV requirements of the specification as evaluated under the Manufacturer's quality control program. A person having legal authority to bind the Manufacturer shall attest to the certificate. Either mislabeling or misrepresentation of materials shall be reason to reject those geotextile products.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Geotextile labeling, shipment and storage shall follow ASTM D4873. Product labels shall clearly show the manufacturer or supplier name, style number, and roll number. Each shipping document shall include a notation certifying that the material is in accordance with the manufacturer's certificate. Each geotextile roll shall be wrapped with a material that will protect the geotextile from damage due to shipment, water, sunlight and contaminants. The protective wrapping shall be maintained during periods of shipment and storage.
- B. Deliver to secure location as instructed.

1.05 PROJECT CONDITIONS

- A. Not applicable.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Geotextile shall be by Ten Cate Nicolon or equivalent manufacturer, approved by Landscape Architect/Engineer.

2.02 MATERIALS

- A. General: The geotextile shall be Mirafi N160 Nonwoven Polypropylene Geotextile or approved equal.
- B. Sampling and conformance testing shall be in accordance with ASTM D4354. Geotextile product acceptance shall be based on ASTM D4759. Geotextile Storage and Handling requirements shall be based on ASTM D4873.

PART 3 – EXECUTION

N.I.

END OF SECTION

**SECTION 02720
PERVIOUS SURFACING AGGREGATE BASES**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this Section shall include all labor, materials, services, equipment and accessories necessary for:
 - 1. Furnishing specified aggregate base courses to the project site.
 - 2. The Owner and/or Engineer reserves the right to reject on or after delivery any aggregate base course which do not, in their opinion, meet these Specifications.
 - 3. Installation is not included in this contract.

1.02 QUALITY ASSURANCE

- A. Testing and Inspection: OWNER shall be responsible for all testing, unless otherwise noted. The cost for retesting due to failed tests shall be the responsibility of the CONTRACTOR.
- B. Materials and methods of construction shall comply with the standards of the American Society for Testing Materials, (ASTM).
- C. Installation: NOT INCLUDED (N.I.)

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver to Portland Public Works or Project Site as instructed.

1.05 SUBMITTALS

- A. Responsibility of Contractor - Before construction, submit to Landscape Architect/Engineer:
 - 1. Sieve analysis in accordance with ASTM D422 for all materials prior to start of construction.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General: All materials utilized for this Project shall be obtained from a source that has been licensed or permitted for such use by local and state authorities. The CONTRACTOR shall be required to submit evidence of such if so requested.

1. **Suitable materials:** Suitable soil materials are defined as those complying with ASTM D2487 soil classification groups GW, SM, SW, and SP.
2. **Unsuitable materials:** Materials containing excessive amounts of water, blue clay, vegetation, organic matter, debris, pavement, stones or boulders over 6-inches in greatest dimension, frozen material, and material which, in the opinion of the ENGINEER, will not provide a suitable foundation or subgrade..
3. **Inspection:** The ENGINEER may inspect off-site sources of materials and order tests of these materials to verify compliance with these Specifications.
4. **Sieve Analysis:** Submit sieve analysis in accordance with ASTM D422 for all materials prior to start of construction.
5. **Abrasion resistance:** ASTM C418, maximum volume loss 15 cu. cm. per 50 cu. cm. Average thickness loss 3 mm.

ITEM #2 – Stone Choker Course

- B. **Choker Course:** 3/8” crushed washed stone consisting of durable, clean angular rock fragments obtained by breaking and crushing rock material, with a calcium carbonate content of 10% or less when tested per ASTM D3473 using a 10 minute reaction time. The minimum permeability of the drainage stone shall be 10 cm/sec. Sieve analysis by weight:

Screen Size	Percent Passing
1 ½ inch	100
1 inch	100
¾ inch	100
½ inch	100
3/8 inch	80-100
#4	10-40
#8	0-10
#50	0-5
#200	<1

ITEM #3 – Drainage Stone

C. Drainage Stone: 1-1/2” crushed washed stone consisting of durable, clean angular rock fragments obtained by breaking and crushing rock material, with a calcium carbonate content of 10% or less when tested per ASTM D3473 using a 10 minute reaction time. The minimum permeability of the drainage stone shall be 10 cm/sec. Sieve analysis by weight:

Screen Size	Percent Passing
1 ½ inch	100
1 inch	20-60
¾ inch	0-25
½ inch	0-5
3/8 inch	0-5
#4	0-5
#8	0-5
#50	-
#200	<1

PART 3 – EXECUTION

N.I.

END OF SECTION

**SECTION 02780
UNIT PAVERS**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Provide precast permeable concrete unit paving as specified herein. Installation is not included in this contract.
- B. Provide precast concrete unit paving as specified herein. Installation is not included in this contract.

1.02 QUALITY ASSURANCE

- A. Materials and methods of construction shall comply with the standards of the American Society for Testing Materials, (ASTM).
- C. Installation: NOT INCLUDED (N.I.)
- D. Sample panel: N.I.

1.03 SUBMITTALS

- A. Submit a minimum of five (5) full size samples of each color paver unit required in the sample panel. Include the full range of type, size, exposed finish, color, and texture proposed for the work.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Protect pavers from damage, chipping, and soiling during delivery and storage. Store off the ground on pallets or wood platforms.
- B. Deliver to secure location as instructed.

1.05 PROJECT CONDITIONS

- A. Not applicable.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Permeable Concrete Unit Pavers: Cambridge Pavers, P. O. Box 157, Lyndhurst, NJ 07071.0157, (201) 933.5000, www.cambridgepavers.com. Or equivalent manufacturer, approved by Landscape Architect.

- B. Concrete Unit Pavers: Cambridge Pavers, P. O. Box 157, Lyndhurst, NJ 07071.0157, (201) 933.5000, www.cambridgepavers.com. Or equivalent manufacturer, approved by Landscape Architect.

2.02 MATERIALS

ITEM #4 – Permeable Concrete Pavers

- A. Permeable Concrete Unit Pavers: Paver unit materials and fabrication shall meet or exceed the requirements of USPSI Designation CPS7180 Standard Specifications for Concrete Paving Stone:

1. Portland cement: ASTM C-150, Type 1.
2. Aggregate: ASTM C-33.
3. Compressive strength: Minimum 8,000 psi at time of delivery.
4. Absorption: Maximum 5%.
5. Freeze-thaw text: ASTM C67, no breakage and maximum 1% loss in dry weight after 50 cycles.
6. Abrasion resistance: ASTM C418, maximum volume loss 15 cu. cm. per 50 cu. cm. Average thickness loss 3 mm.
7. Provide only sound units free of defects that would interfere with proper placing of units or impair strength or permanence of construction. Minor cracks and minor chipping incidental to methods of manufacture, handling in shipment, and delivery will be subject to Landscape Architect's review and acceptance. Pavers with excessive cracks and chipping, as determined by the Landscape Architect, will be rejected as not complying with specification requirements.
8. Concrete unit pavers shall be "Cambridge Cobble III with Armortec", size and color as follows:
 - A. Cambridge Cobble III, color "Onyx-Natural" blend, square (size 2-3/8" x 6-1/16" x 6-1/16"), Or product equivalent in size, color, and functional performance, approved by the Landscape Architect.

ITEM #5 – Concrete Pavers

- B Concrete Unit Pavers: Paver unit materials and fabrication shall meet or exceed the requirements of USPSI Designation CPS7180 Standard Specifications for Concrete Paving Stone:

1. Portland cement: ASTM C-150, Type 1.
2. Aggregate: ASTM C-33.
3. Compressive strength: Minimum 8,000 psi at time of delivery.
4. Absorption: Maximum 5%.
5. Freeze-thaw text: ASTM C67, no breakage and maximum 1% loss in dry weight after 50 cycles.
6. Abrasion resistance: ASTM C418, maximum volume loss 15 cu. cm. per 50 cu. cm. Average thickness loss 3 mm.
7. Provide only sound units free of defects that would interfere with proper placing of units or impair strength or permanence of construction. Minor cracks and minor chipping incidental to methods of manufacture, handling in shipment, and

delivery will be subject to Landscape Architect's review and acceptance. Pavers with excessive cracks and chipping, as determined by the Landscape Architect, will be rejected as not complying with specification requirements.

8. Concrete unit pavers shall be Cambridge Pavers "Roundtable Collection with Armor-Tec", size and color as follows:

A. square pavers (6" x 6" x 2-3/8" thick) color "Onyx-Natural" blend, Or product equivalent in size, color, and functional performance, approved by the Landscape Architect.

B. square pavers (6" x 6" x 2-3/8" thick) color "Onyx", Or product equivalent in size, color, and functional performance, approved by the Landscape Architect.

C. mixed size pavers (small 2-13/16" x 5-13/16" x 2-3/8" thick, medium 4-3/8" x 5-13/16" x 2-3/8" thick, large 5-13/16" x 8-13/16" x 2-3/8" thick) color "Onyx-Natural" blend, Or product equivalent in size, color, and functional performance, approved by the Landscape Architect.

- D. Base material: N.I.
- E. Bedding and leveling material: N.I.
- F. Joint fill: N.I.
- G. Edging: N.I.
- H. Edge restrain spikes: N.I.
- I. Adhesive: N.I.
- J. Weed Barrier Fabric: N.I.

PART 3 – EXECUTION

N.I.

END OF SECTION

**SECTION 02795
PERVIOUS CONCRETE**

ITEM #6 – Pervious Concrete

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this Section shall include all labor, materials, services, equipment and accessories necessary for:
 - 1. Furnishing specified pervious concrete to the project site.
 - 2. The Owner and/or Engineer reserves the right to reject on or after delivery any pervious concrete which do not, in their opinion, meet these Specifications.
 - 3. Installation is not included in this contract.

1.02 REFERENCED STANDARDS

- A. Standards of ACI and ASTM referred to in this specification are listed with serial designation including year of adoption or revision, and are part of this specification.
- B. *ACI standards*
 - 306.1-90 Standard Specification for Cold Weather Concreting
- C. *ASTM standards*
 - C 94/C 94M-07 Specification for Ready-Mixed Concrete
 - C 979 Standard Specification for Pigments for Integrally Colored Concrete
 - C 1077-06 Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation

1.03 STANDARDS PRODUCING ORGANIZATIONS

- A. Abbreviations for and complete names and addresses of organizations issuing documents referred to in this specification are listed:

American Concrete Institute (ACI)
P.O. Box 9094
Farmington Hills, MI 48333-9094
www.concrete.org

ASTM International (ASTM)
100 Barr Harbor Drive
West Conshohocken, PA 19428
www.astm.org

National Ready Mixed Concrete Association (NRMCA)
900 Spring Street
Silver Spring, MD 20910
www.nrmca.org

1.04 QUALITY ASSURANCE

- A. Testing and Inspection: OWNER shall be responsible for all testing, unless otherwise noted. The cost for retesting due to failed tests shall be the responsibility of the CONTRACTOR.
- B. Agencies that perform testing services on concrete materials shall meet the requirements of the ASTM C1077. Testing agencies performing the testing shall be accepted by Landscape Architect/Engineer before performing any Work.
- C. Installation: NOT INCLUDED (N.I.)

1.05 SUBMITTALS

- A. Responsibility of Contractor - Before construction, submit to Landscape Architect/Engineer:
 - 1. Proposed concrete mixture proportions and density.
 - 2. When required by Landscape Architect/Engineer, in-place pavement test results from previous Work, completed in the last 12 months, including design void content, density, and concrete mixture proportions.

1.06 BATCHING, MIXING AND DELIVERY

- A. Batch, mix and deliver pervious concrete in accordance with ASTM C 94/C 94M Water addition is permitted during the discharge of pervious concrete.
- B. Deliver to Project Site as instructed.

1.07 PROJECT CONDITIONS

- A. Not applicable.

PART 2 - PRODUCTS

2.01 PERVIOUS CONCRETE

Materials for pervious concrete shall comply with the provisions in ASTM C 94/C 94M and the following requirements:

- A. Aggregates - Nominal maximum aggregate size shall not exceed one-third of the specified pavement thickness and shall meet the following gradation or approved equivalent:

Screen Size	Percent Passing
1/2 inch	100
3/8 inch	95-100
#4	15-40
#8	3-15
#16	1-10
#30	1-6
#50	1-3
#100	<1

- B. Admixtures - Chemical admixtures that facilitate the production and placement of pervious concrete shall meet the following mix design or equivalent mix design, approved by Landscape Architect/Engineer. The quantities are given in the oven dried state (no free or absorbed moisture).

Material Name	Unit Quantity
Ciment Quebec II	600 lbs.
3/8 Stone	2600 lbs.
Water	20 gallons
Glenium 7500	18 oz. (3 oz. / cwt.)
Delvo	30 oz. (5 oz. / cwt.)
Microair	1 oz.
Rheomac VMA 362	60 oz. (10 oz. / cwt.)

- A. Pigments - Use pigments complying with ASTM C979 if specified in Contract Documents.
- B. Forms – N.I.
- C. Base Material – N.I.
- D. Isolation Joint Material – N.I.

PART 3 – EXECUTION

- A. Hot and Cold Weather Construction
 - 1. When hot weather is anticipated, submit detailed procedures for the production and transportation of concrete during hot weather.
 - 2. In cold weather, comply with ACI 306.1, recording concrete temperature no less than twice per 24-hour period.

END OF SECTION

**SECTION 02910
LOAM**

ITEM #7 - Loam

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this Section shall include all labor, materials, services, equipment and accessories necessary for:
 - 1. Furnishing specified topsoil to the project site.
 - 2. The Owner and/or Landscape Architect reserves the right to reject on or after delivery any topsoil which do not, in their opinion, meet these Specifications.

PART 2 - PRODUCTS

2.01 TOPSOIL

- A. Topsoil shall be friable, sandy loam, typical of cultivated topsoils found in the locality. It shall be taken from a well drained, arable site, and free of subsoil, stones over one (1) inch, clods, sticks, roots, objectionable extraneous matter, noxious weeds, roots or rhizomes of "Witch Grass" (*Agropyron repens*), other undesirable grasses, or toxic materials. Much, peat, or other excessively acid soil containing excessive proportions of either clay or sand will not be accepted. Prior to spreading, topsoil shall be screened to remove rocks and debris. Maximum stone size shall not exceed one (1) inch in the greatest dimension.
- B. All topsoil shall be tested by the contractor for pH. A pH of 5.5 to 8.0 is required.
- C. Planting soil shall consist of 67% sandy loam and 33% composted organic material by volume.
- D. The mixed soil shall meet the following gradation:

Screen Size	Percent Passing
<i>1/2 inch</i>	<i>100</i>
<i>1/4 inch</i>	<i>95 – 100</i>
<i>#10</i>	<i>85 – 95</i>
<i>#30</i>	<i>60 – 75</i>
<i>#60</i>	<i>50 – 60</i>
<i>#100</i>	<i>20 – 30</i>
<i>#200</i>	<i>5 – 15</i>

City of Portland
 Budget & Purchasing
 389 Congress Street
 Portland, Maine 04101
 (207) 874-8654
 Fax: (207) 874-8652
 www.portlandpurchasing.com

fax t r a n s m i t t a l

to: John Mahoney, Oak Engineers

fax: 772-3248

from: Karen Marston

date: 10-1-08

re: PO - Bricks

pages: 2, including cover sheet.

NOTES: _____

City of Portland
 Budget & Purchasing
 389 Congress Street
 Portland, Maine 04101
 (207) 874-8654
 Fax: (207) 874-8652
 www.portlandpurchasing.com

fax transmittal

to: John Mahoney, Oak Engineers

fax: 772-3248

from: Karen Marston

date: 9-29-08

re: PO's

pages: 9, including cover sheet.

NOTES: Hi John - I'll fax you the PO for the
bricks as soon as I get it.

About the bricks - the price for the bricks is
\$485/M - is this still ok? (The new price is \$500 -
higher than your estimate).

PURCHASE ORDER
CITY OF PORTLAND, MAINE

City Hall, 389 Congress Street
 Portland, Maine 04101
 (207) 874-8654

P.O. # 025139
 Date: 09/26/08



GRANVILLE STONE
 632 MAIN ROAD
 HOLDEN, ME 04429

City of Portland
 N/A
 N/A
 N/A, ME 00000

VENDOR #		SHIP VIA		TERMS	
9836				NET	
DELIVER BY		CONFIRM TO		REQUISITIONED BY	
10/17/08		KAREN MARSTON		DMM	
DAN HOWARD		ACCOUNT NO.		PROJECT	
FREIGHT		24124004103500		GR0861	
CONTRACT NO.		REQ. NO.		REQ. DATE	
		2209/16/08			

LINE #	QUANTITY	UOM	ITEM NO. AND DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	7000.00	SF	CAMBRIDGE PAVERS, ROUND TABLE COLLECTION	2.3600	16520.00
				SUB-TOTAL	16520.00
				TOTAL	16520.00

REMARKS:
 Per your response to the City's Bid #2309. Please coordinate delivery with John Mahoney, 207-772-2004 or 207-831-6165.

TERMS & CONDITIONS AS DEPICTED ON THE REVERSE SIDE OF THIS ORDER ARE A FORMAL PART OF THIS ORDER FOR THE CITY OF PORTLAND, MAINE

[Handwritten Signature]
 AUTHORIZED SIGNATURE



PURCHASE ORDER
CITY OF PORTLAND, MAINE
City Hall, 389 Congress Street
Portland, Maine 04101
(207) 874-8654

P.O.# 025140
Date: 09/26/08

BARRON BROTHERS DEVELOPMENT, I
372 NH ROUTE 11
FARMINGTON, NH 03835

City of Portland
N/A
N/A
N/A, ME 00000

VENDOR #		9837		TERMS	
DELIVER BY		SHIP VIA		NET	
10/17/08		CONFIRM TO		REQUISITIONED BY	
ELMER BARRON		KAREN MARSTON		KCM	
FREIGHT	CONTRACT NO.	ACCOUNT NO.	PROJECT	REQ. NO.	REQ. DATE
	24124004105530		GR0861	999	09/26/08

LINE #	QUANTITY	UOM	ITEM NO. AND DESCRIPTION	UNIT PRICE	TOTAL COST
1	5000.00	SF	CAMBRIDGE COBBLE III, ONYX/NATURAL	2.3700	11850.00
			SUB-TOTAL		11850.00
			TOTAL		11850.00

REMARKS:
Per your response to the City's Bid #2309. Please
coordinate delivery with John Mahoney,
207-772-2004 or 207-831-6165.

TERMS & CONDITIONS, AS DEPICTED ON THE REVERSE SIDE OF THIS ORDER. **SIGNATURE** PART OF THIS ORDER FOR THE CITY OF PORTLAND, MAINE

[Handwritten Signature]
AUTHORIZED SIGNATURE



PURCHASE ORDER
CITY OF PORTLAND, MAINE
 City Hall, 389 Congress Street
 Portland, Maine 04101
 (207) 874-8654

P.O. # 025142
 Date: 09/26/08

DRAGON PRODUCTS CO INC
 P O BOX 1521
 PORTLAND, ME 04104

City of Portland
 N/A
 N/A
 N/A, ME 00000

VENDOR #		SHIP VIA		TERMS	
3430				NET.	
DELIVER BY		CONFIRM TO		REQUISITIONED BY	
09/25/09		KAREN MARSTON		KCM	
CONFIRM BY		ACCOUNT NO.		PROJECT	
PHILIP NUNLEY		24124004105530		GR0861 999	
FREIGHT		CONTRACT NO.		REQ. NO.	
				09/26/08	

LINE #	QUANTITY	UOM	ITEMING AND DESCRIPTION	EST. COST	EX. RATE COST
1	50.00	CY	PERVIOUS CONCRETE	106.0000	5300.00
			SUB-TOTAL		5300.00
			TOTAL		5300.00

REMARKS:
 Per your response to the City's Bid #2309. Please coordinate delivery with John Mahoney, 207-772-2004 or 207-831-6165.

TERMS & CONDITIONS, AS DEPICTED ON THE REVERSE SIDE OF THIS ORDER, ARE A PARTIAL PART OF THIS ORDER FOR THE CITY OF PORTLAND, MAINE

[Handwritten Signature]
 AUTHORIZED SIGNATURE



PURCHASE ORDER
CITY OF PORTLAND, MAINE
City Hall, 389 Congress Street
Portland, Maine 04101
(207) 874-8654

P.O.# 025143
Date: 09/26/08

SHAW BROTHERS CONSTRUCTION
INC
P O BOX 69
GORHAM, ME 04038

City of Portland
N/A
N/A
N/A, ME 00000

VENDOR #		2551	
DELIVER BY	SHIP VIA	TERMS	
09/25/09		NET	
CONFIRM BY	CONFIRM TO	REQUISITIONED BY	
MARK BARNES	KAREN MARSTON	KCM	
FREIGHT	CONTRACT NO.	ACCOUNT NO.	PROJECT REQ. NO. REQ. DATE
	24124004105530	GR0861	999 09/26/08

LINE	QUANTITY	UOM	ITEM NO. AND DESCRIPTION	UNIT PRICE	EXT. PRICE
1	600.00	CY	MDOT TYPE D GRAVEL	13.0000	7800.00
2	3345.00	CY	MDOT GRAVEL BORROW	12.0000	40140.00
SUB-TOTAL					47940.00
TOTAL					47940.00

REMARKS:
Per your response to the City's Bid #2309. Please coordinate delivery with John Mahoney, 207-772-2004 or 207-831-6165.

TERMS & CONDITIONS, AS DEPICTED ON THE REVERSE SIDE OF THIS ORDER AND A PART OF THIS ORDER FOR THE CITY OF PORTLAND, MAINE

[Handwritten Signature]
AUTHORIZED SIGNATURE



PURCHASE ORDER
CITY OF PORTLAND, MAINE
City Hall, 389 Congress Street
Portland, Maine 04101
(207) 874-8654

P.O.# 025144
Date: 09/26/08

CPRC MANAGEMENT LLC
70 PLEASANT HILL RD
SCARBOROUGH, ME 04074

City of Portland
N/A
N/A
N/A, ME 00000

VENDOR #		TERMS	
9631			
DELIVER BY	SHIP VIA		
09/26/09		NET	
CONFIRM BY	CONFIRM TO	REQUISITIONER BY	
TOM KANE	KAREN MARSTON	KCM	
FREIGHT	CONTRACT NO.	ACCOUNT NO.	PROJECT
	24124004105530		GR085-289
			09/26/08

LINE #	QUANTITY	UOM	ITEM NO AND DESCRIPTION	PRICE	AMOUNT
1	1700.00	CY	LOAM	13.50	22950.00
				SUB-TOTAL	22950.00
				TOTAL	22950.00

REMARKS:
Per your response to the City's Bid #2309,
coordinate delivery with John Mahoney,
207-772-2004 or 207-831-6165.

Please

TERMS & CONDITIONS AS INDICATED ON THE REVERSE SIDE OF THIS ORDER ARE A PART OF THIS PURCHASE ORDER.

CITY OF PORTLAND, MAINE

[Handwritten Signature]
AUTHORIZED SIGNATURE



PURCHASE ORDER
CITY OF PORTLAND, MAINE
 City Hall, 389 Congress Street
 Portland, Maine 04101
 (207) 874-8654

P.O. # 025141
 Date: 09/26/08

PORTLAND SAND & GRAVEL INC
 61 ROSE DRIVE
 CUMBERLAND, ME 04021

City of Portland
 N/A
 N/A
 N/A, ME 00000

VENDOR #		2114		TERMS	
DELIVER BY		09/18/09		SHIP VIA	
CONFIRM BY		ANTHONY MANCINI		NET REQUISITIONED BY	
CONFIRM TO		KAREN MARSTON		PROJECT	
FREIGHT		CONTRACT NO.		REQ. NO.	
		24124004105530		REQ. DATE	
				2209/16/08	

LINE #	QUANTITY	UOM	ITEM NO. AND DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	46.00	CY	STONE CHOKER COURSE	20.0000	920.00
2	417.00	CY	DRAINAGE STONE	20.0000	8340.00
3	450.00	CY	MDOT TYPE A GRAVEL	16.0000	7200.00
				SUB-TOTAL	16460.00
				TOTAL	16460.00

REMARKS:
 Per your response to the City's Bid #2309. Please coordinate delivery with John Mahoney, 207-772-2004 or 207-831-6165.

TERMS & CONDITIONS, AS DEPICTED ON THE REVERSE SIDE OF THIS ORDER. ALL A PORTLAND PART OF THIS ORDER FOR THE CITY OF PORTLAND, MAINE

[Handwritten Signature]
 AUTHORIZED SIGNATURE



PURCHASE ORDER
CITY OF PORTLAND, MAINE
City Hall, 389 Congress Street
Portland, Maine 04101
(207) 874-8654

P.O.# 025145
Date: 09/26/08

FERGUSON WATERWORKS
FERGUSON ENTERPRISES INC
94 PLEASANT AVENUE
SOUTH PORTLAND, ME 04106

City of Portland
N/A
N/A
N/A, ME 00000

VENDOR #		8933		TERMS	
DELIVER BY		SHIP VIA		NET	
10/17/08				REQUISITIONED BY	
CONFIRM BY		CONFIRM TO			
BEN CAMPBELL		KAREN MARSTON		DMM	
FREIGHT	CONTRACT NO.	ACCOUNT NO.	PROJECT	REQ. NO.	REQ. DATE
	24124004105530		GR0861	2209/16/08	

LINE #	QUANTITY	UOM	ITEM NO AND DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	10200.00	SY	PROPEX - GEOTEX 601	.7700	7854.00
				SUB-TOTAL	7854.00
				TOTAL	7854.00

REMARKS:
Per your response to the City's Bid #2309. Please coordinate delivery with John Mahoney, 207-772-2004 or 207-831-6165.

TERMS & CONDITIONS, AS DEPICTED ON THE REVERSE SIDE OF THIS ORDER ARE A MATERIAL PART OF THIS ORDER.
FOR THE CITY OF PORTLAND, MAINE

[Signature]
AUTHORIZED SIGNATURE



PURCHASE ORDER
CITY OF PORTLAND, MAINE
 City Hall, 389 Congress Street
 Portland, Maine 04101
 (207) 874-8654

P.O. # 025146
 Date: 09/26/08

PIKE INDUSTRIES INC
 58 MAIN ST
 WESTBROOK, ME 04095

City of Portland
 N/A
 N/A
 N/A, ME 00000

VENDOR #		2038		TERMS	
DELIVER BY		SHIP VIA		NET	
09/25/09				REQUISITIONED BY	
CONFIRM BY		CONFIRM TO			
JAMES HANLEY		KAREN MARSTON		KCM.	
FREIGHT	CONTRACT NO.	ACCOUNT NO.	PROJECT	REQ. NO.	REQ. DATE
	24124004105530		GR0861 : 999		09/26/08

LINE #	QUANTITY	UOM	ITEM NO AND DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	150.00	TON	B MIX	73.5000	11025.00
2	200.00	TON	C MIX	76.0000	15200.00
SUB-TOTAL					26225.00
TOTAL					26225.00

REMARKS:
 Per your written quote dated 09-25-08. Please
 coordinate delivery with John Mahoney,
 207-772-2004 or 207-831-6165.

TERMS & CONDITIONS, AS DEPICTED ON THE REVERSE SIDE OF THIS ORDER, ARE A FORMAL PART OF THIS ORDER.
 FOR THE CITY OF PORTLAND, MAINE

[Handwritten Signature]
 AUTHORIZED SIGNATURE

OAK

E N G I N E E R S

Civil Engineers & Land Surveyors

**Bayside Promenade Trail
EPA Brownfields Cleanup Grant
From Franklin Street to Elm Street
Material Quantities for Purchasing**

Prepared for: The Trust for Public Land
Date: September 26, 2008
Project No: 083009
By: John Mahoney
Reviewed By: Steve Johnson

Item	Description	Quantity	Unit	Bidder	Unit Price	Cost
A	Survey Field Marking	1	Lump Sum		\$4,624.00	\$4,624.00
B	Preliminary Grading and Quantities	1	Lump Sum		\$8,555.00	\$8,555.00
Subtotal						\$13,179.00
1	Geotextile	10,200	Square Yards	Ferguson Waterworks	\$0.77	\$7,854.00
2	Stone Choker Course	46	Cubic Yards	Portland Sand and Gravel	\$20.00	\$920.00
3	Drainage Stone	417	Cubic Yards	Portland Sand and Gravel	\$20.00	\$8,340.00
4	Permeable Pavers	5,000	Square Feet	Barron Brothers	\$2.37	\$11,850.00
5	Concrete Pavers	7,000	Square Feet	Granville Stone	\$2.36	\$16,520.00
6	Perious Concrete	50	Cubic Yards	Dragon Products	\$106.00	\$5,300.00
7	Loam	1,700	Cubic Yards	CPRC Group	\$13.50	\$22,950.00
8	MDOT Type D Gravel	600	Cubic Yards	Shaw Brothers	\$13.00	\$7,800.00
9	MDOT Type A Gravel	434	Cubic Yards	Portland Sand and Gravel	\$16.00	\$7,200.00
10A	MDOT Gravel Borrow (Shaw Brothers)	1,414	Cubic Yards	Shaw Brothers	\$12.00	\$40,140.00
C	Bricks	25,000	Brick	Morin Brick	\$0.47	\$11,825.00
D	12.5 mm Bituminous Pavement	200	ton	Pike Industries	\$76.00	\$15,200.00
E	19 mm Bituminous Pavement	150	ton	Pike Industries	\$73.50	\$11,025.00
Subtotal						\$166,724.00
Project Total:						\$179,903.00

Adjusted Quantity

Lowest Bidder Meeting the Requirements of the VRAP agreement for the Bayside Rail Yard

Items not on City of Portland Bid # 2309

Items not on City of Portland Bid # 2309. Additionally, these items will be paid for from a \$30,000 local match from the Trust for Public Land

Pin 11844.00
Portland
May 19, 2009

SPECIAL PROVISION

**SECTION 107
TIME
(Contract Time)**

All work shall be completed by June 25, 2010 which is the specified completion date for this contract.

SPECIAL PROVISION
SECTION 107.3
ALLOWABLE WORK TIMES
(Night Work)

The following is in addition to the requirements of Section 107.3.2

The Contractor is being made aware of the close proximity of the local residences and businesses. The Contractor shall conduct operations so as not to generate loud noises between the hours of 8:00 PM and 6:00 AM unless otherwise approved. Local requirements concerning noise may impose additional restrictions and must be complied with by the Contractor.

SPECIAL PROVISION
SECTION 107.4
SCHEDULING OF WORK
(Schedule of Work Required)

In addition to the Schedule of Work, the Contractor will provide a written day by day summary of the construction activities that will occur for the upcoming two (2) week period. This summary will also highlight activities that will have an impact on the use of the facilities in the construction and adjacent areas. The summary shall be provided to the Department and reviewed at the weekly construction meetings.

The Contractor is also being made aware that a portion of the trail from Elm Street (Sta 0+00) to Franklin Arterial (Sta 17+65) must be complete enough so that the area is covered with the base material prior to November 30, 2009 in order to stay in compliance with funding requirements for the soil remediation work.

Pin 11844.00
Portland
May 19, 2009

SPECIAL PROVISIONS
SECTION 107.9
TIME
(Project Closeout)

The following is in addition to the requirements of Section 107.9.

The Contractor shall maintain, at the site, a set of Drawings, on which shall be recorded accurately as the work progresses, the actual dimensions and grades of all his work, indicating thereon all variations from the Contract Drawings. The record shall include the work of all Subcontractors. Record drawings shall be reviewed by the Resident, and the Contractor shall make all necessary changes according to the Resident's review.

Prior to final acceptance of the Work, all recorded data shall be transferred by the Contractor, to a complete set of reproducible record drawings, in ink or photolitho reproductions of the original of the Contract Drawings showing "As-Built" conditions.

SPECIAL PROVISION
SECTION 108
PAYMENT
(Asphalt Escalator)

108.4.1 Price Adjustment for Hot Mix Asphalt: For all contracts with hot mix asphalt in excess of 500 tons total, a price adjustment for performance graded binder will be made for the following pay items:

- Item 403.206 Hot Mix Asphalt - 25 mm
- Item 403.207 Hot Mix Asphalt - 19 mm
- Item 403.208 Hot Mix Asphalt - 12.5 mm
- Item 403.2081 Hot Mix Asphalt - 12.5 mm (PG 70-28)
- Item 403.209 Hot Mix Asphalt - 9.5 mm (sidewalks, drives, & incidentals)
- Item 403.210 Hot Mix Asphalt - 9.5 mm
- Item 403.2102 Hot Mix Asphalt - 9.5 mm
- Item 403.211 Hot Mix Asphalt - Shim
- Item 403.212 Hot Mix Asphalt - 4.75 mm
- Item 403.213 Hot Mix Asphalt - 12.5 mm (base and intermediate course)
- Item 403.2131 Hot Mix Asphalt - 12.5 mm (base and intermediate course PG 70-28)
- Item 403.2132 Hot Mix Asphalt - 12.5 mm (Asphalt Rich Base and intermediate course)
- Item 461.13 Maintenance Surface Treatment

Price adjustments will be based on the variance in costs for the performance graded binder component of hot mix asphalt. They will be determined as follows:

The quantity of hot mix asphalt for each pay item will be multiplied by the performance graded binder percentages given in the table below times the difference in price between the base price and the period price of asphalt cement. Adjustments will be made upward or downward, as prices increase or decrease.

Item 403.206: 4.8%	Item 403.2102: 6.2%
Item 403.207: 5.2%	Item 403.211: 6.2%
Item 403.208: 5.6%	Item 403.212: 6.8%
Item 403.2081: 5.6%	Item 403.213: 5.6%
Item 403.209: 6.2%	Item 403.2131: 5.6%
Item 403.210: 6.2%	Item 403.2132: 5.6%
Item 461.13: 6.4%	

Hot Mix Asphalt: The quantity of hot mix asphalt will be determined from the quantity shown on the progress estimate for each pay period.

Base Price: The base price of performance graded binder to be used is the price per standard ton current with the bid opening date. This price is determined by using the average New England Selling Price, as listed in the Asphalt Weekly Monitor.

Period Price: The period price of performance graded binder will be determined by the Department by using the average New England Selling Price, listed in the Asphalt Weekly Monitor current with the paving date. The maximum Period Price for paving after the adjusted Contract Completion Date will be the Period Price on the adjusted Contract Completion Date.

SPECIAL PROVISION
DIVISION 400
PAVEMENTS

SECTION 401 - HOT MIX ASPHALT PAVEMENT

401.01 Description The Contractor shall furnish and place one or more courses of Hot Mix Asphalt Pavement (HMA) on an approved base in accordance with the contract documents and in reasonably close conformity with the lines, grades, thickness, and typical cross sections shown on the plans or established by the Resident. The Department will accept this work under Quality Assurance provisions, in accordance with these specifications and the requirements of Section 106 – Quality, the provisions of AASHTO M 323 except where otherwise noted in sections 401 and 703 of these specifications, and the Maine DOT Policies and Procedures for HMA Sampling and Testing.

401.02 Materials Materials shall meet the requirements specified in Section 700 - Materials:

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

401.021 Recycled Asphalt Materials Recycled Asphalt Pavement (RAP) may be introduced into the mixture at percentages approved by the Department. If approved by the Department, the Contractor shall provide documentation stating the source, test results for average residual asphalt content, and stockpile gradations showing RAP materials have been sized to meet the maximum aggregate size requirements of each mix designation. The Department will obtain samples for verification and approval prior to its use.

In the event that RAP source or properties change, the Contractor shall notify the Department of the change and submit new documentation stating the new source or properties a minimum of 72 hours prior to the change to allow for obtaining new samples and approval.

401.03 Composition of Mixtures The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. HMA shall be designed and tested according to AASHTO R35 and the volumetric criteria in Table 1. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF). The Contractor may use a maximum of 15% reclaimed asphalt pavement (RAP) in any base, binder, surface, or shim course. The Contractor may be allowed to use more than 15% RAP, up to a maximum of 25% RAP, in a base, binder, or shim course provided that PG 58-34 asphalt binder is used in the mixture.

The Contractor shall submit for Department approval a JMF to the Central Laboratory in Bangor for each mixture to be supplied. The Department may approve 1 active design per nominal maximum size, per traffic level, per plant, plus a 9.5mm “fine” mix for shimming and where required, a non-RAP design for bridge decks. The Department shall then have 15 calendar days in which to process a new design before approval. The JMF shall establish a single percentage of aggregate passing each sieve size within the limits shown in section 703.09. The mixture shall be designed and produced, including all production tolerances, to comply with the allowable control points for the particular type of mixture as outlined in 703.09. The JMF shall state the original source, gradation, and percentage to be used of each portion of the aggregate including RAP when utilized, and mineral filler if required. It shall also state the proposed PGAB content, the name and location of the refiner, the supplier, the source of PGAB submitted for approval, the type of PGAB modification if applicable, and the location of the terminal if applicable.

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

- Properly completed JMF indicating all mix properties (Gmm, VMA, VFB, etc.)
- Stockpile Gradation Summary
- Design Aggregate Structure Consensus Property Summary
- Design Aggregate Structure Trial Blend Gradation Plots (0.45 power chart)
- Trial Blend Test Results for at least three different asphalt contents
- Design Aggregate Structure for at least three trial blends
- Test results for the selected aggregate blend at a minimum of three binder contents
- Specific Gravity and temperature/viscosity charts for the PGAB to be used
- Recommended mixing and compaction temperatures from the PGAB supplier
- Material Safety Data Sheets (MSDS) For PGAB
- Asphalt Content vs. Air Voids trial blend curve
- Test report for Contractor's Verification sample
- Test reports for PG binder content and gradation of RAP when used in the JMF

At the time of JMF submittal, the Contractor shall identify and make available the stockpiles of all proposed aggregates at the plant site. There must be a minimum of 135 Mg [150 ton] for stone stockpiles, 70 Mg [75 ton] for sand stockpiles, and 45 Mg [50 ton] of blend sand before the Department will sample. The Department shall obtain samples for laboratory testing. The Contractor shall also make available to the Department the PGAB proposed for use in the mix in sufficient quantity to test the properties of the asphalt and to produce samples for testing of the mixture. Before the start of paving, the Contractor and the Department shall split a production sample for evaluation. The Contractor shall test its split of the sample and determine if the results meet the requirements of the Department's written policy for mix design verification (See Maine DOT Policies and Procedures for HMA Sampling and Testing available at the Central Laboratory in Bangor). If the results are found to be acceptable, the Contractor will forward their results to the Department's Lab, which will test the Department's split of the sample. The results of the two split samples will be compared and shared between the Department and the Contractor. If the Department finds the mixture acceptable, an approved JMF will be forwarded to the Contractor and paving may commence. The first day's production shall be monitored, and the approval may be withdrawn if the mixture exhibits undesirable characteristics such as checking, shoving or displacement. The Contractor shall be allowed to submit aim changes within 24 hours of receipt of the first Acceptance test result. Adjustments will be allowed of up to 2% on the percent passing the 2.36 mm sieve through the 0.075 mm and 3% on the percent passing the 4.75 mm or larger sieves. Adjustments will be allowed on the %PGAB of up to 0.2%. Adjustments will be allowed on GMM of up to 0.010.

The Contractor shall submit a new JMF for approval each time a change in material source or materials properties is proposed. The same approval process shall be followed. The cold feed percentage of any aggregate may be adjusted up to 10 percentage points from the amount listed on the JMF, however no aggregate listed on the JMF shall be eliminated. The cold feed percentage for RAP may be adjusted up to 5 percentage points from the amount listed on the JMF but shall not exceed the maximum allowable percentage for RAP for the specific application.

TABLE 1: VOLUMETRIC DESIGN CRITERIA

Design ESAL's (Millions)	Required Density (Percent of G _{mm})			Voids in the Mineral Aggregate (VMA)(Minimum Percent)					Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
	N _{initial}	N _{design}	N _{max}	Nominal Maximum Aggregate Size (mm)						
				25	19	12.5	9.5	4.75		
<0.3	≤91.5	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	70-80	0.6-1.2
0.3 to <3	≤90.5								65-80	
3 to <10	≤89.0								65-80*	
10 to <30										
≥ 30										

- *For 9.5 mm nominal maximum aggregate size mixtures, the maximum VFB is 82.
- *For 4.75 mm nominal maximum aggregate size mixtures, the maximum VFB is 84.

401.04 Temperature Requirements After the JMF is established, the temperatures of the mixture shall conform to the following tolerances:

- In the truck at the mixing plant – allowable range 135° to 163°C [275 to 325°F]
- At the Paver – allowable range 135° to 163°C [275 to 325°F]

The JMF and the mix subsequently produced shall meet the requirements of Tables 1 and Section 703.07.

401.05 Performance Graded Asphalt Binder Unless otherwise noted in Special Provision 403 - Hot Mix Asphalt Pavement, the PGAB shall be 64-28, except that for mixtures containing greater than 15% but no more than 25% RAP the PGAB shall be PG 58-34. The PGAB shall meet the applicable requirements of AASHTO M320 - Standard Specification for PGAB. The Contractor shall provide the Department with an approved copy of the Quality Control Plan for PGAB in accordance with AASHTO R 26 Certifying Suppliers of PGAB. The Contractor shall request approval from the Department for a change in PGAB supplier or source by submitting documentation stating the new supplier or source a minimum of 24 hours prior to the change. In the event that the PGAB supplier or source is changed, the Contractor shall make efforts to minimize the occurrence of PGAB co-mingling.

401.06 Weather and Seasonal Limitations The State is divided into two paving zones as follows:

- a. **Zone 1** Areas north of US Route 2 from Gilead to Bangor and north of Route 9 from Bangor to Calais.
- b. **Zone 2** Areas south of Zone 1 including the US Route 2 and Route 9 boundaries.

The Contractor may place Hot Mix Asphalt Pavement for use other than a traveled way wearing course in either Zone between the dates of April 15th and November 15th, provided that the air temperature as determined by an approved thermometer (placed in the shade at the paving location) is 4°C [40°F] or higher and the area to be paved is not frozen. The Contractor may place Hot Mix Asphalt Pavement as traveled way wearing course in Zone 1 between the dates of May 1st and the Saturday following October 1st and in Zone 2 between the dates of April 15th and the Saturday following October 15th, provided the air temperature determined as above is 10°C [50°F] or higher. For the purposes of this Section, the traveled way includes truck lanes, ramps, approach roads and auxiliary lanes. The atmospheric temperature for all courses on bridge decks shall be 10°C [50°F] or higher.

Hot Mix Asphalt Pavement used for curb, driveways, sidewalks, islands, or other incidentals is not subject to seasonal limitations, except that conditions shall be satisfactory for proper handling and finishing of the mixture. All mixtures used for curb, driveways, sidewalks, islands, or other incidentals shall conform to section 401.04 - Temperature Requirements. Unless otherwise specified, the Contractor shall not place Hot Mix Asphalt Pavement on a wet or frozen surface and the air temperature shall be 4°C [40°F] or higher.

On all sections of overlay with wearing courses less than 25 mm [1 in] thick, the wearing course for the travelway and adjacent shoulders shall be placed between the dates of May 15th and the Saturday following September 15th.

On all sections of overlay with wearing courses less than 1 inch thick, the wearing course for the travelway and adjacent shoulders shall be placed between the dates of June 1st and the Saturday following September 1st if the work is to be performed, either by contract requirement, or Contractor option, during conditions defined as “night work”.

401.07 Hot Mix Asphalt Plant

401.071 General Requirements HMA plants shall conform to AASHTO M156.

a. Truck Scales When the hot mix asphalt is to be weighed on scales meeting the requirements of Section 108 - Payment, the scales shall be inspected and sealed by the State Sealer as often as the Department deems necessary to verify their accuracy.

Plant scales shall be checked prior to the start of the paving season, and each time a plant is moved to a new location. Subsequent checks will be made as determined by the Resident. The Contractor will have at least ten 20 Kg [50 pound] masses for scale testing.

401.072 Automation of Batching Batch plants shall be automated for weighing, recycling, and monitoring the system. In the case of a malfunction of the printing system, the requirements of Section 401.074 c. of this specification will apply.

The batch plant shall accurately proportion the various materials in the proper order by weight. The entire batching and mixing cycle shall be continuous and shall not require any manual operations. The batch plant shall use auxiliary interlock circuits to trigger an audible alarm whenever an error exceeding the acceptable tolerance occurs. Along with the alarm, the printer shall print an asterisk on the delivery slip in the same row containing the out-of-tolerance weight. The automatic proportioning system shall be capable of consistently delivering material within the full range of batch sizes. When RAP is being used, the plant must be capable of automatically compensating for the moisture content of the RAP.

All plants shall be equipped with an approved digital recording device. The delivery slip load ticket shall contain information required under Section 108.1.3 - Provisions Relating to Certain Measurements, Mass and paragraphs a, b, and c of Section 401.073

401.073 Automatic Ticket Printer System on Automatic HMA Plant An approved automatic ticket printer system shall be used with all approved automatic HMA plants. The requirements for delivery slips for payment of materials measured by weight, as given in the following Sections, shall be waived: 108.1.3 a., 108.1.3 b., 108.1.3 c., and 108.1.3 d. The automatic printed ticket will be considered as the Weight Certificate.

The requirements of Section 108.1.3 f. - Delivery Slips, shall be met by the weigh slip or ticket, printed by the automatic system, which accompanies each truckload, except for the following changes:

- a. The quantity information required shall be individual weights of each batch or total net weight of each truckload.
- b. Signatures (legible initials acceptable) of Weighmaster (required only in the event of a malfunction as described in 401.074 c.).
- c. The MDOT designation for the JMF.

401.074 Weight Checks on Automatic HMA Plant At least twice during each 5 days of production either of the following checks will be performed:

a. A loaded truck may be intercepted and weighed on a platform scale that has been sealed by the State Sealer of Weights and Measures within the past 12 months. Whenever the discrepancy in net weights is greater than 1.0%, but does not exceed 1.5%, the plant inspector will notify the producer to take corrective action; payment will still be governed by the printed ticket.

The producer will be allowed a period of two days to make any needed repairs to the plant and/or platform scales so that the discrepancy in net weights between the two is less than 1.0%. If the discrepancy exceeds 1.5%, the plant will be allowed to operate as long as payment is determined by truck platform scale net weight. Effective corrective action shall be taken within two working days.

b. Where platform scales are not readily available, a check will be made to verify the accuracy and sensitivity of each scale within the normal weighing range and to assure that the interlocking devices and automatic printer system are functioning properly.

c. In the event of a malfunction of the automatic printer system, production may be continued without the use of platform truck scales for a period not to exceed the next two working days, providing total weights of each batch are recorded on weight tickets and certified by a Licensed Public Weighmaster.

401.08 Hauling Equipment Trucks for hauling Hot Mix Asphalt Pavement shall have tight, clean, and smooth metal dump bodies, which have been thinly coated with a small amount of approved release agent to prevent the mixture from adhering to the bodies. Solvent based agents developed to strip asphalts from aggregates will not be allowed as release agents.

All truck dump bodies shall have a cover of canvas or other water repellent material capable of heat retention, which completely covers the mixture. The cover shall be securely fastened on the truck, unless unloading.

All truck bodies shall have an opening on both sides, which will accommodate a thermometer stem. The opening shall be located near the midpoint of the body, at least 300 mm [12 in] above the bed.

401.09 Pavers Pavers shall be self-contained, self-propelled units with an activated screed (heated if necessary) capable of placing courses of Hot Mix Asphalt Pavement in full lane widths specified in the contract on the main line, shoulder, or similar construction.

On projects with no price adjustment for smoothness, pavers shall be of sufficient class and size to place Hot Mix Asphalt Pavement over the full width of the mainline travel way with a 3 m [10 ft] minimum main screed with activated extensions.

The Contractor shall place Hot Mix Asphalt Pavement on the main line with a paver using an automatic grade and slope controlled screed, unless otherwise authorized by the Department. The controls shall automatically adjust the screed and increase or decrease the layer thickness to compensate for irregularities in the preceding course. The controls shall maintain the proper transverse slope and be readily adjustable so that transitions and superelevated curves can be properly paved. The controls shall operate from a fixed or moving reference such as a grade wire or ski type device (floating beam) with a minimum length of 10 m [30 ft], a non-contact grade control with a minimum span of 7.3 m [24 ft], except that a 12 m [40 ft] reference shall be used on Expressway projects.

The Contractor shall operate the paver in such a manner as to produce a visually uniform surface texture and a thickness within the requirements of Section 401.101 - Surface Tolerances. The paver shall have a receiving hopper with sufficient capacity for a uniform spreading operation and a distribution system to place the mixture uniformly, without segregation in front of the screed. The screed assembly shall produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. Pavers with extendible screeds shall have auger extensions and tunnel extenders as per the manufacturer's recommendations, a copy of which shall be available if requested.

The Contractor shall have the paver at the project site sufficiently before the start of paving operations to be inspected and approved by the Department. The Contractor shall repair or replace any paver found worn or defective, either before or during placement, to the satisfaction of the Department. Pavers that produce an unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA on MaineDOT projects.

On a daily basis, the Contractor shall perform nuclear density testing across the mat being placed, prior to being compacted by equipment., at 300 mm [12 in] intervals, If the density values vary by more than 2.0% from the mean, the Contractor shall make adjustments to the screed until the inconsistencies are remedied.

Failure to replace or repair defective placement equipment may result in a letter of suspension of work and notification of a quality control violation resulting in possible monetary penalties as governed by Section 106 - Quality

401.10 Rollers Rollers shall be static steel, pneumatic tire, or approved vibrator type. Rollers shall be in good mechanical condition, capable of starting and stopping smoothly, and be free from backlash when reversing direction. Rollers shall be equipped and operated in such a way as to prevent the picking up of hot mixed material by the roller surface. The use of rollers, which result in crushing of the aggregate or in displacement of the HMA will not be permitted. Any Hot Mix Asphalt Pavement that becomes loose, broken, contaminated, shows an excess or deficiency of Performance Graded Asphalt Binder, or is in any other way defective shall be removed and replaced at no additional cost with fresh Hot Mix Asphalt Pavement, which shall be immediately compacted to conform to the adjacent area.

The Contractor shall repair or replace any roller found to be worn or defective, either before or during placement, to the satisfaction of the Department. Rollers that produce grooved, unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA on MaineDOT projects.

The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor's option, provided specification densities are attained and with the following requirements:

- a. On variable-depth courses, the first lift of pavement over gravel, reclaimed pavement, an irregular surface, or on bridges, at least one roller shall be 14.5 Mg [16 ton] pneumatic-tired. Unless otherwise allowed by the Resident, pneumatic-tired rollers shall be equipped with skirting to minimize the pickup of HMA materials from the paved surface. When required by the Resident, the roller shall be ballasted to 18.1 Mg [20 ton].
- b. Compaction with a vibratory or steel wheel roller shall precede pneumatic-tired rolling, unless otherwise authorized by the Department.
- c. Vibratory rollers shall not be operated in the vibratory mode when checking or cracking of the mat occurs, or on bridge decks.
- d. Any method, which results in cracking or checking of the mat, will be discontinued and corrective action taken.

The maximum operating speed for a steel wheel or pneumatic roller shall not exceed the manufacturer's recommendations, a copy of which shall be available if requested.

401.101 Surface Tolerances The Department will check surface tolerance utilizing the following methods :

- a.) A 5 m [16 ft] straightedge or string line placed directly on the surface, parallel to the centerline of pavement.
- b.) A 3 m [10 ft] straightedge or string line placed directly on the surface, transverse to the centerline of pavement.

The Contractor shall correct variations exceeding 6 mm [$\frac{1}{4}$ in] by removing defective work and replacing it with new material as directed by the Department. The Contractor shall furnish a 10 foot straightedge for the Departments use.

401.11 Preparation of Existing Surface The Contractor shall thoroughly clean the surface upon which Hot Mix Asphalt Pavement is to be placed of all objectionable material. When the surface of the existing base or pavement is irregular, the Contractor shall bring it to uniform grade and cross section. All surfaces shall have a tack coat applied prior to placing any new HMA course. Tack coat shall conform to the requirements of Section 409 – Bituminous Tack Coat, Section 702 – Bituminous Material, and all applicable sections of the contract.

401.12 Hot Mix Asphalt Documentation The Contractor and the Department shall agree on the amount of Hot Mix Asphalt Pavement that has been placed each day.

401.13 Preparation of Aggregates The Contractor shall dry and heat the aggregates for the HMA to the required temperature. The Contractor shall properly adjust flames to avoid physical damage to the aggregate and to avoid depositing soot on the aggregate.

401.14 Mixing The Contractor shall combine the dried aggregate in the mixer in the amount of each fraction of aggregate required to meet the JMF. The Contractor shall measure the amount of PGAB and introduce it into the mixer in the amount specified by the JMF.

The Contractor shall produce the HMA at the temperature established by the JMF.

The Contractor shall dry the aggregate sufficiently so that the HMA will not flush, foam excessively, or displace excessively under the action of the rollers. The Contractor shall introduce the aggregate into the mixer at a temperature of not more than 14°C [25°F] above the temperature at which the viscosity of the PGAB being used is 0.150 Pa·s.

The Contractor shall store and introduce into the mixer the Performance Graded Asphalt Binder at a uniformly maintained temperature at which the viscosity of the PGAB is between 0.150 Pa·s and 0.300 Pa·s. The aggregate shall be coated completely and uniformly with a thorough distribution of the PGAB. The Contractor shall determine the wet mixing time for each plant and for each type of aggregate used.

401.15 Spreading and Finishing On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impracticable, the Contractor shall spread, rake, and lute the HMA with hand tools to provide the required compacted thickness. Solvent based agents developed to strip asphalts from aggregates will not be allowed as release agents.

On roadways with adjoining lanes carrying traffic, the Contractor shall place each course over the full width of the traveled way section being paved that day, unless otherwise noted by the Department in Section 403 - Hot Bituminous Pavement.

401.16 Compaction Immediately after the Hot Mix Asphalt Pavement has been spread, struck off, and any surface irregularities adjusted, the Contractor shall thoroughly and uniformly compact the HMA by rolling.

The Contractor shall roll the surface when the mixture is in the proper condition and when the rolling does not cause undue displacement, cracking, or shoving. The Contractor shall prevent adhesion of the HMA to the rollers or vibrating compactors without the use of fuel oil or other petroleum based release agents. Solvents designed to strip asphalt binders from aggregates will not be permitted as release agents on equipment, tools, or pavement surfaces.

The Contractor shall immediately correct any displacement occurring as a result of the reversing of the direction of a roller or from other causes to the satisfaction of the Department. Any operation other than placement of variable depth shim course that results in breakdown of the aggregate shall be discontinued. Any new pavement that shows obvious cracking, checking, or displacement shall be removed and replaced for the full lane width as directed by the Resident at no cost to the Department.

Along forms, curbs, headers, walls, and other places not accessible to the rollers, the Contractor shall thoroughly compact the HMA with mechanical vibrating compactors. The Contractor shall only use hand tamping in areas inaccessible to all other compaction equipment. On depressed areas, the Contractor may use a trench roller or cleated compression strips under a roller to transmit compression to the depressed area.

Any HMA that becomes unacceptable due to cooling, cracking, checking, segregation or deformation as a result of an interruption in mix delivery shall be removed and replaced, with material that meets contract specifications at no cost to the Department.

401.17 Joints The Contractor shall construct wearing course transverse joints in such a manner that minimum tolerances shown in Section 401.101 - Surface Tolerances are met when measured with a straightedge.

The paver shall maintain a uniform head of HMA during transverse and longitudinal joint construction.

The HMA shall be free of segregation and meet temperature requirements outlined in section 401.04. Transverse joints of the wearing course shall be straight and neatly trimmed. The Contractor may form a vertical face exposing the full depth of the course by inserting a header, by breaking the bond with the underlying course, or by cutting back with hand tools. The Department may allow feathered or "lap" joints on lower base courses or when matching existing base type pavements.

Longitudinal joints shall be generally straight to the line of travel, and constructed in a manner that best ensure joint integrity. Methods or activities that prove detrimental to the construction of straight, sound longitudinal joints will be discontinued.

The Contractor shall apply a coating of emulsified asphalt immediately before paving all joints to the vertical face and 75 mm [3 in] of the adjacent portion of any pavement being overlaid except those formed by pavers operating in echelon. The Contractor shall use an approved spray apparatus designed for covering a narrow surface. The Department may approve application by a brush for small surfaces, or in the event of a malfunction of the spray apparatus, but for a period of not more than one working day.

Where pavement under this contract joins an existing pavement, or when the Department directs, the Contractor shall cut the existing pavement along a smooth line, producing a neat, even, vertical joint. The Department will not permit broken or raveled edges. The cost of all work necessary for the preparation of joints is incidental to related contract pay items.

401.18 Quality Control Method A, B & C The Contractor shall operate in accordance with the approved Quality Control Plan (QCP) to assure a product meeting the contract requirements. The QCP shall meet the requirements of Section 106.6 - Acceptance and this Section. The Contractor shall not begin paving operations until the Department approves the QCP in writing.

Prior to placing any mix, the Department and the Contractor shall hold a Pre-paving conference to discuss the paving schedule, source of mix, type and amount of equipment to be used, sequence of paving pattern, rate of mix supply, random sampling, project lots and sublots and traffic control. A copy of the QC random numbers to be used on the project shall be provided to The Resident. The Departments' random numbers for Acceptance testing shall be generated and on file with the Resident and the Project Manager. All field and plant supervisors including the responsible onsite paving supervisor shall attend this meeting.

The QCP shall address any items that affect the quality of the Hot Mix Asphalt Pavement including, but not limited to, the following:

- a. JMF(s)
- b. Hot mix asphalt plant details
- c. Stockpile Management (to include provisions for a minimum 2 day stockpile)
- d. Make and type of paver(s)
- e. Make and type of rollers including weight, weight per inch of steel wheels, and average contact pressure for pneumatic tired rollers
- f. Name of QCP Administrator, and certification number
- g. Name of Process Control Technician(s) and certification number(s)
- h. Name of Quality Control Technicians(s) and certification number(s)
- i. Mixing & transportation including process for ensuring that truck bodies are clean and free of debris or contamination that could adversely affect the finished pavement
- j. Testing Plan
- k. Laydown operations including longitudinal joint construction, procedures for avoiding paving in inclement weather, type of release agent to be used on trucks tools and rollers, compaction of shoulders, tacking of all joints, methods to ensure that segregation is minimized, procedures to determine the maximum rolling and paving speeds based on best engineering practices as well as past experience in achieving the best possible smoothness of the pavement. Solvent based agents developed to strip asphalts from aggregates will not be allowed as release agents.
- l. Examples of Quality Control forms including a daily plant report and a daily paving report
- m. Silo management and details (can show storage for use on project of up to 36 hours)
- n. Provisions for varying mix temperature due to extraordinary conditions
- o. Name and responsibilities of the Responsible onsite Paving Supervisor
- p. Method for calibration/verification of Density Gauge
- q. A note that all testing will be done in accordance with AASHTO and the Maine DOT Policies and Procedures for HMA Sampling and Testing.
- r. A note detailing conditions under which the percent of RAP will vary from that specified on the JMF.
- s. A detailed procedure outlining when production will be halted due to QC or Acceptance testing results.
- t. A plan to address the change in PGAB source or supplier and the potential co-mingling of differing PGAB's.
- u. A procedure to take immediate possession of acceptance samples once released by MaineDOT and deliver said samples to the designated acceptance laboratory.

The QCP shall include the following technicians together with following minimum requirements:

- a. QCP Administrator - A qualified individual shall administer the QCP. The QCP Administrator must be a full-time employee of or a consultant engaged by the Contractor or paving subcontractor. The QCP Administrator shall have full authority to institute any and all actions necessary for the successful operation of the QCP. The QCP Administrator (or its designee in the QCP Administrator's absence) shall be available to communicate with the Department at all times. The QCP Administrator shall be certified as a Quality Assurance Technologist certified by the New England Transportation Technician Certification Program (NETTCP).

- b. Process Control Technician(s) (PCT) shall utilize test results and other quality control practices to assure the quality of aggregates and other mix components and control proportioning to meet the JMF(s). The PCT shall inspect all equipment used in mixing to assure it is operating properly and that mixing conforms to the mix design(s) and other Contract requirements. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one PCT is required. The Plan shall include the criteria to be utilized by the PCT to correct or reject unsatisfactory materials. The PCT shall be certified as a Plant Technician by the NETTCP.

- c. Quality Control Technician(s) (QCT) shall perform and utilize quality control tests at the job site to assure that delivered materials meet the requirements of the JMF(s). The QCT shall inspect all equipment utilized in transporting, laydown, and compacting to assure it is operating properly and that all laydown and compaction conform to the Contract requirements. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one QCT is required. The QCP shall include the criteria utilized by the QCT to correct or reject unsatisfactory materials. The QCT shall be certified as a Paving Inspector by the NETTCP.

The QCP shall detail the coordination of the activities of the Plan Administrator, the PCT and the QCT. The Project Superintendent shall be named in the QCP, and the responsibilities for successful implementation of the QCP shall be outlined.

The Contractor shall sample, test, and evaluate Hot Mix Asphalt Pavement in accordance with the following minimum frequencies:

TABLE 2 : MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Temperature of mix	6 per day at street and plant	-
Temperature of mat	4 per day	-
%TMD (Surface)	1 per 125 Mg [125 ton] (As noted in QC Plan)	ASTM D2950
%TMD (Base)	1 per 250 Mg [250 ton] (As noted in QC Plan)	AASHTO T269
Fines / Effective Binder	1 per 500 Mg [500 ton]	AASHTO T 312*
Gradation	1 per 500 Mg [500 ton]	AASHTO T30
PGAB content	1 per 500 Mg [500 ton]	AASHTO T164 or T308
Voids at N_{design}	1 per 500 Mg [500 ton]	AASHTO T 312*
Voids in Mineral Aggregate at N_{design}	1 per 500 Mg [500 ton]	AASHTO T 312*
Rice Specific Gravity	1 per 500 Mg [500 ton]	AASHTO T209
Coarse Aggregate Angularity	1 per 5000 Mg [5000 ton]	ASTM D5821
Flat and Elongated Particles	1 Per 5000 Mg [5000 ton]	ASTM D4791
Fine Aggregate Angularity	1 Per 5000 Mg [5000 ton]	AASHTO T304

. *Method A and B only

The Contractor may utilize innovative equipment or techniques not addressed by the Contract documents to produce or monitor the production of the mix, subject to approval by the Department.

The Contractor shall submit all Hot Mix Asphalt Pavement plant test reports, inspection reports and updated pay factors in writing, signed by the appropriate technician and present them to the Department by 1:00 P.M. on the next working day, except when otherwise noted in the QCP due to local restrictions. The Contractor shall also retain splits of the previous 5 QC tests, with QC results enclosed for random selection and testing by The Department during QA inspections of the HMA production facility. Test results of splits that do not meet the Dispute Resolution Variance Limits in Table 10 shall trigger an investigation by the MDOT Independent Assurance Unit, and may result in that lab losing NETTCP certification and the ability to request a dispute [Section 401.223 - Process for Dispute Resolution (Methods A , B and C only)].

The Contractor shall make density test results, including randomly sampled densities, available to the Department onsite. Summaries of each day's results, including a daily paving report, shall be recorded and signed by the QCT and presented to the Department by 1:00 p.m. the next working day.

The Contractor shall have a testing lab at the plant site, equipped with all testing equipment necessary to complete the tests in Table 2. The Contractor shall locate an approved Gyrotory Compactor at the plant testing lab or within 30 minutes of the plant site.

The Contractor shall fill all holes in the pavement resulting from cutting cores by the Contractor or the Department with a properly compacted, acceptable mixture no later than the following working day. Before filling, the Contractor shall carefully clean the holes and apply a coating of emulsified asphalt. On surface courses, cores shall not be cut except for Verification of the Nuclear Density Gauge, at a rate not to exceed 3 per day or 2 per 900 Mg [1000 ton] placed.

The Contractor shall monitor plant production using running average of three control charts as specified in Section 106 - Quality. Control limits shall be as noted in Table 3 below. The UCL and LCL, shall not exceed the allowable control points for the particular type of mixture as outlined in Table 1 of section 703.09

TABLE 3: Control Limits

Property	UCL and LCL
Passing 4.75 mm and larger sieves	Target +/-4.0
Passing 2.36 mm sieve	Target +/-2.5
Passing .075 mm sieve	Target +/-1.2
PGAB Content*	Target +/-0.3
Voids in the Mineral Aggregate	LCL = LSL + 0.2
% Voids at N _{design}	JMF Target +/-1.3

*Based on AASHTO T 308

The Contractor shall cease paving operations whenever one of the following occurs on a lot in progress:

- a. Method A: The Pay Factor for VMA, Voids @ N_d, Percent PGAB, composite gradation, VFB, fines to effective binder or density using all Acceptance or all Quality Control tests for the current lot is less than 0.85.
- b. Method B: The Pay Factor for VMA, Voids @ N_d, Percent PGAB, composite gradation, VFB, fines to effective binder or density using all Acceptance or all Quality Control tests for the current lot is less than 0.90.

- c. Method C: The Pay Factor for VMA, Voids @ N_d , Percent PGAB, percent passing the nominal maximum sieve, percent passing 2.36 mm sieve, percent passing 0.300 mm sieve or percent passing 0.075 mm sieve using all Acceptance or all available Quality Control tests for the current lot is less than 0.85.
- d. The Coarse Aggregate Angularity or Fine Aggregate Angularity value falls below the requirements of Table 3: Aggregate Consensus Properties Criteria in Section 703.07 for the design traffic level.
- e. Each of the first 2 control tests for a Method A or B lot fall outside the upper or lower limits for VMA, Voids @ N_d , or Percent PGAB; or under Method C, each of the first 2 control tests for the lot fall outside the upper or lower limits for the nominal maximum, 2.36 mm, 0.300 mm or 0.075 mm sieves, or percent PGAB.
- f. The Flat and Elongated Particles value exceeds 10% by ASTM D4791.
- g. There is any visible damage to the aggregate due to over-densification other than on variable depth shim courses.
- h. The Contractor fails to follow the approved QCP.
- i. The Contractor's control chart shows the process to be out of control (defined as a single point outside of the control limits on the running average of three chart.) on any property listed in Table 3: Control Limits.

The Contractor shall immediately notify the Resident in writing as to the reason for shutdown, as well as the proposed corrective action. Failure to do so will be treated as a second incident under 106.4.6 QCP Non-compliance. The Department will consider corrective action acceptable if the pay factor for the failing property increases, based on samples already in transit, or a verification sample is tested and the property falls within the specification limits.

In cases where the corrective action can be accomplished immediately, such as batch weight or cold feed changes, the Contractor may elect to resume production once the corrective action is completed. Additional QC testing shall be performed to verify the effectiveness of the corrective action. Subsequent occurrences of shutdown for the same property in a Lot in progress will require paving operations to cease. Paving operations shall not resume until the Contractor and the Department determines that material meeting the Contract requirements will be produced. The Department may allow the Contractor to resume production based upon a passing QC sample, with a split of the sample being sent to the Department for verification testing. If the submitted verification sample test results fall outside the specification limits, the Contractor shall cease production until a verification sample is submitted to the Department has been tested by the Department and found to be within specification limits.

The Department retains the exclusive right, with the exception of the first day's production of a new JMF, to determine whether the resumption of production involves a significant change to the production process. If the Department so determines, then the current lot will be terminated, a pay factor established, and a new lot will begin.

401.19 Quality Control Method D For Items covered under Method D, the Contractor shall submit a modified QC Plan detailing, how the mix is to be placed, what equipment is to be used, and what HMA plant is to be used. All mix designs (JMF) shall be approved and verified by MDOT prior to use. Certified QC personnel shall not be required. The Contractor shall certify the mix and the test results for each item by a Certificate of Compliance.

401.20 Acceptance Method A, B & C These methods utilizes Quality Level Analysis and pay factor specifications.

For Hot Mix Asphalt Pavement designated for acceptance under Quality Assurance provisions, the Department will sample once per subplot on a statistically random basis, test, and evaluate in accordance with the following Acceptance Criteria:

TABLE 4: ACCEPTANCE CRITERIA

PROPERTIES	POINT OF SAMPLING	TEST METHOD
Gradation	Paver Hopper	AASHTO T30
PGAB Content	Paver Hopper	AASHTO T308
%TMD (Surface)	Mat behind all Rollers	AASHTO T269
%TMD (Base or Binder)	Mat behind all Rollers	AASHTO T269
Air Voids at N_d	Paver Hopper	AASHTO T 312
%VMA at N_d	Paver Hopper	AASHTO T 312
Fines to Effective Binder	Paver Hopper	AASHTO T 312
%VFB	Paver Hopper	AASHTO T 312

On the first day of production of a JMF the Department will take three random samples, which will be used to calculate the quality level of the in-place material in the event the lot is terminated prematurely. Only one of the three will be tested, the other two will be held onsite until at least three random samples have been taken, at which time the other two will be discarded.

Lot Size For purposes of evaluating all acceptance test properties, a lot shall consist of the total quantity represented by each item listed under the lot size heading.

If the Department terminates a Lot prematurely, the samples from the first day's production will be used to calculate a volumetric pay factor, and a minimum of three cores will be used for a density pay factor, if applicable, for quantities placed to date.

Sublot size - Refer to section 401.201, 401.202, and 401.203 for minimum size and number of sublots. The quantity represented by each sample will constitute a subplot.

If there is less than one-half of a subplot remaining at the end, then it shall be combined with the previous subplot. If there is more than one-half subplot remaining at the end, then it shall constitute the last subplot and shall be represented by test results. If it becomes apparent partway through a Lot that, due to an underrun, there will be insufficient mix quantity to obtain the minimum number of sublots needed, the Resident may adjust the size of the remaining sublots and select new sample locations based on the estimated quantity of material remaining in the Lot.

Acceptance Testing The Department will obtain samples of Hot Mix Asphalt Pavement in conformance with AASHTO T168 Sampling Bituminous Paving Mixtures, and the Maine DOT Policies and Procedures for HMA Sampling and Testing, which will then be transported by the Contractor to the designated MDOT Laboratory within 48 hours (except when otherwise noted in the project specific QCP due to local restrictions), as directed by MDOT in approved transport containers to be provided by the Department, unless otherwise directed by the Resident. Failure to deliver an acceptance sample to the designated acceptance laboratory will be considered the second incident under 106.4.6-QCP Non-Compliance.

The Department will take the sample randomly within each subplot. Target values shall be as specified in the JMF. The Department will use Table 5 for calculating pay factors for gradation, PGAB Content, Air Voids at N_{design} , VMA, Fines to Effective Binder and VFB. The Department will withhold reporting of the test results for the Acceptance sample until 7:00 AM, on the second working day of receipt of the sample, or after receipt of the Contractors results of the Acceptance sample split. Upon conclusion of each lot, where there is a minimum of four sublots, results shall be examined for statistical outliers, as stated in Section 106.7.2 - Statistical Outliers.

Isolated Areas During the course of inspection, should it appear that there is an isolated area that is not representative of the lot based on a lack of observed compactive effort, excessive segregation or any other questionable practice, that area may be isolated and tested separately. An area so isolated that has a calculated pay factor below 0.80, based on three random tests shall be removed and replaced at the expense of the Contractor for the full lane width and a length not to be less than 50 m [150 ft].

Pavement Density The Department will measure pavement density using core samples tested according to AASHTO T-166. The Department will randomly determine core locations. The Contractor shall cut 6 inch diameter cores at no additional cost to the Department by the end of the working day following the day the pavement is placed, and immediately give them to the Department. The cores will be placed in a transport container provided by the Department and transported by the Contractor to the designated MDOT Lab as directed by the Department. Pre-testing of the cores will not be allowed. At the time of sampling, the Contractor and the Department shall mutually determine if a core is damaged. If it is determined that the core(s) is damaged, the Contractor shall cut new core(s) at the same offset and within 1 m [3 ft] of the initial sample. At the time the core is cut, the Contractor and the Department will mutually determine if saw cutting of the core is needed, and will mark the core at the point where sawing is needed. The core may be saw cut by the Contractor in the Department's presence onsite, or in an MDOT Lab by The Department, without disturbing the layer being tested to remove lower layers of Hot Mix Asphalt Pavement, gravel, or RAP. No recuts are allowed at a test location after the core has been tested. Upon conclusion of each lot, density results shall be examined for statistical outliers as stated in Section 106.7.2.

On all sections of overlay with wearing courses designed to be 19 mm [3/4 in] or less in thickness, there shall be no pay adjustment for density otherwise noted in Section 403 - Hot Bituminous Pavement. For overlays designed to be 19 mm [3/4 in] or less in thickness, density shall be obtained by the same rolling train and methods as used on mainline travelway surface courses with a pay adjustments for density, unless otherwise directed by the Department.

There shall be no pay adjustment for density on shoulders unless otherwise noted in Section 403 - Hot Bituminous Pavement. Density for shoulders shall be obtained by the same rolling train and methods as used on mainline travelway, unless otherwise directed by the Department. Efforts to obtain optimum compaction will not be waived by the Department unless it is apparent during construction that local conditions make densification to this point detrimental to the finished pavement surface course.

401.201 Method A Lot Size will be the entire production per JMF for the project, or if so agreed at the Pre-paving Conference, equal lots of up to 4500 Mg [4500 tons], with unanticipated over-runs of up to 1500 Mg [1500 ton] rolled into the last lot. Sublot sizes shall be 750 Mg [750 ton] for mixture properties, 500 Mg [500 ton] for base or binder densities and 250 Mg [250 ton] for surface densities. The minimum number of sublots for mixture properties shall be 4, and the minimum number of sublots for density shall be five.

TABLE 5: METHOD A ACCEPTANCE LIMITS

Property	USL and LSL
Passing 4.75 mm and larger sieves	Target +/-7%
Passing 2.36 mm to 1.18 mm sieves	Target +/-4%
Passing 0.60 mm	Target +/-3%
Passing 0.30 mm to 0.075 mm sieve	Target +/-2%
PGAB Content	Target +/-0.4%
Air Voids	4.0% +/-1.5%
Fines to Effective Binder	0.6 to 1.2
Voids in the Mineral Aggregate	LSL Only from Table 1
Voids Filled with Binder	Table 1 values plus a 4% production tolerance for USL only
% TMD (In place density)	95.0% +/- 2.5%

401.202 Method B Lot Size will be the entire production per JMF for the project and shall be divided into 3 equal sublots for Mixture Properties and 3 equal sublots for density.

TABLE 6: METHOD B ACCEPTANCE LIMITS

Property	USL and LSL
Percent Passing 4.75 mm and larger sieves	Target +/-7
Percent Passing 2.36 mm to 1.18 mm sieves	Target +/-5
Percent Passing 0.60 mm	Target +/-4
Percent Passing 0.30 mm to 0.075 mm sieve	Target +/-3
PGAB Content	Target +/-0.5
Air Voids	4.0% +/-2.0
Fines to Effective Binder	0.6 to 1.4
Voids in the Mineral Aggregate	LSL from Table 1
Voids Filled with Binder	Table 1 plus a 4% production tolerance for USL.
% TMD (In-place Density)	95.0% +/- 2.5%

401.203 Testing Method C Lot Size will be the entire production per JMF for the project, or if so agreed at the Pre-paving Conference, equal lots of up to 4500 Mg [4500 tons], with unanticipated over-runs of up to 1500 Mg [1500 ton] rolled into the last lot. Sublot sizes shall be 750 Mg [750 ton] for mixture properties, 500 Mg [500 ton] for base or binder densities and 250 Mg [250 ton] for surface densities. The minimum number of sublots for mixture properties shall be 4, and the minimum number of sublots for density shall be five.

TABLE 7: METHOD C ACCEPTANCE LIMITS

Property	USL and LSL
Passing 4.75 mm and larger sieves	Target +/-7%
Passing 2.36 mm to 1.18 mm sieves	Target +/-5%
Passing 0.60 mm	Target +/-4%
Passing 0.30 mm to 0.075 mm sieve	Target +/-2%
PGAB Content	Target +/-0.4%
Air Voids	4.0% +/-1.5%
Fines to Effective Binder	0.6 to 1.2
Voids in the Mineral Aggregate	LSL Only from Table 1
Voids Filled with Binder	Table 1 values plus a 4% production tolerance for USL only
% TMD (In place density)	95.0% +/- 2.5%

401.204 Testing Method D For hot mix asphalt items designated as Method D in Section 403 - Hot Bituminous Pavement, one sample will be taken from the paver hopper or the truck body per 250 Mg [250 ton] per pay item. The mix will be tested for gradation and PGAB content. Disputes will not be allowed. If the mix is within the tolerances listed in Table 8: Method D Acceptance Limits, the Department will pay the contract unit price. If the test results for each 250 Mg [250 ton] increment are outside these limits, the following deductions (Table 8b) shall apply to the HMA quantity represented by the test.

TABLE 8: METHOD D ACCEPTANCE LIMITS

Property	USL and LSL
Percent Passing 4.75 mm and larger sieves	Target +/-7
Percent Passing 2.36 mm to 1.18 mm sieves	Target +/-5
Percent Passing 0.60 mm	Target +/-4
Percent Passing 0.30 mm to 0.075 mm sieve	Target +/-3
PGAB Content	Target +/-0.5
% TMD (In-place Density)	95.0% +/- 2.5%

TABLE 8b Method "D" Price Adjustments

PGAB Content	-5%
2.36 mm sieve	-2%
0.30 mm sieve	-1%
0.075 mm sieve	-2%
Density	-10%*

*Only applies when called for in Section 403 - Hot Bituminous Pavement. Contractor shall cut two 150 mm [6 in] cores, which shall be tested for percent TMD per AASHTO T-269. If the average for the two tests falls below 92.5% the disincentive shall apply.

401.21 Method of Measurement The Department will measure Hot Mix Asphalt Pavement by the Mg [ton] in accordance with Section 108.1 - Measurement of Quantities for Payment.

401.22 Basis of Payment The Department will pay for the work, in place and accepted, in accordance with the applicable sections of this Section, for each type of HMA specified.

The Department will pay for the work specified in Section 401.11, for the HMA used, except that cleaning objectionable material from the pavement and furnishing and applying bituminous material to joints and contact surfaces is incidental.

Payment for this work under the appropriate pay items shall be full compensation for all labor, equipment, materials, and incidentals necessary to meet all related contract requirements, including design of the JMF, implementation of the QCP, obtaining core samples, transporting cores and samples, filling core holes, applying emulsified asphalt to joints, and providing testing facilities and equipment.

The Department will make a pay adjustment for quality as specified below.

401.221 Pay Adjustment The Department will sample, test, and evaluate Hot Mix Asphalt Pavement in accordance with Section 106 - Quality and Section 401.20 - Acceptance, of this Specification.

401.222 Pay Factor (PF) The Department will use the following criteria for pay adjustment using the pay adjustment factors under Section 106.7 - Quality Level Analysis:

Density If the pay factor for Density falls below 0.80 for Method A or C or 0.86 for Method B, all of the cores will be randomly recut by Sublot. A new pay factor will be calculated that combines all initial and retest results. If the resulting pay factor is below 0.80 for Method A or C or below 0.86 for Method B, the entire Lot shall be removed and replaced with material meeting the specifications at no additional cost to the Department, except that the Department may, when it appears that there is a distinct pattern of defective material, isolate any defective material by investigating each mix sample subplot and require removal of defective mix sample sublots only, leaving any acceptable material in place if it is found to be free of defective material. Pay factors equal to or greater than the reject level will be paid accordingly.

Gradation For HMA evaluated under Acceptance Method A or B, the Department will determine a composite pay factor (CPF) using applicable price adjustment factors “f” from Table 9: Table of Gradation Composite “f” Factors, and Acceptance limits from Table 5: Method A Acceptance Limits, for Method A or Table 6: Method B Acceptance Limits, for Method B. The Department will not make price adjustments for gradation on Methods A and B, but will monitor them as shutdown criteria.

**TABLE 9: TABLE OF GRADATION COMPOSITE " f " FACTORS
(Methods A and B)**

Constituent		"f" Factor			
		19 mm	12.5 mm	9.5 mm	4.75 mm
Gradation	25 mm	-	-	-	-
	19 mm	4	-	-	-
	12.5 mm		4	4	-
	9.50 mm				4
	2.36 mm	6	6	6	8
	1.18 mm				
	0.60 mm	2	2	2	2
	0.30 mm	2	2	2	2
	0.075 mm	6	6	6	8

For HMA evaluated under Acceptance Method C, the Department will determine a pay factor using acceptance limits from Table 7: Method C Acceptance Limits.

VMA, Air Voids, VFB and Fines to Effective Binder The Department will determine a pay factor (PF) using the applicable Acceptance Limits.

The following variables will be used for pay adjustment:

- PA = Pay Adjustment
- Q = Quantity represented by PF in Mg [ton]
- P = Contract price per Mg [ton]
- PF = Pay Factor

Pay Adjustment Method A

The Department will use the following criteria for pay adjustment: density, Performance Graded Asphalt Binder content, voids @N_d, VMA, VFB, F/B_{eff}, and the screen sizes listed in Table 9 for the type of HMA represented in the JMF. If any single pay factor for PGAB Content, VMA, or Air Voids falls below 0.80, then the composite pay factor for PGAB Content, VMA, and Air Voids shall be 0.55.

Density: For mixes having a density requirement, the Department will determine a pay factor using Table 5: Method A Acceptance Limits:

$$PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$$

PGAB Content, VMA and Air Voids: The Department will determine a pay adjustment using Table 5: Method A Acceptance Limits as follows:

$$PA = (\text{voids @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{VMA @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{PGAB PF} - 1.0)(Q)(P) \times 0.10$$

VFB and Fines to Effective Binder The Department will determine a pay factor (PF) using Table 5: Method A Acceptance Limits. The Department will not make price adjustments for VFB or Fines to Effective Binder, but will monitor them as shutdown criteria.

Pay Adjustment Method B

The Department will use the following criteria for pay adjustment: density, Performance Graded Asphalt Binder content, voids @ N_d , VMA, VFB, F/B_{eff}, and the screen sizes listed in Table 9 for the type of HMA represented in the JMF. If any single pay factor for PGAB Content, VMA, or Air Voids falls below 0.86, then the composite pay factor for PGAB Content, VMA, and Air Voids shall be 0.70.

Density: For mixes having a density requirement, the Department will determine a pay factor using Table 6: Method B Acceptance Limits:

$$PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$$

PGAB Content, VMA and Air Voids: The Department will determine a pay adjustment using Table 6: Method B Acceptance Limits as follows:

$$PA = (\text{voids @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{VMA @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{PGAB PF} - 1.0)(Q)(P) \times 0.10$$

VFB and Fines to Effective Binder The Department will determine a pay factor (PF) using Table 6: Method B Acceptance Limits. The Department will not make price adjustments for VFB or Fines to Effective Binder, but will monitor them as shutdown criteria.

Pay Adjustment Method C

The Department will use density, Performance Graded Asphalt Binder content, and the percent passing the nominal maximum, 2.36 mm, 0.300 mm and 0.075 mm sieves for the type of HMA represented in the JMF. If the PGAB content falls below 0.80, then the PGAB pay factor shall be 0.55.

Density: For mixes having a density requirement, the Department will determine a pay factor using Table 7: Method C Acceptance Limits:

$$PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$$

PGAB Content and Gradation The Department will determine a pay factor using Table 7: Method C Acceptance Limits. The Department will calculate the price adjustment for Mixture Properties as follows:

$$PA = (\% \text{ Passing Nom. Max PF-1.0})(Q)(P)X0.05+(\% \text{ passing 2.36 mm PF-1.0})(Q)(P)X0.05+(\% \text{ passing 0.30 mm PF-1.0})(Q)(P)X0.05+(\% \text{ passing 0.075 mm PF-1.0})(Q)(P)X0.10+(PGAB \text{ PF-1.0})(Q)(P)X0.25$$

VMA, Air Voids, VFB and Fines to Effective Binder The Department will determine a pay factor (PF) using Table 7: Method C Acceptance Limits. The Department will not make price adjustments for VMA, Air Voids, VFB or Fines to Effective Binder, but will monitor them as shutdown criteria.

Pay Adjustment Method D

The Department will use density, Performance Graded Asphalt Binder content, and the screen sizes listed in Table 8b for the type of HMA represented in the JMF. If test results do not meet the Table 8 requirements, deducts as shown in Table 8b shall be applied to the quantity of mix represented by the test.

401.223 Process for Dispute Resolution (Methods A B & C only)

a. Dispute Resolution sampling At the time of Hot-Mix Asphalt sampling, the Department will obtain a split sample of each Acceptance test random sample for possible dispute resolution testing. The Contractor shall also obtain a split sample of the HMA at this same time. If the Contractor wishes to retain the option of requesting dispute testing of the initial Acceptance sample, the Contractor will test their split of the

Acceptance sample and shall report their results to the Resident, with a copy to the QA Engineer at the Central Laboratory in Bangor by 7:00 AM, on the second working day from time of QA sampling, otherwise dispute resolution will not be initiated. The Department's dispute resolution split sample will be properly labeled and stored for a period of not more than two weeks, or until the sample is tested.

b. Disputing Acceptance results The Contractor may dispute the Department's Acceptance results and request (Methods A, B, & C) that the dispute resolution split sample be tested by notifying the Department's Resident and the QA Engineer at the Central Laboratory in Bangor in writing within two working days after receiving the results of the Acceptance test. The following shall be provided in the request:

- Acceptance sample reference number
- The specific test result(s) or property(ies) being disputed, and
- The complete, signed report of the Contractor's testing (In a lab certified by the NETTCP and MDOT) of their split of the Acceptance sample indicating that the variances in Table 10: Dispute Resolution Variance Limits, for the specific test result(s) or property(ies) were exceeded.

c. Disputable items The Contractor may dispute any or all of the following Method A or B test results when the difference between the Department's value and the Contractor's value for that test equals or exceeds the corresponding allowable variation in Table 10: Dispute Resolution Variance Limits, PGAB content, G_{mb} , and G_{mm} . In addition, if the allowable variation for these tests is not met or exceeded, the Contractor may dispute either or both of the following material properties provided the difference between results for them equals or exceeds the corresponding allowable variation in Table 10: Voids at N_{design} , and VMA.

For Method C only: The results for PGAB content and the screen sizes used for pay adjustment may be disputed.

d. Outcome The value of any disputed result or property reported for the initial Acceptance sample shall stand if the value reported for the dispute resolution sample is not closer to the value the Contractor reported for their split sample than to the value reported for the initial Acceptance sample. If the value reported for the dispute resolution falls precisely half-way between the other two values the value reported for the dispute resolution will replace the original acceptance value. Otherwise, the value reported for the dispute resolution sample will replace the value reported for the initial Acceptance sample, and will be used to re-calculate any other affected results or properties.

TABLE 10: DISPUTE RESOLUTION VARIANCE LIMITS

PGAB Content	+/-0.4%
G _{mb}	+/-0.030
G _{mm}	+/-0.020
Voids @ N _d	+/-0.8%
VMA	+/-0.8%
Passing 4.75 mm and larger sieves	+/- 4.0%
Passing 2.36 mm to 0.60 mm sieves	+/- 3.0%
Passing 0.30 mm to 0.15	+/- 2.0 %
0.075 mm sieve	+/- 1.0%

SECTION 402 - PAVEMENT SMOOTHNESS

402.00 Smoothness Projects Projects to have their pavement smoothness analyzed in accordance with this Specification will be so noted in Special Provision 403 - Bituminous Box

402.01 Pavement Smoothness The final pavement surface shall be evaluated for smoothness using a Class I or Class II profiler as defined by ASTM E950 (94). Smoothness measurements will be expressed in terms of the International Roughness Index (IRI) as defined by the World Bank, in units of inches/mile.

402.02 Lot Size Lot size for smoothness will be 1000 lane-meters [3000 lane-feet]. A subplot will consist of 20 lane-meters [50 lane-feet]. Partial lots will be included in the previous lot if less than one-half the size of a normal lot. If equal to or greater than one-half the normal lot size, it will be tested as a separate lot.

402.03 Acceptance Testing The Department will conduct Acceptance testing following completion of the surface course. Sections to be excluded from testing include the following:

- Bridge decks and joints (no smoothness measurements will be taken within 30 m [100 ft] of bridge joints)
- Acceleration and deceleration lanes
- Shoulders and ramps
- Side streets and roads
- Within 30 m [100 ft] of transverse joints at the beginning and end of the project
- Within 30 m [100 ft] of railroad crossings
- Urban areas with speed limits of 50 kph [30 mph] or lower

Each lot shall have 2 measurements made in each wheel path. The average of the 4 measurements will determine the smoothness for that lot.

The smoothness measurements will be statistically evaluated for pay factors as described in Subsection 106.7 - Quality Level Analysis, using the specification limits shown below.

ACCEPTANCE LIMITS

Level	USL
I	0.95 m/km [60 in/mile]
II	1.10 m/km [70 in/mile]
III	1.25 m/km [80 in/mile]

Computation of Smoothness Pay Adjustment:

$$PA = (PF-1.0)(Q)(P)$$

where:

Q = Quantity of surface course in the Lot (excluding shoulders, side streets, bridge decks, ramps, acceleration and deceleration lanes)

PF = smoothness pay factor for the Lot

P = Contract unit price for surface pavement

PA = pay adjustment

402.04 Unacceptable Work In the event that any Lot is found to have a pay factor less than 0.80, the Contractor shall take whatever remedial action is required to correct the pavement surface in that Lot at no additional expense to the Department. Such remedial action may include but is not limited to removal and replacement of the unacceptable pavement. In the event remedial action is necessary, the Contractor shall

submit a written plan to the Resident outlining the scope of the remedial work. The Resident must approve this plan before the remedial work can begin. Following remedial work, the Lot shall be retested, and will be subject to the specification limits listed above. The resulting pay factor, if within the acceptable range, will be used in the final pay adjustment. The Contractor shall pay the cost of retesting the pavement following corrective action.

Localized surface tolerance defects will be subject to the provisions outlined in Section 401.101 Surface Tolerances.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
402.10 Incentive/Disincentive - Pavement Smoothness	Lump Sum

SECTION 403 - HOT BITUMINOUS PAVEMENT

403.01 Description This work shall consist of constructing one or more courses of bituminous pavement on an approved base in accordance with these specifications, and in reasonably close conformity with the lines, grades, thickness and typical cross sections shown on the plans or established.

The bituminous pavement shall be composed of a mixture of aggregate, filler if required, and bituminous material.

403.02 General The materials and their use shall conform to the requirements of Section 401 - Hot Mix Asphalt Pavement.

403.03 Construction The construction requirements shall be as specified in Section 401 - Hot Mix Asphalt Pavement.

In addition, hot bituminous pavement placed on bridges shall also conform to the following requirements.

- a. The mixture shall be composed of aggregate, PGAB and mineral filler but no recycled asphalt pavement and placed in courses as specified in the Special Provisions.
- b. The bottom course shall be placed with an approved rubber mounted bituminous paver of such type and operated in such a manner that the membrane waterproofing will not be damaged in any way.
- c. The top course shall not be placed until the bottom course has cooled sufficiently to provide stability.
- d. The Contractor will not be required to cut sample cores from the compacted pavement on the bridge deck.
- e. After the top course has been placed, the shoulder areas shall be sealed 1 meter [3 ft] wide with two applications of an emulsified bituminous sealer meeting the requirements of Section 702.12 - Emulsified Bituminous Sealing Compound. The first application shall be pre-mixed with fine, sharp sand, similar to mortar sand, as needed to fill all voids in the mix in the area being sealed. The second application may be applied without sand. The sealer shall be carried to the curb at the gutter line in sufficient quantity to leave a bead or fillet of material at the face of the curb. The area to be sealed shall be clean, dry and the surface shall be at ambient temperature.
- f. The furnishing and applying of the required quantity of sealer for the bridge shoulder areas shall be incidental to placing the hot bituminous pavement.
- g. The atmospheric temperature for all courses on bridge decks shall be 10°C [50°F] or higher.

403.04 Method of Measurement Hot bituminous pavement will be measured as specified in Section 401.21-Method of Measurement.

403.05 Basis of Payment The accepted quantities of hot bituminous pavement will be paid for at the contract unit price per Megagram [ton] for the bituminous mixtures, including bituminous material complete in place.

Method A, Method B, Method C and Method D shall be used for acceptance as specified in Section 401 - Hot Mix Asphalt Pavements. (See Complementary Notes, Section 403 - Hot Bituminous Pavement, for Method location).

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
403.102 Hot Mix Asphalt Pavement for Special Areas	MG [Ton]
403.206 Hot Mix Asphalt, 25 mm Nominal Maximum Size	MG [Ton]
403.207 Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	MG [Ton]
403.208 Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	MG [Ton]
403.209 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals)	MG [Ton]
403.210 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size	MG [Ton]
403.211 Hot Mix Asphalt (shimming)	MG [Ton]
403.212 Hot Mix Asphalt, 4.75 mm Nominal Maximum Size	MG [Ton]
403.213 Hot Mix Asphalt, 12.5 mm	MG [Ton]

Nominal Maximum Size, Base

SPECIAL PROVISION
SECTION 403
HOT MIX ASPHALT

Desc. of Course	Grad. Design	Item Number	Bit Cont. % of Mix	Total Thick	No. Of Layers	Comp. Notes
<u>Street Widening, Curb Installation Areas</u>						
Wearing	12.5 mm	403.208	N/A	2"	1	4,12,17,18
Base	19.0 mm	403.207	N/A	3"	1/more	4,14,17,18
<u>Sidewalk/Walking Trail</u>						
Wearing	12.5 mm	403.208	N/A	2"	1/more	4,12,17,18
<u>Misc. Handplaced Areas</u>						
Wearing	9.5 mm	403.209	N/A	2"	1/more	4,13,17,18

COMPLEMENTARY NOTES

4. The design traffic level for mix placed shall be 0.3 to <3 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **50 gyrations**. Mix designs shall be approved by the Department for the current calendar year the mixtures are produced.
12. The combined aggregate gradation required for this item shall be classified as a 12.5mm **“fine graded”** mixture (using the Primary Control Sieve control point) as defined in 703.09.
13. A mixture meeting the requirements of section 703.09 Grading ‘D’, with a minimum PGAB content of 6%, and the gradation limits of Section 703 – Aggregates, subsection 703.09 - Mixture Composition, Grading D mixtures may be substituted for this item. A job mix formula shall be submitted to the Department for approval.
14. A mixture meeting the gradation of 12.5mm hot mix asphalt may be used at the option of the contractor.
17. Compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of one or more 3-5 ton vibratory rollers. An approved release agent is required to ensure the mixture does not adhere to hand tools, rollers, pavers, and truck bodies. The use of petroleum based fuel oils, or asphalt stripping solvents will not be permitted
18. The Agency administering the contract will accept or reject any HMA based on a visual basis, either prior to its use, during placement, or in its final disposition. Mixtures exceeding the minimum 275 degree (F) lower limit, or the 325 degree(F) upper limit will be rejected from the project. Informational mix samples may be obtained by the Agency at any time for verification of material properties.

The Agency administering the contract shall submit a letter of acceptance at the completion of the contract certifying that all work and materials were inspected and found to be acceptable to the Agency.

The Agency will pay for the work specified in Special Provision Division 400 - Subsection 401.11 for the HMA used.

Tack Coat

A tack coat of emulsified asphalt, RS-1, Item 409.15 shall be applied to any existing or new pavement at a rate of approximately 0.025 gal/yd², and on milled pavement approximately 0.05 gal/yd², prior to placing a new course. All joints between existing and new pavement will be tacked. Cleaning objectionable material from the pavement and furnishing and applying Item 409.15 bituminous materials to joints and contact surfaces is incidental to the contract paving items.

April 17, 2007
Supersedes May 10, 2006

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
Construction Sign Sheeting Material

Super high intensity fluorescent retroreflective sheeting, ASTM D 4956 - Type VII, Type VIII, or Type IX (prismatic), is required for all construction signs.

STANDARD DETAIL UPDATES

Standard Details and Standard Detail updates are available at:

http://www.maine.gov/mdot/contractor-consultant-information/ss_standard_details_updates.php

<u>Detail #</u>	<u>Description</u>	<u>Revision Date</u>
504(15)	Diaphragms	12/30/02
507(04)	Steel Bridge Railing	2/05/03
526(33)	Concrete Transition Barrier	8/18/03
645(06)	H-Beam Posts – Highway Signing	7/21/04
645(09)	Installation of Type II Signs	7/21/04
626(09)	Electrical Junction Box for Traffic Signals and Lighting	2/25/05
604(01)	Catch Basins	11/16/05
604(05)	Type “A” & “B” Catch Basin Tops	11/16/05
604(06)	Type “C” Catch Basin Tops	11/16/05
604(07)	Manhole Top “D”	11/16/05
604(09)	Catch Basin Type “E”	11/16/05
606(02)	Multiple Mailbox Support	11/16/05
606(07)	Reflectorized Beam Guardrail Delineator Details	11/16/05
609(06)	Vertical Bridge Curb	11/16/05
504(23)	Hand-Hold Details	12/08/05
609(03)	Curb Type 3	6/27/06
609(07)	Curb Type 1	6/27/06
535(01)	Precast Superstructure - Shear Key	10/12/06
535(02)	Precast Superstructure - Curb Key & Drip Notch	10/12/06
535(03)	Precast Superstructure - Shear Key	10/12/06

535(04)	Precast Superstructure - Shear Key	10/12/06
535(05)	Precast Superstructure - Post Tensioning	10/12/06
535(06)	Precast Superstructure - Sections	10/12/06
535(07)	Precast Superstructure - Precast Slab & Box	10/12/06
535(08)	Precast Superstructure - Sections	10/12/06
535(09)	Precast Superstructure - Sections	10/12/06
535(10)	Precast Superstructure - Sections	10/12/06
535(11)	Precast Superstructure - Sections	10/12/06
535(12)	Precast Superstructure - Sections	10/12/06
535(13)	Precast Superstructure - Sections	10/12/06
535(14)	Precast Superstructure - Stirrups	10/12/06
535(15)	Precast Superstructure - Plan	10/12/06
535(16)	Precast Superstructure - Reinforcing	10/12/06
535(17)	Precast Superstructure - Notes	10/12/06
801(01)	Drives on Sidewalk Sections	2/06/07
801(02)	Drives on Non-Sidewalk Sections	2/06/07
535(03)	Precast Superstructure - Shear Key	12/5/07
535(04)	Precast Superstructure - Shear Key	12/5/07
535(05)	Precast Superstructure - Post Tensioning	12/5/07
535(17)	Precast Superstructure - Notes	12/5/07
801(01)	Drives on Sidewalk Sections	1/04/08
801(02)	Drives on Non-Sidewalk Sections	1/04/08
203(03)	Backslope Rounding	1/29/08
535(02)	Precast Superstructure - Curb Key & Drip Notch	5/20/08

535(05)	Precast Superstructure - Post Tensioning	5/20/08
502(03)	Concrete Curb - Bituminous Wearing Surface	2/2/09
502(03)A	Concrete Curb - Concrete Wearing Surface	2/2/09
502(07)	Precast Concrete Deck Panels - Layout Plan	2/2/09
502(07)A	Precast Concrete Deck Panels - Layout Plan	2/2/09
502(08)	Precast Concrete Deck Panels - Panel Plan	2/2/09
502(09)	Precast Concrete Deck Panels - Blocking Detail	2/2/09
502(10)	Precast Concrete Deck Panels	2/2/09
502(11)	Precast Concrete Deck Panels	2/2/09
502(12)	Precast Concrete Deck Panels - Notes	2/2/09
502(12)A	Precast Concrete Deck Panels - Notes	2/2/09
526(06)	Permanent Concrete Barrier	2/2/09
526(08)	Permanent Concrete Barrier – Type IIIA	2/2/09
526(08)A	Permanent Concrete Barrier – Type IIIA	2/2/09
526(13)	Permanent Concrete Barrier – Type IIIB	2/2/09
526(14)	Permanent Concrete Barrier – Type IIIB	2/2/09
526(21)	Concrete Transition Barrier	2/2/09
526(39)	Texas Classic Rail – Between Window	2/2/09
526(40)	Texas Classic Rail – Through Window	2/2/09
526(41)	Texas Classic Rail – Through Post	2/2/09
526(42)	Texas Classic Rail – Through Nose	2/2/09
606(20)	Guardrail - Type 3 - Single Rail - Bridge Mounted	2/2/09
606(21)	Guardrail - Type 3 - Single Rail - Bridge Mounted	2/2/09
606(22)	Guardrail - Type 3 - Single Rail - Bridge Mounted	2/2/09

606(23)	Guardrail - Type 3 - Single Rail - Bridge Mounted	2/2/09
609(06)	Vertical Bridge Curb	2/2/09
609(08)	Precast Concrete Transition Curb	2/2/09

SUPPLEMENTAL SPECIFICATION
(Corrections, Additions, & Revisions to Standard Specifications - Revision of December 2002)

SECTION 101
CONTRACT INTERPRETATION

101.2 Definitions

Closeout Documentation Replace the sentence “A letter stating the amount..... DBE goals.” with “DBE Goal Attainment Verification Form”

Add “Environmental Information Hazardous waste assessments, dredge material test results, boring logs, geophysical studies, and other records and reports of the environmental conditions. For a related provision, see Section 104.3.14 - Interpretation and Interpolation.”

Add “Fabrication Engineer The Department’s representative responsible for Quality Assurance of pre-fabricated products that are produced off-site.”

Geotechnical Information Replace with the following: “Boring logs, soil reports, geotechnical design reports, ground penetrating radar evaluations, seismic refraction studies, and other records of subsurface conditions. For a related provision, see Section 104.3.14 - Interpretation and Interpolation.”

SECTION 102
DELIVERY OF BIDS

102.7.1 Location and Time Add the following sentence “As a minimum, the Bidder will submit a Bid Package consisting of the Notice to Contractors, the completed Acknowledgement of Bid Amendments form, the completed Schedule of Items, 2 copies of the completed Agreement, Offer, & Award form, a Bid Bond or Bid Guarantee, and any other Certifications or Bid Requirements listed in the Bid Book.”

102.11.1 Non-curable Bid Defects Replace E. with “E. The unit price and bid amount is not provided or a lump sum price is not provided or is illegible as determined by the Department.”

SECTION 103
AWARD AND CONTRACTING

103.3.1 Notice and Information Gathering Change the first paragraph to read as follows: “After Bid Opening and as a condition for Award of a Contract, the Department may require an Apparent Successful Bidder to demonstrate to the Department’s satisfaction that the Bidder is responsible and qualified to perform the Work.”

SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

104.3.14 Interpretation and Interpolation In the first sentence, change “...and Geotechnical Information.” to “...Environmental Information, and Geotechnical Information.”
Delete the entire Section 104.5.9 and replace with the following:

“104.5.9 Landscape Subcontractors The Contractor shall retain only Landscape Subcontractors that are certified by the Department’s Environmental Office Landscape Unit.”

SECTION 105 GENERAL SCOPE OF WORK

Delete the entire Section 105.6 and replace with the following:

105.6.1 Department Provided Services The Department will provide the Contractor with the description and coordinates of vertical and horizontal control points, set by the Department, within the Project Limits, for full construction Projects and other Projects where survey control is necessary. For Projects of 1,500 feet in length, or less: The Department will provide three points. For Projects between 1,500 and 5,000 feet in length: The Department will provide one set of two points at each end of the Project. For Projects in excess of 5,000 feet in length, the Department will provide one set of two points at each end of the Project, plus one additional set of two points for each mile of Project length. For non-full construction Projects and other Projects where survey control is not necessary, the Department will not set any control points and, therefore, will not provide description and coordinates of any control points. Upon request of the Contractor, the Department will provide the Department’s survey data management software and Survey Manual to the Contractor, or its survey Subcontractor, for the exclusive use on the Department’s Projects.

105.6.2 Contractor Provided Services Utilizing the survey information and points provided by the Department, described in Subsection 105.6.1, Department Provided Services, the Contractor shall provide all additional survey layout necessary to complete the Work. This may include, but not be limited to, reestablishing all points provided by the Department, establishing additional control points, running axis lines, providing layout and maintenance of all other lines, grades, or points, and survey quality control to ensure conformance with the Contract. The Contractor is also responsible for providing construction centerline, or close reference points, for all Utility Facilities relocations and adjustments as necessary to complete the Work. When the Work is to connect with existing Structures, the Contractor shall verify all dimensions before proceeding with the Work. The Contractor shall employ or retain competent engineering and/or surveying personnel to fulfill these responsibilities.

The Contractor must notify the Department of any errors or inconsistencies regarding the data and layout provided by the Department as provided by Section 104.3.3 - Duty to Notify Department If Ambiguities Discovered.

105.6.2.1 Survey Quality Control The Contractor is responsible for all construction survey quality control. Construction survey quality control is generally defined as, first, performing initial field survey layout of the Work and, second, performing an independent check of the initial layout using independent survey data to assure the accuracy of the initial layout; additional iterations of checks may be required if significant discrepancies are discovered in this process. Construction survey layout quality control also requires written documentation of the layout process such that the process can be followed and repeated, if necessary, by an independent survey crew.

105.6.3 Survey Quality Assurance It is the Department's prerogative to perform construction survey quality assurance. Construction survey quality assurance may, or may not, be performed by the Department. Construction survey quality assurance is generally defined as an independent check of the construction survey quality control. The construction survey quality assurance process may involve physically checking the Contractor's construction survey layout using independent survey data, or may simply involve reviewing the construction survey quality control written documentation. If the Department elects to physically check the Contractor's survey layout, the Contractor's designated surveyor may be required to be present. The Department will provide a minimum notice of 48 hours to the Contractor, whenever possible, if the Contractor's designated surveyor's presence is required. Any errors discovered through the quality assurance process shall be corrected by the Contractor, at no additional cost to the Department.

105.6.4 Boundary Markers The Contractor shall preserve and protect from damage all monuments or other points that mark the boundaries of the Right-of-Way or abutting parcels that are outside the area that must be disturbed to perform the Work. The Contractor indemnifies and holds harmless the Department from all claims to reestablish the former location of all such monuments or points including claims arising from 14 MRSA § 7554-A. For a related provision, see Section 104.3.11 - Responsibility for Property of Others.

SECTION 106 QUALITY

106.4.3 Testing Change the first sentence in paragraph three from "...maintain records of all inspections and tests." to "...maintain original documentation of all inspections, tests, and calculations used to generate reports."

106.6 Acceptance Add the following to paragraph 1 of A: "This includes Sections 401 - Hot Mix Asphalt, 402 - Pavement Smoothness, and 502 - Structural Concrete - Method A - Air Content."

Add the following to the beginning of paragraph 3 of A: "For pay factors based on Quality Level Analysis, and"

106.7.1 Standard Deviation Method Add the following to F: "Note: In cases where the mean of the values is equal to either the USL or the LSL, then the PWL will be 50 regardless of the computed value of s."

Add the following to H: "Method C Hot Mix Asphalt: $PF = [55 + (Quality\ Level * 0.5)] * 0.01$ "

SECTION 107 TIME

107.3.1 General Add the following: "If a Holiday occurs on a Sunday, the following Monday shall be considered a Holiday. Sunday or Holiday work must be approved by the Department, except that the Contractor may work on Martin Luther King Day, President's Day, Patriot's Day, the Friday after Thanksgiving, and Columbus Day without the Department's approval."

107.7.2 Schedule of Liquidated Damages Replace the table of Liquidated Damages as follows:

<u>From More Than</u>	<u>Up to and Including</u>	<u>Amount of Liquidated Damages per Calendar Day</u>
\$0	\$100,000	\$100
\$100,000	\$300,000	\$200
\$300,000	\$500,000	\$400
\$500,000	\$1,000,000	\$575
\$1,000,000	\$2,000,000	\$750
\$2,000,000	\$4,000,000	\$900
\$4,000,000	and more	\$1,875

SECTION 108 PAYMENT

108.4 Payment for Materials Obtained and Stored First paragraph, second sentence, delete the words "...Delivered on or near the Work site at acceptable storage places."

SECTION 109 CHANGES

109.1.1 Changes Permitted Add the following to the end of the paragraph: "There will be no adjustment to Contract Time due to an increase or decrease in quantities, compared to those estimated, except as addressed through Contract Modification(s)."

109.1.2 Substantial Changes to Major Items Add the following to the end of the paragraph: "Contract Time adjustments may be made for substantial changes to Major Items when the change affects the Critical Path, as determined by the Department"

109.4.4 Investigation / Adjustment Third sentence, delete the words "subsections (A) - (E)"

109.5.1 Definitions - Types of Delays

B. Compensable Delay Replace (1) with the following; "a weather related Uncontrollable Event of such an unusually severe nature that a Federal Emergency Disaster is declared. The Contractor will only be entitled to an Equitable Adjustment if the Project falls within the geographic boundaries prescribed under the disaster declaration."

109.7.2 Basis of Payment Replace with the following: "Equitable Adjustments will be established by mutual Agreement for compensable items listed in Section 109.7.3- Compensable Items, based upon Unit or Lump Sum Prices. If Agreement cannot be reached, the Contractor shall accept payment on a Force Account basis as provided in Section 109.7.5 - Force Account Work, as full and complete compensation for all Work relating to the Equitable Adjustment."

109.7.3 Compensable Items Replace with the following: "The Contractor is entitled to compensation for the following items, with respect to agreed upon Unit or Lump Sum Prices:

1. Labor expenses for non-salaried Workers and salaried foremen.
2. Costs for Materials.
3. A 15 % markup on the totals of Items 1 and 2 of this subsection 109.7.3 for home office overhead and profit of the Contractor, its Subcontractors and suppliers, and any lower tier Subcontractors or suppliers, with no mark-ups on mark-ups.
4. Cost for Equipment, based on Blue Book Rates or leased rates, as set forth in Section 109.7.5(C), or the Contractor's Actual Costs if determined by the Department to be lower.
5. Time.
6. Subcontractor quoted Work, as set forth below in Section 109.7.5 (F)."

109.7.5 Force Account Work

C. Equipment

Paragraph 2, delete sentence 1 which starts; "Equipment leased...."

Paragraph 6, change sentence 2 from "The Contractor may furnish..." to read "If requested by the Department, the Contractor will produce cost data to assist the Department in the establishment of such rental rate, including all records that are relevant to the Actual Costs including rental Receipts, acquisition costs, financing documents, lease Agreements, and maintenance and operational cost records."

Add the following paragraph; "Equipment leased by the Contractor for Force Account Work and actually used on the Project will be paid for at the actual invoice amount plus 10% markup for administrative costs."

Add the following section;

"F. Subcontractor Work When accomplishing Force Account Work that utilizes Subcontractors, the Contractor will be allowed a maximum markup of 5% for profit and overhead on the Subcontractor's portion of the Force Account Work."

SECTION 110 INDEMNIFICATION, BONDING, AND INSURANCE

Delete the entire Section 110.2.3 and replace with the following:

110.2.3 Bonding for Landscape Establishment Period The Contractor shall provide a signed, valid, and enforceable Performance, Warranty, or Maintenance Bond complying with the Contract, to the Department at Final Acceptance.

The bond shall be in the full amount for all Pay Items for work pursuant to Sec 621, Landscape, payable to the “Treasurer - State of Maine,” and on the Department’s forms, on exact copies thereof, or on forms that do not contain any significant variations from the Department’s forms as solely determined by the Department.

The Contractor shall pay all premiums and take all other actions necessary to keep said bond in effect for the duration of the Landscape Establishment Period described in Special Provision 621.0036 - Establishment Period. If the Surety becomes financially insolvent, ceases to be licensed or approved to do business in the State of Maine, or stops operating in the United States, the Contractor shall file new bonds complying with this Section within 10 Days of the date the Contractor is notified or becomes aware of such change.

All Bonds shall be procured from a company organized and operating in the United States, licensed or approved to do business in the State of Maine by the State of Maine Department of Business Regulation, Bureau of Insurance, and listed on the latest Federal Department of the Treasury listing for “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies.”

By issuing a bond, the Surety agrees to be bound by all terms of the Contract, including those related to payment, time for performance, quality, warranties, and the Department’s self-help remedy provided in Section 112.1 - Default to the same extent as if all terms of the Contract are contained in the bond(s).

Regarding claims related to any obligations covered by the bond, the Surety shall provide, within 60 Days of Receipt of written notice thereof, full payment of the entire claim or written notice of all bases upon which it is denying or contesting payment. Failure of the Surety to provide such notice within the 60-day period constitutes the Surety’s waiver of any right to deny or contest payment and the Surety’s acknowledgment that the claim is valid and undisputed.

SECTION 202 REMOVING STRUCTURES AND OBSTRUCTIONS

202.02 Removing Buildings Make the following change to the last sentence in the final paragraph, change “...Code of Maine Regulations 401.” to “...Department of Environmental Protection Maine Solid Waste Management Rules, 06-096 CMR Ch. 401, Landfill Siting, Design and Operation.”

SECTION 203 EXCAVATION AND EMBANKMENT

203.01 Description Under b. Rock Excavation; add the following sentence: “The use of perchlorate is not allowed in blasting operations.”

SECTION 502
STRUCTURAL CONCRETE

502.05 Composition and Proportioning; TABLE #1; NOTE #2; third sentence; Change "...alcohol based saline sealer..." to "alcohol based silane sealer...". Add NOTE #6 to Class S Concrete.

502.0502 Quality Assurance Method A - Rejection by Resident Change the first sentence to read: "For an individual subplot with test results failing to meet the criteria in Table #1, or if the calculated pay factor for Air Content is less than 0.80....."

502.0503 Quality Assurance Method B - Rejection by Resident Change the first sentence to read: "For material represented by a verification test with test results failing to meet the criteria in Table #1, the Department will....."

502.0505 Resolution of Disputed Acceptance Test Results Combine the second and third sentence to read: "Circumstances may arise, however, where the Department may"

502.10 Forms and False work

D. Removal of Forms and False work 1., First paragraph; first, second, and third sentence; replace "forms" with "forms and false work"

502.11 Placing Concrete

G. Concrete Wearing Surface and Structural Slabs on Precast Superstructures Last paragraph; third sentence; replace "The temperature of the concrete shall not exceed 24° C [75° F] at the time of placement." with "The temperature of the concrete shall not exceed 24° C [75° F] at the time the concrete is placed in its final position."

502.15 Curing Concrete First paragraph; replace the first sentence with the following; "All concrete surfaces shall be kept wet with clean, fresh water for a curing period of at least 7 days after concrete placing, with the exception of vertical surfaces as provided for in Section 502.10 (D) - Removal of Forms and False work."

Second paragraph; delete the first two sentences.

Third paragraph; delete the entire paragraph which starts "When the ambient temperature...."

Fourth paragraph; delete "approved" to now read "...continuously wet for the entire curing period..."

Fifth paragraph; second sentence; change "...as soon as it is possible to do so without damaging the concrete surface." to "...as soon as possible."

Seventh paragraph; first sentence; change "...until the end of the curing period." to "...until the end of the curing period, except as provided for in Section 502.10(D) - Removal of Forms and False work."

502.19 Basis of Payment First paragraph, second sentence; add "pier nose armor" to the list of items included in the contract price for concrete.

SECTION 503 REINFORCING STEEL

503.06 Placing and Fastening Change the second paragraph, first sentence from: "All tack welding shall be done in accordance with Section 504, Structural Steel." to "All tack welding shall be done in accordance with AWS D1.4 Structural Welding Code - Reinforcing Steel."

SECTION 504 STRUCTURAL STEEL

504.09 Facilities for Inspection Add the follow as the last paragraph: "Failure to comply with the above requirements will be consider to be a denial to allow access to work by the Contractor. The Department will reject any work done when access for inspection is denied."

504.18 Plates for Fabricated Members Change the second paragraph, first sentence from: "...ASTM A 898/A 898 M..." to "...ASTM A 898/A 898 M or ASTM A 435/A 435 M as applicable and..."

504.31 Shop Assembly Add the following as the last sentence: "The minimum assembly length shall include bearing centerlines of at least two substructure units."

504.64 Non Destructive Testing-Ancillary Bridge Products and Support Structures Change the third paragraph, first sentence from "One hundred percent..." to "Twenty five percent..."

SECTION 535 PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

535.02 Materials Change "Steel Strand for Concrete Reinforcement" to "Steel Strand." Add the following to the beginning of the third paragraph; "Concrete shall be Class P conforming to the requirements in this section. 28 day compressive strength shall be as stated on the plans. Coarse aggregate...."

535.05 Inspection Facilities Add the follow as the last paragraph: "If the above requirements are not met, the Contractor shall be considered to be in violation of Standard Specification 104.2.5 – Right to Inspect Work. All work occurring during a violation of this specification will be rejected."

535.26 Lateral Post-Tensioning Replace the first paragraph; "A final tension..." with "Overstressing strands for setting losses cannot be accomplished for chuck to chuck lengths of 7.6 m [25 ft] and less. In such instances, refer to the Plans for all materials and methods. Otherwise, post-tensioning shall be in accordance with PCI standards and shall provide the anchorage force noted in the Plans. The applied jacking force shall be no less than 100% of the design jacking force."

SECTION 603
PIPE CULVERTS AND STORM DRAINS

603.0311 Corrugated Polyethylene Pipe for Option III Replace the Minimum Mandrel Diameter Table with the following:

Nominal Size US Customary (in)	Minimum Mandrel Diameter (in)	Nominal Size Metric (mm)	Minimum Mandrel Diameter (mm)
12	11.23	300	280.73
15	14.04	375	350.91
18	16.84	450	421.09
24	22.46	600	561.45
30	28.07	750	701.81
36	33.69	900	842.18
42	39.30	1050	982.54
48	44.92	1200	1122.90

SECTION 604
MANHOLES, INLETS, AND CATCH BASINS

604.02 Materials Add the following:

“Tops and Traps	712.07
Corrugated Metal Units	712.08
Catch Basin and Manhole Steps	712.09”

SECTION 605
UNDERDRAINS

605.05 Underdrain Outlets Make the following change:

In the first paragraph, second sentence, delete the words “metal pipe”.

SECTION 606
GUARDRAIL

606.02 Materials Delete the entire paragraph which reads “The sole patented supplier of multiple mailbox...” and replace with “Acceptable multiple mailbox assemblies shall be listed on the Department’s Approved Products List and shall be NCHRP 350 tested and approved.” Delete the entire paragraph which reads “Retroreflective beam guardrail delineators...” and replace with “Reflectorized sheeting for Guardrail Delineators shall meet the requirements of Section 719.01 - Reflective Sheeting. Delineators shall be fabricated from high-impact, ultraviolet and weather resistant thermoplastic.

606.09 Basis of Payment First paragraph; delete the second and third sentence in their entirety and replace with “Butterfly-type guardrail reflectorized delineators shall be mounted on all W-beam guardrail at an interval of every 10 posts [62.5 ft] on tangents sections and every 5 posts [31.25 ft] on curved sections as directed by the Resident. On divided highways, the delineators shall be yellow on the left hand side and silver/white on the right hand side. On two-way

roadways, the delineators shall be silver/white on the right hand side. All delineators shall have retroreflective sheeting applied to only the traffic facing side. Reflectorized guardrail delineators will not be paid for directly, but will be considered incidental to the guardrail items.”

SECTION 609 CURB

609.04 Bituminous Curb f., Delete the requirement “Color Natural (White)”

SECTION 615 LOAM

615.02 Materials Make the following change:

<u>Organic Content</u>	<u>Percent by Volume</u>
Humus	“5% - 10%”, as determined by Ignition Test

SECTION 618 SEEDING

618.01 Description Change the first sentence to read as follows: “This work shall consist of furnishing and applying seed” Also remove “,and cellulose fiber mulch” from 618.01(a).

618.03 Rates of Application In 618.03(a), remove the last sentence and replace with the following: “These rates shall apply to Seeding Method 2, 3, and Crown Vetch.”

In 618.03(c) “1.8 kg [4 lb]/unit.” to “1.95 kg [4 lb]/unit.”

618.09 Construction Method In 618.09(a) 1, sentence two, replace “100 mm [4 in]” with “25 mm [1 in] (Method 1 areas) and 50 mm [2 in] (Method 2 areas)”

618.15 Temporary Seeding Change the Pay Unit from Unit to Kg [lb].

SECTION 620 GEOTEXTILES

620.03 Placement Section (c)

Title: Replace “Non-woven” in title with “Erosion Control”.

First Paragraph: Replace first word “Non-woven” with “Woven monofilament”.

Second Paragraph: Replace second word “Non-woven” with “Erosion Control”.

620.07 Shipment, Storage, Protection and Repair of Fabric Section (a)

Replace the second sentence with the following: “Damaged geotextiles, as identified by the Resident, shall be repaired immediately.”

620.09 Basis of Payment

Pay Item 620.58: Replace “Non-woven” with “Erosion Control”

Pay Item 620.59: Replace “Non-woven” with “Erosion Control”

SECTION 621
LANDSCAPING

621.0036 Establishment Period In paragraph 4 and 5, change “time of Final Acceptance” to “end of the period of establishment”. In Paragraph 7, change “Final Acceptance date” to “end of the period of establishment” and change “date of Final Acceptance” to “end of the period of establishment”.

SECTION 626
HIGHWAY SIGNING

626.034 Concrete Foundations Add to the following to the end of the second paragraph: “Pre-cast and cast-in-place foundations shall be warranted against leaning and corrosion for two years after the project is completed. If the lean is greater than 2 degrees from normal or the foundation is spalling within the first two years, the Contractor shall replace the foundation at no extra cost.”

SECTION 627
PAVEMENT MARKINGS

627.10 Basis of Payment Add to the following to the end of the third paragraph: “If allowed by Special Provision, the Contractor may utilize Temporary Bi-Directional Yellow and White(As required) Delineators as temporary pavement marking lines and paid for at the contract lump sum price. Such payment will include as many applications as required and removal.”

SECTION 637
DUST CONTROL

637.06 Basis of Payment Add the following after the second sentence of the third paragraph: “Failure by the Contractor to follow Standard Specification or Special Provision - Section 637 and/or the Contractor’s own Soil Erosion and Pollution Control Plan concerning Dust Control and/or the Contractor’s own Traffic Control Plan concerning Dust Control and/or visible evidence of excessive dust problems, as determined by the Resident, will result in a reduction in payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department’s Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item. Additional penalties may also be assessed in accordance with Special Provision 652 - Work Zone Traffic Control and Standard Specification 656 - Temporary Soil Erosion and Water Pollution Control.”

SECTION 639
ENGINEERING FACILITIES

639.04 Field Offices Change the forth to last paragraph from: “The Contractor shall provide a fully functional desktop copier...” to “....desktop copier/scanner...”

Description Change “Floor Area” to “Floor Area (Outside Dimension)”. Change Type B floor area from “15 (160)” to “20 (217)”.

639.09 Telephone Paragraph 1 is amended as follows:
The contractor shall provide **two** telephone lines and two telephones,....

Add-

In addition the contractor will supply one computer broadband connection, modem lease and router. The router shall have wireless access and be 802.11n or 802.11g capable and wireless. The type of connection supplied will be contingent upon the availability of services (i.e. DSL or Cable Broadband). It shall be the contractor’s option to provide dynamic or static IP addresses through the service. **The selected service will have a minimum downstream connection of 1.5 Mbps and 384 Kbps upstream.** The contractor shall be responsible for the installation charges and all reinstallation charges following suspended periods. Monthly service and maintenance charges shall be billed by the Internet Service Provider (ISP) directly to the contractor.

SECTION 652
MAINTENANCE OF TRAFFIC

652.2.3 Flashing Arrow Board Delete the existing 5 paragraphs and replace with the following: Flashing Arrow Panels (FAP) must be of a type that has been submitted to AASHTO’s National Transportation Product Evaluation Program (NTPEP) for evaluation and placed on the Maine Department of Transportations’ Approved Products List of Portable Changeable Message Signs & Flashing Arrow Panels.

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

FAP elements shall be capable of at least a 50 percent dimming from full brilliance. Full brilliance should be used for daytime operation and the dimmed mode shall be used for nighttime operation. FAP shall be at least 2.4 M x 1.2 M [96” x 48”] and finished in non-reflective black. The FAP shall be interpretable for a distance not less than 1.6 km [1 mile].

Operating modes shall include, flashing arrow, sequential arrow, sequential chevron, flashing

double arrow, and flashing caution. In the three arrow signals, the second light from the arrow point shall not operate.

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

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

Controller and battery compartments shall be enclosed in lockable, weather-tight boxes. The FAP shall be mounted on a pneumatic-tired trailer or other suitable support for hauling to various locations, as directed. The minimum mounting height of an arrow panel should be 2.1 M [7 feet] from the roadway to the bottom of the panel.

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

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

652.2.4 Other Devices Delete the last paragraph and add the following:

“652.2.5 Portable Changeable Message Sign Trailer mounted Portable Changeable Message Signs (PCMS) must be of a type that has been submitted to AASHTO’s National Transportation Product Evaluation Program (NTPEP) for evaluation and placed on the Maine Department of Transportation’s Approved Products List of Portable Changeable Message Signs & Flashing Arrow Panels. The PCMS unit shall meet or exceed the current specifications of the Manual on Uniform Traffic Control Devices (MUTCD), 6F.55.

The front face of the sign should be covered with a low-glare protective material. The color of the LED elements shall be amber on a black background. The PCMS should be visible from a distance of 0.8 km [0.5 mile] day and night and have a minimum 15° viewing angle. Characters must be legible from a distance of at least 200 M [650 feet].

The message panel should have adjustable display rates (minimum of 3 seconds per phase), so that the entire message can be read at least twice at the posted speed, the off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed. Each message shall consist of either one or two phases. A phase shall consist of up to eight characters per line. The unit must be capable of displaying at least three lines of text with eight characters per line. Each character shall be 457 mm [18”] high. Each character module shall use at least a five wide and seven high pixel matrix. The text of the messages shall not scroll or travel horizontally or vertically across the face of the sign.

Units shall automatically adjust their brightness under varying light conditions to maintain legibility.

The control system shall include a display screen upon which messages can be reviewed before being displayed on the message sign. The control system shall be capable of maintaining memory when power is unavailable. Message must be changeable with either a notebook computer or an on-board keypad. The controller shall have the capability to store a minimum of 200 user-defined and 200 pre-programmed messages. Controller and battery compartments shall be enclosed in lockable, weather-tight boxes.

PCMS units shall have the capability of being made programmable by means of wireless communications. PCMS units shall also be fully capable of having an on-board radar system installed if required for a particular application.

PCMS' primary power source shall be solar with a battery back-up to provide continuous operation when failure of the primary power source occurs. Batteries must be capable of being charged from a 110 volt AC power source. The unit must also be capable of being operated solely from a 110 volt AC power source and be equipped with a cable for this purpose.

The PCMS shall be mounted on a trailer in such a way that the bottom of the message sign panel shall be a minimum of 2.1 M [7 ft] above the roadway in urban areas and 1.5 M [5 ft] above the roadway in rural areas when it is in the operating mode. PCMS trailers should be of a heavy duty type with a 51 mm [2"] ball hitch and a minimum of four leveling jacks (at each corner). The sign shall be capable of being rotated 360° relative to the trailer. The face of the trailer shall be delineated on a permanent basis by affixing retro-reflective material, known as conspicuity material, in a continuous line as seen by oncoming drivers."

652.3.3 Submittal of Traffic Control Plan In item e. change "A list of all certified flaggers..." to "A list of all the Contractor's certified flaggers..."

In the last paragraph add the following as the second sentence: "The Department will review and provide comments to the Contractor within 14 days of receipt of the TCP."

652.3.5 Installation of Traffic Control Devices In the first paragraph, first sentence; change "Signs shall be erected..." to "Portable signs shall be erected.." In the third sentence; change "Signs must be erected so that the sign face..." to "Post-mounted signs must also be erected so that the sign face..."

652.4 Flaggers Replace the first paragraph with the following; "The Contractor shall furnish flaggers as required by the TCP or as otherwise specified by the Resident. All flaggers must have successfully completed a flagger test approved by the Department and administered by a Department-approved Flagger-Certifier who is employing that flagger. All flaggers must carry an official certification card with them while flagging that has been issued by their employer. Flaggers shall wear safety apparel meeting ANSI 107-1999 Class 2 risk exposure and clearly identify the wearer as a person, shall be visible at a minimum distance of 300 m [1000 ft], and shall wear a hardhat with retroreflectivity. For nighttime conditions, Class 3 apparel should be considered, retroreflective or flashing SLOW/STOP paddles shall be used, and except in emergency situations the flagger station shall be illuminated to assure visibility."

Second paragraph, first sentence; change "...have sufficient distance to stop before entering the workspace." to "...have sufficient distance to stop at the intended stopping point." Third

sentence; change “At a spot obstruction...” to “At a spot obstruction with adequate sight distance...”

Fourth paragraph, delete and replace with “Flaggers shall be provided as a minimum, a 10 minute break, every 2 hours and a 30 minute or longer lunch period away from the work station. Flaggers may only receive 1 unpaid break per day; all other breaks must be paid. Sufficient certified flaggers shall be available onsite to provide for continuous flagging operations during break periods. Breaker flaggers will not be paid for separately, but shall be considered incidental to the appropriate pay item.”

652.8.2 Other Items Replace the last paragraph with the following: “There will be no payment made under any 652 pay items after the expiration of the adjusted total contract time.”

SECTION 653 POLYSTYRENE PLASTIC INSULATION

653.05 Placing Backfill In the second sentence; change “...shall be not less than 150 mm [6 in] loose measure.” to “...shall be not less than 250 mm [10 in] loose measure.” In the third sentence; change “...crawler type bulldozer of not more than 390 kg/m² [80 lb/ft²] ground contact pressure...” to “...crawler type bulldozer of not more than 4875 kg/m² [2000 lb/ft²] ground contact pressure...”

653.06 Compaction In the last sentence; change “...not more than 390 kg/m² [80 lb/ft²] ground contact...” to “...not more than 4875 kg/m² [2000 lb/ft²] ground contact...”

SECTION 656 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

656.5.1 If Pay Item 656.75 Provided Replace the second paragraph with the following: “Failure by the Contractor to follow Standard Specification or Special Provision - Section 656 and/or the Contractor’s own Soil Erosion and Pollution Control Plan will result in a reduction in payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department’s Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item.”

SECTION 701 STRUCTURAL CONCRETE RELATED MATERIALS

701.10 Fly Ash - Chemical Requirements Change all references from “ASTM C311” to “ASTM C114”.

SECTION 703
AGGREGATES

703.05 Aggregate for Sand Leveling Change the percent passing the 9.5 mm [3/8 in] sieve from “85 – 10” to “85 – 100”

703.06 Aggregate for Base and Subbase Delete the first paragraph: “The material shall have...” and replace with “The material shall have a minimum degradation value of 15 as determined by Washington State DOT Test Method T113, Method of Test for Determination of Degradation Value (March 2002 version), except that the reported degradation value will be the result of testing a single specimen from that portion of a sample that passes the 12.5 mm [½ in] sieve and is retained on the 2.00 mm [No. 10] sieve, minus any reclaimed asphalt pavement used.”

703.07 Aggregates for HMA Pavements Delete the forth paragraph: “The composite blend shall have...” and replace with “The composite blend, minus any reclaimed asphalt pavement used, shall have a Micro-Deval value of 18.0 or less as determined by AASHTO T 327. In the event the material exceeds the Micro Deval limit, a Washington Degradation test shall be performed. The material shall be acceptable if it has a value of 30 or more as determined by Washington State DOT Test Method T 113, Method of Test for Determination of Degradation Value (March 2002 version) except that the reported degradation value will be the result of testing a single composite specimen from that portion of the sample that passes the 12.5mm [1/2 inch] sieve and is retained on the 2.00mm [No 10] sieve, minus any reclaimed asphalt pavement used.”

703.09 HMA Mixture Composition The coarse and fine aggregate shall meet the requirements of Section 703.07. The several aggregate fractions for mixtures shall be sized, graded, and combined in such proportions that the resulting composite blends will meet the grading requirements of the following table.

AGGREGATE GRADATION CONTROL POINTS

SIEVE SIZE	Nominal Maximum Aggregate Size---Control Points (Percent Passing)				
	TYPE 25 mm	TYPE 19 mm	TYPE 12.5 mm	TYPE 9.5 mm	TYPE 4.75 mm
	PERCENT BY WEIGHT PASSING - COMBINED AGGREGATE				
37.5 mm	100				
25 mm	90-100	100			
19 mm	-90	90-100	100		
12.5 mm		-90	90-100	100	100
9.5 mm		-	-90	90-100	95-100
4.75 mm		-	-	-90	80-100
2.36 mm	19-45	23-49	28-58	32-67	40 - 80
1.18 mm		-	-	-	-
600 µm		-	-	-	-
300 µm		-	-	-	-
75 µm	1-7	2-8	2-10	2-10	2-10

Gradation Classification---- The combined aggregate gradation shall be classified as coarse-graded when it passes below the Primary Control Sieve (PCS) control point as defined in the following table. All other gradations shall be classified as fine-graded.

GRADATION CLASSIFICATION

PCS Control Point for Mixture Nominal Maximum Aggregate Size (% passing)				
Nominal Maximum Aggregate Size	TYPE 25 mm	TYPE 19 mm	TYPE 12.5 mm	TYPE 9.5 mm
Primary Control Sieve	4.75 mm	4.75 mm	2.36 mm	2.36 mm
PCS Control Point (% passing)	40	47	39	47

If a Grading “D” mixture is allowed per Special Provision Section 403, it shall meet the following gradation and the aggregate requirements of Section 703.07.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
½ inch	100
¾ inch	93-100
No. 4	60-80
No. 8	46-65
No. 16	25-55
No. 30	16-40
No. 50	10-30
No. 100	6-22
No. 200	3.0-8.0

703.18 Common Borrow Replace the first paragraph with the following: “Common borrow shall consist of earth, suitable for embankment construction. It shall be free from frozen material, perishable rubbish, peat, and other unsuitable material including material currently or previously contaminated by chemical, radiological, or biological agents unless the material is from a DOT project and authorized by DEP for use.”

703.22 Underdrain Backfill Material Change the first paragraph from “...for Underdrain Type B...” to “...for Underdrain Type B and C...”

**SECTION 706
NON-METALLIC PIPE**

706.06 Corrugated Polyethylene Pipe for Underdrain, Option I and Option III Culvert Pipe Change the first sentence from “...300 mm diameters to 900 mm” to “...300 mm diameters to 1200 mm” Delete, in it’s entirety, the last sentence which begins “This pipe and resins...” and replace with the following; “The manufacturing plants of polyethylene pipe shall be certified by the Eastern States Consortium. Polyethylene pipe shall be accepted based on third party certification by the AASHTO’s National Transportation Product Evaluation Program.”

SECTION 709
REINFORCING STEEL AND WELDED STEEL WIRE FABIC

709.03 Steel Strand Change the second paragraph from "...shall be 12mm [½ inch] AASHTO M203M/M203 (ASTM A416/A416M)..." to "...shall be 15.24 mm [0.600 inch] diameter AASHTO M203 (ASTM A416)..."

SECTION 710
FENCE AND GUARDRAIL

710.03 Chain Link Fabric Add the following sentence: "Chain Link fabric for PVC coated shall conform to the requirements of AASHTO M181, Type IV-Class B."

710.04 Metal Beam Rail Replace with the following: "Galvanized steel rail elements shall conform to the requirements of AASHTO M 180, Class A, Type II.

When corrosion resistant steel is specified, rail shall conform to AASHTO M 180, Class A, Type IV. Beams of corrosion resistant steel shall not be painted or galvanized. They shall be so handled and stored that the traffic face of these beams, used in a continuous run of guardrail, shall not show a distinctive color differential.

When metal beam rail is to be installed on a curve having a radius of curvature of 150 ft. or less, the beam sections shall be fabricated on an arc to the required radius and permanently stamped or embossed with the designated radius.

The engineer may take one piece of guardrail, a backup plate, and end or buffer section from each 200 pieces in a lot, or from each lot if less than 200 pieces are included therein for determination of compliance with specification requirements. If one piece fails to conform to the requirements of this specification, two other pieces shall be tested. If either of these pieces fails to conform to the requirements of this specification, the lot of material represented by these samples shall be rejected. A lot shall be considered that quantity of material offered for inspection at one time that bears the same heat and coating identification."

710.07 Guardrail Posts Section b. change "...AASHTO M183/M183M..." to "...AASHTO M 270M/M 270 Grade 250 (36)..."

SECTION 712
MISCELLANEOUS HIGHWAY MATERIALS

712.06 Precast Concrete Units In the first paragraph, change "...ASTM C478M..." to "...AASHTO M199..." Delete the second paragraph and replace with the following; "Approved structural fibers may be used as a replacement of 6 x 6 #10 gauge welded wire fabric when used at an approved dosage rate for the construction of manhole and catch basin units. The material used shall be one of the products listed on the Maine Department of Transportation's Approved Product List of Structural Fiber Reinforcement." Delete the fifth paragraph and replace with the following; "The concrete mix design shall be approved by the Department. Concrete shall contain 6% air content, plus or minus 1½% tolerance when tested according to AASHTO T152. All concrete shall develop a minimum compressive strength of

28 MPa [4000 psi] in 28 days when tested according to AASHTO T22. The absorption of a specimen, when tested according to AASHTO T280, Test Method “A”, shall not exceed nine percent of the dry mass.”

Add the following:

“712.07 Tops, and Traps These metal units shall conform to the plan dimensions and to the following specification requirements for the designated materials.

Gray iron or ductile iron castings shall conform to the requirements of AASHTO M306 unless otherwise designated.”

712.08 Corrugated Metal Units The units shall conform to plan dimensions and the metal to AASHTO M36/M36M. Bituminous coating, when specified, shall conform to AASHTO M190 Type A.

712.09 Catch Basin and Manhole Steps Steps for catch basins and for manholes shall conform to ASTM C478M [ASTM C478], Section 13 for either of the following material:

(a) Aluminum steps-ASTM B221M, [ASTM B211] Alloy 6061-T6 or 6005-T5.

(b) Reinforced plastic steps Steel reinforcing bar with injection molded plastic coating copolymer polypropylene. Polypropylene shall conform to ASTM D 4101.

712.23 Flashing Lights Flashing Lights shall be power operated or battery operated as specified.

(a) Power operated flashing lights shall consist of housing, adapters, lamps, sockets, reflectors, lens, hoods and other necessary equipment designed to give clearly visible signal indications within an angle of at least 45 degrees and from 3 to 90 m [10 to 300 ft] under all light and atmospheric conditions.

Two circuit flasher controllers with a two-circuit filter capable of providing alternate flashing operations at the rate of not less than 50 nor more than 60 flashes per minute shall be provided.

The lamps shall be 650 lumens, 120 volt traffic signal lamps with sockets constructed to properly focus and hold the lamp firmly in position.

The housing shall have a rotatable sun visor not less than 175 mm [7 in] in length designed to shield the lens.

Reflectors shall be of such design that light from a properly focused lamp will reflect the light rays parallel. Reflectors shall have a maximum diameter at the point of contact with the lens of approximately 200 mm [8 in].

The lens shall consist of a round one-piece convex amber material which, when mounted, shall have a visible diameter of approximately 200 mm [8 in]. They shall distribute light and not diffuse it. The distribution of the light shall be asymmetrical in a downward direction. The light distribution of the lens shall not be uniform, but shall consist of a small high intensity portion with narrow distribution for long distance throw and a larger

low intensity portion with wide distribution for short distance throw. Lenses shall be marked to indicate the top and bottom of the lens.

(b) Battery operated flashing lights shall be self-illuminated by an electric lamp behind the lens. These lights shall also be externally illuminated by reflex-reflective elements built into the lens to enable it to be seen by reflex-reflection of the light from the headlights of oncoming traffic. The batteries must be entirely enclosed in a case. A locking device must secure the case. The light shall have a flash rate of not less than 50 nor more than 60 flashes per minute from minus 30 °C [minus 20 °F] to plus 65 °C [plus 150 °F]. The light shall have an on time of not less than 10 percent of the flash cycle. The light beam projected upon a surface perpendicular to the axis of the light beam shall produce a lighted rectangular projection whose minimum horizontal dimension shall be 5 degrees each side of the horizontal axis. The effective intensity shall not have an initial value greater than 15.0 candelas or drop below 4.0 candelas during the first 336 hours of continuous flashing. The illuminated lens shall appear to be uniformly bright over its entire illuminated surface when viewed from any point within an angle of 9 degrees each side of the vertical axis and 5 degrees each side of the horizontal axis. The lens shall not be less than 175 mm [7 in] in diameter including a reflex-reflector ring of 13 mm [½ in] minimum width around the periphery. The lens shall be yellow in color and have a minimum relative luminous transmittance of 0.440 with a luminance of 2854° Kelvin. The lens shall be one-piece construction. The lens material shall be plastic and meet the luminous transmission requirements of this specification. The case containing the batteries and circuitry shall be constructed of a material capable of withstanding abuse equal to or greater than 1.21 mm thick steel [No. 18 U.S. Standard Gage Steel]. The housing and the lens frame, if of metal shall be properly cleaned, degreased and pretreated to promote adhesion. It shall be given one or more coats of enamel which, when dry shall completely obscure the metal. The enamel coating shall be of such quality that when the coated case is struck a light blow with a sharp tool, the paint will not chip or crack and if scratched with a knife will not powder. The case shall be so constructed and closed as to exclude moisture that would affect the proper operation of light. The case shall have a weep hole to allow the escape of moisture from condensation. Photoelectric controls, if provided, shall keep the light operating whenever the ambient light falls below 215 lx [20 foot candles]. Each light shall be plainly marked as to the manufacturer's name and model number.

If required by the Resident, certification as to conformance to these specifications shall be furnished based on results of tests made by an independent testing laboratory. All lights are subject to random inspection and testing. All necessary random samples shall be provided to the Resident upon request without cost to the Department. All such samples shall be returned to the Contractor upon completion of the tests.

712.32 Copper Tubing Copper tubing and fittings shall conform to the requirements of ASTM B88M Type A [ASTM B88, Type K] or better.

712.33 Non-metallic Pipe, Flexible Non-metallic pipe and pipe fittings shall be acceptable flexible pipe manufactured from virgin polyethylene polymer suitable for transmitting liquids intended for human or animal consumption.

712.34 Non-metallic Pipe, Rigid Non-metallic pipe shall be Schedule 40 polyvinylchloride (PVC) that meets the requirement of ASTM D1785. Fittings shall be of the same material.

712.341 Metallic Pipe Metallic pipe shall be ANSI, Standard B36.10, Schedule 40 steel pipe conforming to the requirements of ASTM A53 Types E or S, Grade B. End plates shall be steel conforming to ASTM A36/A36M.

Both the sleeve and end plates shall be hot dip galvanized. Pipe sleeve splices shall be welded splices with full penetration weld before galvanizing.

712.35 Epoxy Resin Epoxy resin for grouting or sealing shall consist of a mineral filled thixotropic, flexible epoxy resin having a pot life of approximately one hour at 10°C [50°F]. The grout shall be an approved product suitable for cementing steel dowels into the preformed holes of curb inlets and adjacent curbing. The sealant shall be an approved product, light gray in color and suitable for coating the surface.

712.36 Bituminous Curb The asphalt cement for bituminous curb shall be of the grade required for the wearing course, or shall be Viscosity Grade AC-20 meeting the current requirements of Subsection 702.01 Asphalt Cement. The aggregate shall conform to the requirements of Subsection 703.07. The coarse aggregate portion retained on the 2.36 mm [No. 8] sieve may be either crushed rock or crushed gravel.

The mineral constituents of the bituminous mixture shall be sized and graded and combined in a composite blend that will produce a stable durable curbing with an acceptable texture.

Bituminous material for curb shall meet the requirements of Section 403 - Hot Bituminous Pavement.

712.37 Precast Concrete Slab Portland cement concrete for precast slabs shall meet the requirements of Section 502 - Structural Concrete, Class A.

The slabs shall be precast to the dimension shown on the plans and cross section and in accordance with the Standard Detail plans for Concrete Sidewalk Slab. The surface shall be finished with a float finish in accordance with Subsection 502.14(c). Lift devices of sufficient strength to hold the slab while suspended from cables shall be cast into the top or back of the slab.

712.38 Stone Slab Stone slabs shall be of granite from an acceptable source, hard, durable, predominantly gray in color, free from seams which impair the structural integrity and be of smooth splitting character. Natural color variations characteristic of the deposit will be permitted. Exposed surfaces shall be free from drill holes or indications of drill holes. The granite slabs in any one section of backslope must be all the same finish.

The granite slabs shall be scabble dressed or sawed to an approximately true plane having no projections or depressions over 13 mm [$\frac{1}{2}$ in] under a 600 mm [2 ft] straightedge or over 25 mm [1 in] under a 1200 mm [4 ft] straightedge. The arris at the intersection of the top surface and exposed front face shall be pitched so that the arris line is uniform throughout the length of the installed slabs. The sides shall be square to the exposed face unless the slabs are to be set

on a radius or other special condition which requires that the joints be cut to fit, but in any case shall be so finished that when the stones are placed side by side no space more than 20 mm [3/4 in] shall show in the joint for the full exposed height.

Liftpin holes in all sides will be allowed except on the exposed face.

SECTION 717 ROADSIDE IMPROVEMENT MATERIAL

717.03 C. Method #3 - Roadside Mixture #3 Change the seed proportions to the following:

Crown Vetch	25%
Perennial Lupine	25%
Red Clover	12.5%
Annual Rye	37.5%

717.05 Mulch Binder Change the third sentence to read as follows:

“Paper fiber mulch may be used as a binder at the rate of 2.3 kg/unit [5 lb/unit].”

SECTION 720 STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS

720.08 U-Channel Posts Change the first sentence from “..., U-Channel posts...” to “..., Rib Back U-Channel posts...”

SECTION 722 GEOTEXTILES

722.01 Stabilization/Reinforcement Geotextile Add the following to note #3; “The strengths specified in the columns labeled”<50%” and “≥ 50%” refer to the elongation at which the geotextile material was tested. For example; if a fabric is tested at 15% elongation then it must meet or exceed the minimum strength shown in the “<50%” column. Submittals must include the percent elongation at which the material was tested.”

722.02 Drainage Geotextile Add the following to note #3; “The strengths specified in the columns labeled”<50%” and “≥ 50%” refer to the elongation at which the geotextile material was tested. For example; if a fabric is tested at 15% elongation then it must meet or exceed the minimum strength shown in the “<50%” column. Submittals must include the percent elongation at which the material was tested.”

722.01 Erosion Control Geotextile Add the following note to Elongation in the Mechanical Property Table; “The strengths specified in the columns labeled”<50%” and “≥ 50%” refer to the elongation at which the geotextile material was tested. For example; if a fabric is tested at 15% elongation then it must meet or exceed the minimum strength shown in the “<50%” column. Submittals must include the percent elongation at which the material was tested.”

APPENDIX A TO DIVISION 100

SECTION 1 - BIDDING PROVISIONS

A. Federally Required Certifications By signing and delivering a Bid, the Bidder certifies as provided in all certifications set forth in this Appendix A - Federal Contract Provisions Supplement including:

- Certification Regarding No Kickbacks to Procure Contract as provided on this page 1 below.
- Certification Regarding Non-collusion as provided on page 1 below.
- Certification Regarding Non-segregated Facilities as provided by FHWA Form 1273, section III set forth on page 21 below.
- "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion" as provided by FHWA Form 1273, section XI set forth on page 32 below.
- "Certification Regarding Use of Contract Funds for Lobbying" as provided by FHWA Form 1273, section XII set forth on page 35 below.

Unless otherwise provided below, the term "Bidder", for the purposes of these certifications, includes the Bidder, its principals, and the person(s) signing the Bid. Upon execution of the Contract, the Bidder (then called the Contractor) will again make all the certifications indicated in this paragraph above. Upon execution of the Contract, the Bidder (then called the Contractor) will again make all the certifications indicated in this paragraph above.

CERTIFICATION REGARDING NO KICKBACKS TO PROCURE CONTRACT Except expressly stated by the Bidder on sheets submitted with the Bid (if any), the Bidder hereby certifies, to the best of its knowledge and belief, that it has not:

(A) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me) to solicit or secure this contract;

(B) agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out the contract, or;

(C) paid, or agreed to pay, to any firm, organization, or person (other than a bona fide employee working solely for me) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the contract;

By signing and submitting a Bid, the Bidder acknowledges that this certification is to be furnished to the Maine Department of Transportation and the Federal Highway Administration, U.S. Department of Transportation in connection with this contract in anticipation of federal aid highway funds and is subject to applicable state and federal laws, both criminal and civil.

CERTIFICATION REGARDING NONCOLLUSION Under penalty of perjury as provided by federal law (28 U.S.C. §1746), the Bidder hereby certifies, to the best of its knowledge and belief, that:

the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with the Contract.

For a related provisions, see Section 102.7.2 (C) of the Standard Specifications - "Effects of Signing and Delivery of Bids" - "Certifications", Section 3 of this Appendix A entitled "Other Federal Requirements" including section XI - "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion" and section XII. - "Certification Regarding Use of Contract Funds for Lobbying."

B. Bid Rigging Hotline To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

SECTION 2 - FEDERAL EEO AND CIVIL RIGHTS REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 2 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Nondiscrimination & Civil Rights - Title VI The Contractor and its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Department deems appropriate. The Contractor and subcontractors shall comply with Title VI of the Civil Rights Act of 1964, as amended, and with all State of Maine and other Federal Civil Rights laws.

For related provisions, see Subsection B - "Nondiscrimination and Affirmative Action - Executive Order 11246" of this Section 2 and Section 3 - Other Federal Requirements of this "Federal Contract Provisions Supplement" including section II - "Nondiscrimination" of the "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273.

B. Nondiscrimination and Affirmative Action - Executive Order 11246 Pursuant to Executive Order 11246, which was issued by President Johnson in 1965 and amended in 1967 and 1978, this Contract provides as follows.

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its efforts to achieve maximum results from its actions. The Contractor shall

document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

1. Ensure and maintain a working environment free of harassment, intimidations, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all forepersons, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
2. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and to maintain a record of the organization's responses.
3. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
4. Provide immediate written notification to the Department's Civil Rights Office when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Design-Builder's efforts to meet its obligations.
5. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under B above.
6. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligation; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
7. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review

of these items with on-site supervisory personnel such as Superintendents, General Forepersons, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

8. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractor's and Subcontractors with whom the Contractor does or anticipates doing business.
9. Direct its recruitment efforts, both orally and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above describing the openings, screenings, procedures, and test to be used in the selection process.
10. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth, both on the site and in other areas of a Contractor's workforce.
11. Validate all tests and other selection requirements.
12. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
13. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
14. Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
15. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractor's and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.
16. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

C. Goals for Employment of Women and Minorities Per Executive Order 11246, craft tradesperson goals are 6.9% women and .5% minorities employed. However, goals may be adjusted upward at the mutual agreement of the Contractor and the Department. Calculation of these percentages shall not include On-the-Job Training Program trainees, and shall not include clerical or field clerk position employees.

For a more complete presentation of requirements for such Goals, see the federally required document "Goals for Employment of Females and Minorities" set forth in the next 6 pages below.

Start of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

§60-4.2 Solicitations

(d) The following notice shall be included in, and shall be part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to §60-4.6 of this part (see 41 CFR 60-4.2(a)):

Notice of Requirement for Affirmative Action to Ensure Equal Opportunity (Executive Order 11246)

1. The Offeror's or bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

Goals for female participation in each trade 6.9%

Goals for minority participation for each trade

Maine

001 Bangor, ME 0.8%

Non-SMSA Counties (Aroostook, Hancock, Penobscot, Piscataquis, Waldo, Washington)

002 Portland-Lewiston, ME

SMSA Counties: 4243 Lewiston-Auburn, ME 0.5%
(Androscoggin)

6403 Portland, ME 0.6%
(Cumberland, Sagadahoc)

Non-SMSA Counties: 0.5%
(Franklin, Kennebec, Knox, Lincoln, Oxford, Somerset, York)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be in violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor, estimated dollar amount of the subcontract; estimated started and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the Contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION
CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department form 941;
 - d. "Minority" includes:
 - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

- (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of the North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
 3. If the contractor, is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors for Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
 4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a. through p. of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical areas where the work is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specific.
 5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant, thereto.
 6. In order for the non working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the

apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as expensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, when possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment sources or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific

review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment, efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing prior to the date for the acceptance of applications for apprenticeship or the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on site and in other areas of a Contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of

solicitation to minority and female contractor associations and other business associations.

- p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7 a through p.). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7 a through p. of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program and reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions take on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, specific minority group of women is underutilized.)
10. The Contractor shall not use the goals and timetables or affirmative action even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementation regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the

requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.6.

- 14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work was performed. Records be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
- 15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

End of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

D. Disadvantaged Business Enterprise (DBE) Requirements The Department has established an annual Disadvantaged Business Enterprise goal to be achieved through race neutral means. This goal will adjusted periodically and will be provided by Supplemental Provision. The Contractor shall comply with all provisions of this section regarding DBE participation and the Department’s latest version of the Disadvantaged Business Enterprise Program Manual, said Manual being incorporated herein by reference. In the case of conflict between this Contract and said Manual, this Contract shall control. The Department reserves the right to adjust DBE goals on a project-by-project basis by addendum.

Policy. It is the Department’s policy that DBEs as defined in 23 CFR Part 26 and referenced in the Transportation Equity Act for 21st Century of 1998, as amended from the Surface Transportation Uniform Relocation Assistance Act of 1987, and the Intermeddle Surface Transportation Efficiency Act of 1991. The intent hereto remains to provide the maximum opportunity for DBEs to participate in the performance of contracts financed in whole or in part with federal funds.

The Department and its Contractors shall not discriminate on the basis of race, color, national origin, ancestry, sex, age, or disability in the award and performance of DOT assisted contracts.

Disadvantaged Business Enterprises are those so certified by the Maine Department of Transportation Civil Rights Office prior to bid opening date.

The Department has determined that elements of a good faith effort to meet the contract goal include but are not limited to the following:

1. Whether the Contractor advertised in general circulation, trade association, and minority/women's-focus media concerning the subcontracting opportunities;
2. Whether the Contractor provided written notice to a reasonable number of specific DBEs that their interest in the contract is being solicited;
3. Whether the Contractor followed up on initial solicitations of interest by contacting DBEs to determine with certainty whether the DBEs were interested;
4. Whether the Contractor selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goals;
5. Whether the Contractor provided interested DBEs with adequate information about the plans, specification and requirements of the contract;
6. Whether the Contractor negotiated in good faith with interested DBEs, not rejecting the DBE as unqualified without sound reasons based on a thorough investigation of their capabilities;
7. Whether the Contractor made efforts to assist interested DBEs with other appropriate technical/financial assistance required by the Department or Contractor;
8. Whether the Contractor effectively used the services of available minority/women's community organizations, minority/women's business assistance offices; and other organizations that provide assistance in the recruitment and placement of DBEs.

Substitutions of DBEs. The following may be acceptable reasons for Civil Rights Office approval of such a change order:

- The DBE defaults, voluntarily removes itself or is over-extended;
- The Department deletes portions of the work to be performed by the DBE.

It is not intended that the ability to negotiate a more advantageous contract with another certified DBE be considered a valid basis for such a change in DBE utilization once the DBE Bid Submission review has been passed. Any requests to alter the DBE commitment must be in writing and included with the change order.

Failure to carry out terms of this Standard Specification shall be treated as a violation of this contract and will result in contract sanctions which may include withholding of partial payments totaling the creditable dollars amount which would have been paid for said DBE participation, termination of this contract or other measures which may affect the ability of the Contractor to obtain Department contracts.

Copies of the Maine Department of Transportation's DBE Program may be obtained from:

Maine Department of Transportation
Civil Rights Office
#16 State House Station
Augusta, Maine 04333-0016
tel. (207) 624-3519

Quarterly Reporting Requirement. The Contractor must submit Semi-annual reports of actual dollars paid to Disadvantaged Business Enterprises (DBE's) on this Project to the MDOT Civil Rights Office by the end of the third week of April and October for the period covering the preceding six months considered Federal Fiscal Year periods. The reports will be submitted directly to the Civil Rights Office on the form provided in the latest version of the DBE Program Manual. Failure to submit the report by the deadline may result in a withholding of approval of partial payment estimates by the Department.

SECTION 3 - OTHER FEDERAL REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 3 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Buy America

If the cost of products purchased for permanent use in this project which are manufactured of steel, iron or the application of any coating to products of these materials exceeds 0.1 percent of the contract amount, or \$2,500.00, whichever is greater, the products shall have been manufactured and the coating applied in the United States. The coating materials are not subject to this clause, only the application of the coating. In computing that amount, only the cost of the product and coating application cost will be included.

Ore, for the manufacture of steel or iron, may be from outside the United States; however, all other manufacturing processes of steel or iron must be in the United States to qualify as having been manufactured in the United States.

United States includes the 50 United States and any place subject to the jurisdiction thereof.

Products of steel include, but are not limited to, such products as structural steel, piles, guardrail, steel culverts, reinforcing steel, structural plate and steel supports for signs, luminaries and signals.

Products of iron include, but are not limited to, such products as cast iron grates.

Application of coatings include, but are not limited to, such applications as epoxy, galvanized and paint.

To assure compliance with this section, the Contractor shall submit a certification letter on its letterhead to the Department stating the following:

“This is to certify that products made of steel, iron or the application of any coating to products of these materials whose costs are in excess of \$2,500.00 or 0.1 percent of the original contract amount, whichever is greater, were manufactured and the coating, if one was required, was applied in the United States.”

B. Materials

a. Convict Produced Materials References: 23 U.S.C. 114(b)(2), 23 CFR 635.417

Applicability: FHWA's prohibition against the use of convict material only applies to Federal-aid highways. Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if: 1) such materials have been produced by convicts who are on parole, supervised release, or probation from a prison; or 2) such material has been produced in a qualified prison facility, e.g., prison industry, with the amount produced during any 12-month period, for use in Federal-aid projects, not exceeding the amount produced, for such use, during the 12-month period ending July 1, 1987.

Materials obtained from prison facilities (e.g., prison industries) are subject to the same requirements for Federal-aid participation that are imposed upon materials acquired from other sources. Materials manufactured or produced by convict labor will be given no preferential treatment.

The preferred method of obtaining materials for a project is through normal contracting procedures which require the contractor to furnish all materials to be incorporated in the work. The contractor selects the source, public or private, from which the materials are to be obtained (23 CFR 635.407). Prison industries are prohibited from bidding on projects directly (23 CFR 635.112e), but may act as material supplier to construction contractors.

Prison materials may also be approved as State-furnished material. However, since public agencies may not bid in competition with private firms, direct acquisition of materials from a prison industry for use as State-furnished material is subject to a public interest finding with the Division Administrator's concurrence (23 CFR 635.407d). Selection of materials produced by convict labor as State-furnished materials for mandatory use should be cleared prior to the submittal of the Plans Specifications & Estimates (PS&E).

b. Patented/Proprietary Products References: 23 U.S.C. 112, 23 CFR 635.411

FHWA will not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

- the item is purchased or obtained through competitive bidding with equally suitable unpatented items,
- the STA certifies either that the proprietary or patented item is essential for synchronization with the existing highway facilities or that no equally suitable alternative exists, or
- the item is used for research or for a special type of construction on relatively short sections of road for experimental purposes. States should follow FHWA's procedures for "Construction Projects Incorporating Experimental Features" ([expermnt.htm](#)) for the submittal of work plans and evaluations.

The primary purpose of the policy is to have competition in selection of materials and allow for development of new materials and products. The policy further permits materials and products that are judged equal may be bid under generic specifications. If only patented or proprietary products are acceptable, they shall be bid as alternatives with all, or at least a

reasonable number of, acceptable materials or products listed; and the Division Administrator may approve a single source if it can be found that its utilization is in the public interest.

Trade names are generally the key to identifying patented or proprietary materials. Trade name examples include 3M, Corten, etc. Generally, products identified by their brand or trade name are not to be specified without an "or equal" phrase, and, if trade names are used, all, or at least a reasonable number of acceptable "equal" materials or products should be listed. The licensing of several suppliers to produce a product does not change the fact that it is a single product and should not be specified to the exclusion of other equally suitable products.

c. State Preference References: 23 U.S.C. 112, 23 CFR 635.409

Materials produced within Maine shall not be favored to the exclusion of comparable materials produced outside of Maine. State preference clauses give particular advantage to the designated source and thus restrict competition. Therefore, State preference provisions shall not be used on any Federal-aid construction projects.

This policy also applies to State preference actions against materials of foreign origin, except as otherwise permitted by Federal law. Thus, States cannot give preference to in-State material sources over foreign material sources. Under the Buy America provisions, the States are permitted to expand the Buy America restrictions provided that the STA is legally authorized under State law to impose more stringent requirements.

d. State Owned/Furnished/Designated Materials References: 23 U.S.C. 112, 23 CFR 635.407

Current FHWA policy requires that the contractor must furnish all materials to be incorporated in the work, and the contractor shall be permitted to select the sources from which the materials are to be obtained. Exceptions to this requirement may be made when there is a definite finding, by MDOT and concurred in by Federal Highway Administration's (FHWA) Division Administrator, that it is in the public interest to require the contractor to use materials furnished by the MDOT or from sources designated by MDOT. The exception policy can best be understood by separating State-furnished materials into the categories of manufactured materials and local natural materials.

Manufactured Materials When the use of State-furnished manufactured materials is approved based on a public interest finding, such use must be made mandatory. The optional use of State-furnished manufactured materials is in violation of our policy prohibiting public agencies from competing with private firms. Manufactured materials to be furnished by MDOT must be acquired through competitive bidding, unless there is a public interest finding for another method, and concurred in by FHWA's Division Administrator.

Local Natural Materials When MDOT owns or controls a local natural materials source such as a borrow pit or a stockpile of salvaged pavement material, etc., the materials may be designated for either optional or mandatory use; however, mandatory use will require a public interest finding (PIF) and FHWA's Division Administrator's concurrence.

In order to permit prospective bidders to properly prepare their bids, the location, cost, and any conditions to be met for obtaining materials that are made available to the contractor shall be stated in the bidding documents.

Mandatory Disposal Sites Normally, the disposal site for surplus excavated materials is to be of the contractor's choosing; although, an optional site(s) may be shown in the contract provisions. A mandatory site shall be specified when there is a finding by MDOT, with the concurrence of the Division Administrator, that such placement is the most economical or that the environment would be substantially enhanced without excessive cost. Discussion of the mandatory use of a disposal site in the environmental document may serve as the basis for the public interest finding.

Summarizing FHWA policy for the mandatory use of borrow or disposal sites:

- mandatory use of either requires a public interest finding and FHWA's Division Administrator's concurrence,
- mandatory use of either may be based on environmental consideration where the environment will be substantially enhanced without excessive additional cost, and
- where the use is based on environmental considerations, the discussion in the environmental document may be used as the basis for the public interest finding.

Factors to justify a public interest finding should include such items as cost effectiveness, system integrity, and local shortages of material.

C. Standard FHWA Contract Provisions - FHWA 1273

Unless expressly otherwise provided in the Bid Documents, the following "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273, are hereby incorporated into the Bid Documents and Contract.

Start of FHWA 1273 REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS(As revised through March 10, 1994)

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;
Section IV, paragraphs 1, 2, 3, 4, and 7;
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.
6. Selection of Labor: During the performance of this contract, the contractor shall not:
 - a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or
 - b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION (Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:
 - a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.
 - b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment,

upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

2. EEO Officer. The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.
3. Dissemination of Policy. All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
 - a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
 - b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
 - c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.
 - d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. Recruitment. When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.
 - a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

- b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)
 - c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.
5. Personnel Actions. Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:
- a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
 - b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
 - c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
 - d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.
6. Training and Promotion.
- a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.
 - b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision

for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

- c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
 - d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.
7. Unions. If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:
- a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
 - b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
 - c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.
 - d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.
8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment. The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

- a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.
 - b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.
 - c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.
9. Records and Reports. The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.
- a. The records kept by the contractor shall document the following:
 - (1) The number of minority and non-minority group members and women employed in each work classification on the project;
 - (2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;
 - (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
 - (4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.
 - b. All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the MDOT and the Federal Highway Administration.

The Contractor will submit to the MDOT a report for the month of July, indicating the total hours worked by minority, women and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form PR-1391. If on-the-job training is being required by "Training Special Provision," the Contractor will be required to furnish Form FHWA-1409. The report is required for week ending July 15 and can be obtained from MDOT, is due by week ending August 20th. This report is to be furnished directly to MDOT - Civil Rights Office.

III. NONSEGREGATED FACILITIES (Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

- a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.
- b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).
- c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE (Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

- a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the

provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

- b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.
- c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

- a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.
- b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:
 - (1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;
 - (2) the additional classification is utilized in the area by the construction industry;
 - (3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and
 - (4) with respect to helpers, when such a classification prevails in the area in which the work is performed.
- c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

- d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary
 - e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.
3. Payment of Fringe Benefits:
- a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.
 - b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.
4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:
- a. Apprentices:
 - (1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.
 - (2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor

as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

- (3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.
- (4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

- (1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.
- (2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

- (3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.
 - (4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- c. **Helpers.** Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.
5. **Apprentices and Trainees (Programs of the U.S. DOT).** Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.
 6. **Withholding.** The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.
 7. **Overtime Requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4

and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation. Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.
9. Withholding for Unpaid Wages and Liquidated Damages. The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS (Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3). The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.
2. Payrolls and Payroll Records:
 - a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
 - b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in

Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.
- d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - (1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
 - (2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;
 - (3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.
- f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

- g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:
 - a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
 - b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
 - c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.
2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).
 - a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor,

with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

- b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.
4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health

standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both."

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations

in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.
3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.
4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions:
(Applicable to all Federal-aid contracts - 49 CFR 29)
 - a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
 - b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
 - c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
 - d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
 - e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out

in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

- f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
- g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.
- i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--
Primary Covered Transactions

- 1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or

local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and
- d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Covered Transactions: (Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
- h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--
Lower Tier Covered Transactions:

- 1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- 2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

- 1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
 - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
 - b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a

December 14, 2005
Supersedes September 1, 2005

Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

End of FHWA 1273

Bayside Trail Project

**Portland
Cumberland County**

PIN 011844.00

SECTION 3

SUPPLEMENTAL SPECIFICATIONS

for

BAYSIDE TRAIL

PIN 11844.00

Dated: May 15, 2009

**PROFESSIONAL SERVICES
BAYSIDE TRAIL PLANS AND TECHNICAL SPECIFICATIONS**

Civil Engineering: Woodard & Curran

Electrical Engineering: Woodard & Curran

Landscape Architecture: Terrence J. DeWan & Associates

**BAYSIDE TRAIL SUPPLEMENTAL SPECIFICATIONS
TABLE OF CONTENTS**

Page	Description
4	Section 201 Clearing
5	Section 202 Removing Structures and Obstructions
7	Section 203 Excavation and Embankment
15	Section 206 Structural Excavation
17	Section 304 Aggregate Base and Subbase Courses
18	Section 401 Hot Mix Asphalt Pavement
19	Section 403 Hot Bituminous Pavement
20	Section 409 Bituminous Tack Coat
21	Section 411 Untreated Aggregate Surface Course
22	Section 603 Pipe Culverts and Storm Drains
27	Section 604 Manholes, Inlets and Catch Basins
32	Section 606 Guardrail
33	Section 607 Fences
35	Section 608 Sidewalks
42	Section 609 Curb
44	Section 613 Erosion Control Blankets
45	Section 614 Masonry Plug
46	Section 615 Loam
47	Section 620 Geotextiles
48	Section 626 Foundations, Conduit and Junction Boxes for Highway Signing, Lighting, and Signals
50	Section 627 Pavement Markings
51	Section 633 Seat Walls
55	Section 637 Dust Control
56	Section 645 Highway Signage
57	Section 652 Maintenance of Traffic
58	Section 656 Temporary Soil Erosion and Water Pollution Control
59	Section 700 General Statement
60	Section 703 Aggregates
63	Section 715 Lighting Materials
66	Section 800 Water Main Relocation
67	Section 841 Bollards
69	Section 842 Bike Racks
71	Section 900 Stormwater Management Systems

Attachment A: Soil and Groundwater Handling Information for Construction Documents
Bayside Railyard Subdivision and Bayside Trail, Portland, Maine.
Provided by Tewhey Associates, Dated April 28, 2009

Attachment B: Voluntary Action Remedial Plan, Union Branch Rail Property, Portland, Maine from Dale Doughty, Maine Department of Transportation and Cynthia Scarano, Guilford Rail System dated July 23, 2001

Union Branch Rail Line Property, Portland, Maine – Voluntary Response Action Program,
No Action Assurance Letter from Nicholas Hodgkins, Maine Department of Environmental
Protection date July 26, 2001

Attachment C: Purchase Orders for materials previously purchased by the City of Portland

Attachment D: City of Portland and Portland Water District Industrial Waste Report Forms

**SUPPLEMENTAL SPECIFICATION
SECTION 201
CLEARING**

The provisions of Section 201 of the Standard Specifications shall apply with the following additions and modifications:

201.03 General

This section is modified by adding the following sentence: The contractor shall contact the Department and City Arborist, Jeff Tarling, Parks and Forestry Operations Manager, (207) 874-8793, in the case that a determination is necessary for removal of trees or other vegetation beyond those identified on the plans.

201.07 Disposal

Paragraph B of this section shall be replaced with: The Contractor shall not bury brush or logs on site.

201.09 Method of Measurement

This section shall be replaced with: All Clearing, describe in 201.01 Description, shall be measured as a single item at a lump sum price.

201.10 Basis of Payment

This section shall be replaced with: All Clearing will be paid for at the contract price per lump sum.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
201.111	Clearing	Lump Sum

**SUPPLEMENTAL SPECIFICATION
SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS**

The provisions of Section 202 of the Standard Specifications shall apply with the following additions and modifications:

202.01 Description

This section is modified by adding the following sentence: Railroad Appurtenances shall consist of crossing signs, brakes, frogs and switches.

202.011 Depth of Removal

All structures and obstructions, with the exception of manholes and catch basins, see section 202.05, shall be removed to a depth as required to allow construction of the project as presented in the construction documents. In roadway areas, removal shall be to depth below all subbase gravel. In areas of utility piping or structures removal will be to a depth sufficient to allow placement of said piping and structures, including supportive materials such as bedding layers, antifloatation slabs and foundations.

202.03 Removing Existing Superstructure, Structural Concrete, Railings, Curbs, Sidewalks and Bridges

This section is modified by adding the following sentence to the first paragraph: All granite curbing, sidewalk brick, and cobblestones removed and not reused in construction of the proposed project shall be delivered to the City stockyard as directed by Department. Contractor to assume 20 percent of existing curbing is not suitable for reuse. Contractor to provide layout of existing brick and curb for visual inspection and selection by the Department.

The following paragraph shall be added to this section: Contractor shall remove and properly dispose of the existing railroad ties and rails as shown on the contract plans. All work associated with removal of railroad items, including but not limited to excavation, removal, stockpiling, handling, transportation and disposal shall be completed in accordance with local, state and federal regulations. All railroad crossing signs, brakes, frogs, and switches shall be carefully removed, stockpiled, and relocated onsite at the direction of the Department. All reused items will be protected during construction and cleaned of construction dust and debris. All devices not reused onsite shall be properly disposed of by the Contractor.

202.04 Removing Portland Cement Concrete Pavement

This section is modified by adding the following sentence: This work shall include the removal of the existing cobblestone pavers beneath the bituminous pavement and delivery to the City stockyard.

202.05 Removing Manholes or Catch Basins

The first sentence of this subsection shall be modified by: Deleting "600 mm [2 feet] below subgrade," and Substituting the following: "4 feet below finish grade."

202.06 Removing Bituminous Concrete Pavement

This section is modified by adding the following paragraphs: Prior to the removal of bituminous pavement the limit of the removal area shall be saw cut to the appropriate depth for this given location where new pavement will be matched to existing pavement. Existing bituminous asphalt or Portland Cement Concrete pavement areas to be totally removed shall be saw cut to the full existing pavement depth. The preparation of a butt joint will not require saw cutting.

The cutting equipment used shall be exclusively designed for the purpose. It shall be capable of establishing a straight and vertical cut and to minimize chipping of the edge of the existing surface to remain.

202.061 Removing Pavement Surface

This section is modified by adding: The milled surface shall have a uniform texture and provide acceptable rideability for vehicles. Should resurfacing be delayed or the resulting milled surface is unsatisfactory for any reason, a bituminous leveling course or temporary pavement may be required. The Contractor shall clean the milled surface and surrounding area of all loose material prior to use by traffic.

202.07 Method of Measurement

This section shall be replaced with:

Removal of existing rails and ties shall be measured per linear feet of track. Removal of all other structures and obstructions, including structural concrete, cobblestones, railings, curbs, sidewalks, pavement, manholes, catch basins, and pipes shall be measured as a single item at a lump sum price. Saw cutting pavement and butt joints are incidental to the contract and shall not require measurement.

202.08 Basis of Payment

This section shall be replaced with:

Payment for manhole and catch basin removal within 8 feet of the center of a new manhole or catch basin will be incidental to the cost of the new structure installation. Payment for pipe demolition within four feet of the horizontal limits of excavation for a proposed pipe or structure will be incidental to the cost of the new pipe.

Removal and disposal of existing railroad ties shall be paid at the contract price per track foot of track and will be full compensation for removal of ties, removal of rails, handling, transportation, and disposal, including all tools, equipment, labor and other materials necessary to satisfactorily complete the work. All earthwork activities associated with railroad tie and rail removal, (including excavation, backfill, and compaction), shall be considered incidental to contract pay item 648.53. Relocation and/or disposal of railroad appurtenances, as directed by the Department, shall be incidental to pay item 648.53.

Removal of all structures and obstructions, excluding railroad rails, ties, and appurtenances, shall be paid at the contract lump sum price and shall be full compensation for sawcutting, removal, dust control, earthwork, subbase removal, handling, hauling, disposal, temporary removal of detrimental objects and all tools, equipment, labor and other materials necessary to satisfactorily complete the work. All granite curbing, sidewalk brick, and cobblestones removed and not reused in construction of the proposed project shall be delivered to the City stockyard as directed by Department and considered incidental to contract pay item 202.01. Granite curbing and sidewalk brick to be reused shall be handpicked by Department and set aside to be installed as noted on the plans and considered incidental to contract pay item 609.38.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
202.01	Remove Structures and Obstructions	Lump Sum
648.53	Remove Railroad Rails and Ties	Track Foot

**SUPPLEMENTAL SPECIFICATION
SECTION 203
EXCAVATION AND EMBANKMENT**

The provisions of Section 203 of the Standard Specifications shall apply with the following additions and modifications:

203.01 Description

Paragraph (b) Rock Excavation shall be modified to read: "each having a volume of one-half cubic yard or more".

Excavation of the Group 2 soils shall be included under "Common Excavation". The off-site disposal of surplus Group 2 soils shall be measured separately.

The Disposal of Surplus Group 2 Soils shall include all work associated with the offsite disposal of surplus Group 2 soils, including stockpiling, handling, transportation and disposal. All material disposals shall be completed in accordance with local, state and federal regulations. All The identification of Group 2 soils shall be in accordance with recommendations of the City of Portland Brownfields Project Manager, Tewhey Associates as described in the Attachment A, *Soil and Groundwater Handling Information for Construction Documents Bayside Railyard Subdivision and Bayside Trail, Portland Maine* by John Tewhey dated April 28, 2009. All handling of Group 2 soils shall be in accordance with the Voluntary Remedial Action Plan application submitted by the City of Portland to the Maine Department of Environmental Protection on July 23, 2001 and the Maine Department of Environmental Protection's "No Action Assurance" letter dated July 26, 2001. Copies of the application and the response letter are included as Attachment B for reference. Suitable Group 2 soils shall be reused onsite to the maximum extent possible.

Decorative Boulder Relocation shall include all work associated with the on-site relocation of the existing, above grade, decorative boulders within the project limits of work and as directed by the Department. Decorative Boulder Relocation shall include removal, handling, hauling, and placement.

203.04 General

This subsection shall be amended by the addition of the following paragraphs:

Group 2 soil identification will be made onsite by Tewhey Associates in accordance with the guidelines described in Appendix A, *Soil and Groundwater Handling Information for Construction Documents Bayside Railyard Subdivision and Bayside Trail, Portland Maine* by John Tewhey dated April 28, 2009. The costs of soil identification services by Tewhey Associates will be paid by the Department.

Group 2 soils suitable for reuse under the trail, plazas and jogging path shall be granular in nature and must be able to be placed in lifts and compacted in accordance with the requirements outlined herein. Suitable Group 2 soils shall not contain appreciable amounts of topsoil, organic matter or miscellaneous debris.

Group 2 soils may be used as fill onsite if capped with geotextile filter fabric and one (1) foot of clean fill material (see Plan details). Group 2 soils shall be reused prior to reuse of Group 1 soils. The Contractor shall not remove any soils from the site without notifying the Department.

The Contractor shall excavate rock if encountered to the lines and grades indicated on the drawings, shall dispose of the excavated material, and shall furnish acceptable material for backfill in place of the excavated rock.

In general, rock in pipe trenches shall be excavated so as to be not less than six inches (6") from the pipe after it has been laid. If needed, before the pipe is laid, the trench shall be backfilled to the established trench profile with thoroughly compacted, suitable material or, when so specified or indicated on the drawings, with the same material as that required for bedding the pipe, furnished and placed at no additional cost.

The Contractor shall remove all dirt and loose rock from the designated areas and shall clean the surface of the rock thoroughly, using steam to melt snow and ice, if necessary. Water in depressions shall then be removed as required so that the whole surface of the designated area can be inspected to determine whether seams or other defects exist.

The surface of rock foundations shall be left sufficiently rough to bond well with the masonry and embankments to be built thereon; and, if required, shall be cut to rough benches or steps. Before any masonry or embankment is built on or against the rock, the rock shall be scrupulously freed from all vegetation, dirt, sand, clay, boulders, scale, excessively cracked rock, loose fragments, ice, snow, and other objectionable substances. Picking, barring, wedging, streams of water under sufficient pressure, stiff brushes, hammers, steam jets, and other effective means may be used to accomplish this cleaning. All free water left on the surface of the rock shall be removed.

203.042 Explosives

This subsection shall be amended by the addition of the following paragraphs:

The Contractor shall keep explosives on the site only in such quantity as may be needed for the work under way and only during such time as they are to be used. Contractor shall notify the Department, in advance, of his intention to store and use explosives. Explosives shall be stored in a secure manner and separate from all tools. Caps or detonators shall be safely stored at a point over 100 feet distant from the explosives. When the need for explosives has ended, all such materials remaining on the work shall be promptly removed from the premises.

The Contractor shall observe all municipal ordinances and State and Federal laws relating to the transportation, storage, handling, and use of explosives. In the event that any of the above mentioned laws, ordinances, or regulations require a licensed blaster to perform or supervise the work of blasting, said licensed blaster shall, at all times, have his license on the work and shall permit examination thereof by the Department or other officials having jurisdiction.

203.043 Basting Precautions

No blasting shall be performed with prior notification of Department. All operations involving explosives shall be conducted with all possible care to avoid injury to persons and property. Blasting shall be done only with such quantities and strengths of explosives and in such manner as will break the rock approximately to the intended lines and grades and yet will leave the rock not excavated in an unshattered condition. Care shall be taken to avoid excessive cracking of the rock upon or against which any structure will be built, and to prevent injury to existing pipes or other structures and property above or below ground. Rock shall be well covered with logs or mats, or both, when required. Sufficient warning shall be given to all persons in the vicinity of the work before a charge is exploded.

Pre-blast Survey shall be the responsibility of the Contractor. Provide pre-blast survey prior to any blasting or blasting related operations. A written report of the preblast survey will be provided to the Department by the Contractor and will be available for review by the City of Portland. A copy of the blasting plan will be submitted to the City of Portland and Department for review and approval prior to the initiation of the site preparation work.

All owners of dwellings or residences located within 500-feet of the blasting location shall be notified, in writing, by the Contractor a minimum of 30 days prior to the scheduled blasting date about the proposed blasting and how to request a pre-blast survey. Upon request, the Contractor shall determine the pre-blasting condition of any structure located within this area and prepare a written report. The pre-blast survey shall be limited to the surface conditions of the structures but shall comply in all respects with 30 CFR, Chapter VII, Section 816.62.

Pre-blast Survey shall include, but not be limited to:

1. Video tape of each structure within 500-feet of the blasting location to show pre-blast conditions. Highlight existing defects in structures and pavements. Provide some means of establishing scale of existing defects (i.e., include tape measure or folding ruler at defect during video taping).
2. Video taping shall be done with commercial grade equipment to allow equipment still viewing without distortion of the viewed area.
3. Still photos and videotapes shall be retained by the pre-blast surveyor and shall be available for viewing by the Department within 24 hours upon request.

A blasting plan shall be prepared which addresses:

1. Airblast Limits
2. Ground Vibrations
3. Maximum Peak Particle Velocity

The blasting plan shall meet criteria established in Chapter 3 (Control of Adverse Effects) in the Blasting Guidance Manual of the United States Department of the Interior Office of Surface Mining Reclamation and Enforcement.

The blasting plan and preblast survey shall conform to all recommendations of the project geotechnical report and supplemental geotechnical evaluations included in these Specifications.

Particle Velocities: Maximum allowable peak particle velocity shall be limited to 1.25 inches per second within 300 feet of the blast site. Monitor at location designated by the Department.

Documentation: Submit an accurate record of the blasting operation to the Department. A copy should be retained by the blasting firm for at least 3 years. This record shall consist of the following information as listed in 30 CFR, Chapter VII, Section 816.68.

1. Name of the firm conducting the blast.
2. Location, date, and time of the blast.
3. Name, signature, and certification number of the blaster conducting the blast.
4. Identification, direction, and distance, in feet, from the nearest blast hole to the nearest dwelling, public building, school, church, community or institutional building outside the project area.
5. Weather conditions, including those that may cause possible adverse blasting effects.
6. Type of material blasted.
7. Sketches of the blast pattern including number of holes, burden, spacing, decks, and delay pattern.
8. Diameter and depth of holes.
9. Types and total weight of explosives used.
10. Mats or other protections used.
11. Seismographic and airblast records, which shall include: type of instrument, sensitivity, and calibration signal or certification of annual calibration; exact location of instrument and the date, time, and distance from the blast; and the vibration and/or airblast level recorded.

All blasting shall be performed in accordance with all pertinent provisions of the "Manual of Accident Prevention in Construction", issued by the Associated General Contractors of America, Inc., of the "Construction Safety Rules and Regulations", as adopted by the State Board of Construction Safety, Augusta, Maine, and the Maine Department of Transportation "Standard Specifications" Section 105.2.6, Use of Explosives. Blasting through the overburden will not be allowed.

Drilling Equipment will be equipped with suitable dust control apparatus that must be kept in repair and used during all drilling operations.

203.044 Excess Rock Excavation

If rock is excavated beyond the limits of payment indicated in the drawings, specified, or authorized in writing by the Department, the excess excavation, whether resulting from over-breakage or other causes, shall be backfilled, by the Contractor at no additional cost, as specified below in this section.

In pipe trenches, excess excavation below the elevation of the bottom of the bedding, cradle, or envelope shall be filled with material of the same type, placed and compacted in the same manner, as specified for bedding, cradle, or envelope. Excess excavation above said elevation shall be filled with earth as specified in the specifications at no additional cost.

203.045 Blasting Records

The Contractor shall keep and submit to the Department an accurate record of each blast. The record shall show the general location of the blast, the depth and number of drill holes, the kind and quantity of explosives used, and other data required for a complete record.

203.046 Shattered Rock

If the rock below normal depth is shattered due to drilling or blasting operations of the Contractor, and the Department considers such shattered rock to be unfit for foundations, the shattered rock shall be removed and the excavation shall be backfilled with concrete as required, except that in pipe trenches crushed stone may be used for backfill, if approved. All such removal and backfilling shall be done by the Contractor, at no additional cost.

203.047 Removal of Boulders

Piles of boulders or loose rock encountered within the limits of earth embankments shall be removed to a suitable place of disposal. Large decorative boulders shall be relocated onsite at the direction of the Department and to extent possible. Surplus boulders shall be disposed of as specified in 203.06 Waste Areas.

203.048 Disposal of Excavated Rock

Excavated rock may be used in backfilling trenches subject to the following limitations:

1. Pieces of rock larger than permitted under the section titled Excavation and Embankment: Section 203.01, shall not be used for this purpose.
2. The quantity of rock used as backfill in any location shall not be so great as to result in the formation of voids.
3. Rock backfill shall not be placed within 18 inches of the surface of the finish grade.

Surplus excavated rock shall be disposed of as specified in Section 203.06, "Waste Areas".

203.049 Backfilling Rock Excavations

When rock has been excavated and the excavation is to be backfilled, the backfilling above normal depth shall be done as specified under the "Excavation and Embankment, Section 203". If material suitable for backfilling is not available in sufficient quantity from other excavations,

the Contractor shall furnish and install suitable material from outside sources, under pay item 203.25 "Granular Borrow".

203.06 Waste Area

This subsection is revised to read as follows:

1. **Surplus Earth and Rock Excavation:**
The disposal of surplus earth and rock unacceptable as trench backfill materials and excavated rock shall be the responsibility of the Contractor. The Contractor shall be responsible to provide evidence of a fill permit if the disposal location is in the City of Portland.

2. **Trees, Stumps and other Material, Excepting Granular Material:**
The disposal of trees, stumps, stubs and brush shall be the responsibility of the Contractor.
If the disposal site is within private property, the Contractor shall be required to obtain written permission from the landowner for use of the disposal site for the above mentioned materials. A copy of the permission and evidence of a fill permit if required shall be provided to the Department. The Contractor or landowner shall obtain a dumping permit at 55 Portland Street.

3. **Cobblestones, Bricks, and Curbing Material:**
Cobblestones, bricks and curbing removed shall remain the property of the City and shall be disposed of, after removing all excess granular materials there from, at a site to be determined at the time of construction and as directed by the Department. Bricks and cobblestones shall be palletized and curbing shall be stockpiled in an organized manner at the approved location.

4. **Dewatering:**
Contractor to provide, install, and maintain all necessary material and equipment used to keep excavation free of standing or flowing water and to transport water to a suitable discharge point. All water shall be dispose of water in accordance with all local, state and federal regulations. Notify the Department and Steve Harris at the City of Portland Environmental Engineering Department prior to conduction dewatering operations.

At least 2 weeks prior to the start of construction in any areas of anticipated dewatering, submit to the Department and City of Portland Environmental Engineering Department, a written plan for removal, storage, treatment, and disposal of groundwater from excavations. Do not proceed with construction in any of these areas until the plan has been reviewed and approved by the Department and City of Portland Environmental Engineering Department.

Only trained personnel are authorized to conduct dewatering, storage, and discharge operations.

The contractor shall perform all work in the dry and prevent surface water or groundwater from flowing into excavations and from flooding project site and surrounding area. Do not allow water to accumulate in excavations.

The contractor shall provide and maintain pumps, well points, gravel-pack walls, sumps, hoses, filters, and all other dewatering system components necessary to convey water away from excavations. The contractor should note that several trenches will extend several feet below the observed/measured groundwater levels at the site (please refer to the groundwater level information summarized in Attachment A).

The contractor shall minimize the suspended solids content in the water by lining the excavation collection area with crushed stone and placing the pump intake in a perforated bucket.

Any damages to existing facilities or new work resulting from the failure of the Contractor to maintain the work areas in a dry condition shall be repaired by the Contractor, as directed by the Department, at no additional expense to the Department. Pumping shall be continuous where specified or directed or as necessary to protect the work and to maintain satisfactory progress.

The contractor shall convey water removed from excavations to a frac tank. The dewatering pump line shall be placed at the opposite end from the tank outlet. Do not use trench excavations as temporary drainage ditches. Do not allow silt laden water to discharge to gutters or storm drainage system. Do not discharge water directly to the storm, sanitary or combined sewer. Limit circulating tank contents to prevent freezing. Do not discharge from the tank while the circulation pump is operating to allow adequate settling time before discharge. If needed for additional storage and treatment volume, provide a second tank to be placed in series for secondary settlement. Transfer the water from the first tank to the second tank by suspending the intake line immediately below the water level to minimize disturbance of sediment at the bottom of the tank.

Prior to discharge of the initial tank load, the Contractor must collect a water sample for laboratory analysis of the parameters identified with an "X" in the lists included as Attachment D.

The Contractor must provide the test results to the Department and City of Portland Environmental Engineering Department. The City will use these test results to develop a baseline for testing of future frac tank loads. All future frac tank loads shall be required to be tested in accordance to the baseline developed by these initial analyses. The City must provide approval to Contractor prior to additional effluent discharge.

The Contractor must provide access to the tanks for the City of Portland Environmental Engineering Department to take independent water samples. Do not add water or other materials to the frac tank after collecting the water sample.

Managing and treating water determined to have contaminant levels exceeding the City's Industrial Pretreatment Program limits shall be in accordance with local, state, and federal regulations.

The contractor shall work with the City of Portland and the Department to identify any other contaminants exceeding the Industrial Pretreatment Program discharge limits. The City of Portland and the Department shall provide recommended treatment methods for water found to exceed the City of Portland's Industrial Pretreatment Program discharge limitations.

Recent environmental analysis conducted at the site indicates that Total Petroleum Hydrocarbons (TPH) will likely be encountered in certain areas of the site. Free product and water with a visible sheen cannot be discharged to the sanitary and/or combined sewer. This situation shall be controlled by spill pads typical of hydrophobic pads by SPC Sorbent Products Company or approved equal which soak visible sheens off the surface of the water. The Contractor may submit an alternative method for free product and sheen removal for review and approval by both the City and the Department.

The Contractor shall obtain all local, state, and federal approvals necessary for the discharge of the water. If water is discharged to the combined or sanitary sewer, bag

filters must be installed on the discharge piping and water must meet the City of Portland's Industrial Pretreatment Program discharge limitations.

The Department, City of Portland and/or the Portland Water District reserve the right to stop the Contractor from discharging flow to the combined sewer system during periods of time when the Combined Sewer Overflow (CSO) is or has the potential to be active.

5. Diversion of Water:

The contractor shall be responsible for providing and maintaining all ditching, grading, sheeting, and bracing, pumping and appurtenant work for the protection from flooding as necessary to permit the construction of work in the dry.

Upon completion of the contract work, the contractor shall remove all temporary construction and shall do all necessary earthwork and grading to restore the areas disturbed to their original condition or to such other conditions as indicated or directed by the Department.

Water shall not be permitted to flow into or through excavations in which work is under way or has been partially completed. The contractor shall not restrict or close off the natural flow of water in such a way that ponding or flooding will occur, and shall at all times prevent flooding of public and private property. All damages resulting from flooding or restriction of flows shall be the sole responsibility of the Contractor, at no additional expense.

203.18 Method of Measurement

Test pits will be measured per each test pit conducted.

In the fourth paragraph of this subsection, the sentence stating, "when measured in vehicles, the quantity for payment shall be 90 percent of the quantity determined for earth", delete 90 percent and insert 80 percent.

Decorative Boulder Relocation will be measured for each decorative boulder to be relocated on site at the direction of the Department.

Common Excavation will be measured as a single lump sum item.

203.19 Basis of Payment

The third sentence of the first paragraph shall be replaced with "It shall also include full compensation for disposing of unsuitable and surplus Group 1 material when necessary. Disposal of Surplus Group 2 soils shall be measured under Pay Item 203.233. Group 2 soil identification will be made onsite by Tewhey Associates in accordance with the guidelines described in Appendix A, *Soil and Groundwater Handling Information for Construction Documents Bayside Railyard Subdivision and Bayside Trail, Portland Maine* by John Tewhey dated April 28, 2009. The costs of soil identification services by Tewhey Associates will be paid by the Department.

Paragraph Nine of this section shall be replaced with "Multiple handling of excavation materials, including Group 2 soils, backfill, and loam and common excavation stockpiles, shall be incidental to the contract. "

This subsection shall be amended by the addition of the following paragraphs:

The accepted quantity of Decorative Boulder Relocation will be paid for at the contract unit price for each decorative boulder to be relocated. Payment shall be full compensation for furnishing

all labor, materials, and equipment necessary for relocation of the boulders within the project limits of work as directed by the Department.

The accepted quantity of Common Excavation will be paid for at the contract lump sum price. Payment shall be full compensation for furnishing all labor, materials, and equipment necessary excavation, stockpiling, placing, grubbing, dewatering, water diversion, grading hauling and compacting soils within the construction limits of work. Common Excavation will include excavation of all soils, including the 2000 CY of Group 2 Soils previously relocated onsite (See Note 4 on Plan and Profile Sheets). The off-site disposal of Group 2 soils shall be measured separately under Pay Item 203.233. Placement of geotextile filter fabric shall be measured separately as specified in Section 620.

The accepted quantity for Disposal of Surplus Group 2 Soils will be paid for at the contract unit price for each cubic yard. Payment shall be full compensation for furnishing all labor, materials, and equipment necessary for stockpiling, handling, and disposal of Group 2 Soils offsite per local, state and federal regulations.

The accepted quantity of test pit excavation will be paid for at the contract unit price per each test pit. Payment shall be full compensation for furnishing all labor, materials and equipment necessary for excavation, test excavation, backfilling, and pavement replacement, disposal of materials and protection of utilities.

The cost of common borrow shall be paid for at the contract unit price per cubic yard and shall be full compensation for all materials, labor and equipment necessary to satisfactorily complete the work. The City has previously purchased a portion of the borrow materials; see Attachment C for quantities of previously purchased materials. The contract unit price shall include all labor and equipment necessary to load, deliver and place material previously purchased by the City. Furnishing and installing materials beyond those quantities previously purchased by the City shall be the responsibility of the Contractor and incidental to the contract unit price.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
203.20	Common Excavation	Lump Sum
202.211	Decorative Boulders Relocation	Each
203.233	Disposal of Surplus Group 2 Soils	Cubic Yard
203.24	Common Borrow	Cubic Yard
203.25	Granular Borrow	Cubic Yard
803.01	Test Pit Excavation	Each
203.35	Crushed Stone, 703.11 – Type "A" (Overdepth)	Cubic Yard

**SUPPLEMENTAL SPECIFICATION
SECTION 206
STRUCTURAL EXCAVATION**

The provisions of Section 206 of the Standard Specifications shall apply with the following additions and modifications:

206.01 Description

For Structural Earth Excavation, only that trench excavation for pipe below the established trench profile as indicated on the Typical Trench Detail shall be included under this section. Trench excavation to the established profile shall be considered as incidental to the appropriate pipe item. For Structural Rock Excavation, the trench shall be excavated to the established trench profile as indicated on the Typical Trench Detail. The payment width for Structural Rock Excavation shall be as described in Section 206.04, of the Supplemental Specifications.

- (a) Drainage and Minor Structures shall include sewer and storm drain pipes, culverts, manholes and catch basins, structural plate culverts, box and pipe culverts, underdrains, berm ditches, cut slope down spout ditches, culvert end walls, concrete steps and other minor structures.
- (c) Special Backfill. The Contractor shall furnish, place and compact special backfill material as indicated on the plans or as directed and herein specified.

The special backfill shall be a sandy, granular material and shall meet the requirements of Section 703.06 (b) Aggregated Subbase – Sand of the Supplemental and Standard Specifications.

The special backfill shall be spread in layers of uniform thickness not exceeding eight inches (8") before compaction and moistened and allowed to dry. Then it shall be thoroughly compacted by means of suitable power driven tampers or other power driven equipment to a uniform density of 95% of maximum density.

206.02 Construction Methods

The fourth (4th) paragraph of the Standard Specifications shall be modified to read as follows:

When the foundation is to be placed on solid rock, the rock shall be excavated to a firm surface, either level, stepped or serrated. In trenches for sewer and storm drain pipes, culverts, manholes, and catch basins, box and pipe culverts, structural plate pipes and structural plate pipe arches, when solid or disintegrated rock or boulders are encountered, the rock shall be excavated to a minimum depth of six inches (6") below the bottom of the proposed pipe or structure, unless otherwise indicated on the plans or ordered. The six inch (6") level below the bottom of the proposed pipe shall be defined as "Established Trench Profile". For installation of underdrain, the rock shall be excavated to a minimum of three inches (3") below the bottom of the proposed pipe, unless otherwise ordered. Underdrain shall be installed at the proper elevation in accordance with Section 605 and the typical details.

206.04 Method of Measurement

Paragraph (a) of the Standard Specifications shall be deleted and the following paragraphs added:

There will be no measurement for earth excavation except excavation required below a plane parallel with and 6 inches below the bottom of the structure or trench, hereinafter referred to as Earth Excavation, Below Grade.

When Structural Rock is encountered for sewer and storm drains, the quantity to be measured for payment will be the amount actually excavated to the "Established Trench Profile" as

defined Section 206.02 of the Supplemental Specifications, provided the maximum allowable horizontal dimensions do not exceed the payment limit, dimension "A", as indicated on the Pipe Installation Detail.

When Structural Rock is encountered for manholes and catch basins, headwalls, steps, structural plate pipes and arches and other drainage structures, other than sewer and storm drains and underdrains, the quantity to be measured for payment will be the amount actually excavated to the "Established Trench Profile", provided the maximum allowable horizontal dimensions do not exceed those bounded by vertical surfaces eighteen inches (18") outside the lines of the base as shown on the plans.

206.05 Basis of Payment

Material used for Special Backfill and Crushed Stone for Pipe Bedding shall be backfilled as indicated on the plans or as ordered, and shall be incidental to the cost of the pipe.

"Drag Boxes", if utilized by the Contractor will be allowed; however, no payment will be made for any excess excavation or backfill material used beyond the payment limit, dimension "A", as shown on the Pipe Installation Detail.

Excavated materials suitable for backfill shall be used to backfill normal excavations incidental to this section. Disposal of surplus excavated materials shall be in accordance with Section 203.06, Waste Areas.

Protection of existing trees, shrubs, utility poles, structures, and utilities will be considered incidental to the pay item.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
206.061	Earth Excavation, Below Grade (Overdepth)	Cubic Yard
206.07	Structural Rock Excavation	Cubic Yard

**SUPPLEMENTAL SPECIFICATION
SECTION 304
AGGREGATE BASE AND SUBBASE COURSE**

The provisions of Section 304 of the Standard Specifications shall apply with the following additions and modifications:

304.02 Aggregate

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 at Department's discretion and shall meet these specifications as the material is incorporated into the work.

304.07 Basis of Payment

The cost of aggregates shall be paid for at the contract unit price per cubic yard and shall be full compensation for all materials, labor and equipment necessary to satisfactorily complete the work. The City has previously purchased a portion of the aggregate base and subbase course materials; see Attachment C for quantities of previously purchased aggregate. Previously purchased aggregates shall be delivered to the project site by the material supplier. Contractor shall be responsible for coordinating delivery. The contract unit price shall include all labor and equipment necessary to place aggregate previously purchased by the City. Furnishing and installing materials beyond those quantities previously purchased by the City shall be the responsibility of the Contractor and incidental to the contract unit price.

The costs for laboratory testing and source documentation shall be incidental to providing Type "B" and Type "D" gravel. The costs for all failing tests shall be the responsibility of the contractor.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
304.09	Aggregate Base Course – Crushed Type "B"	Cubic Yard
304.10	Aggregate Subbase Course – Gravel Type "D"	Cubic Yard

**SUPPLEMENTAL SPECIFICATION
SECTION 401
HOT MIX ASPHALT PAVEMENT**

The provisions of Section 401 of the Standard Specifications shall apply with the following additions and modifications:

401.11 Preparation of Existing Surfaces

All streets to be paved shall be swept of all debris (sand, grass, etc.) prior to paving. Any grass or other vegetation growing in the street shall be removed prior to paving. Tack coat shall be applied per Supplemental Specification Section 409.

Where pavement placed under this Contract joins an existing pavement, the existing pavement, when directed by the Department, shall be removed a minimum of 1' wide and 1 ½" deep in order to provide a vertical butt joint. The butt joint shall also be tack coated.

All streets to be shimmed shall be reviewed with Department prior to placement to determine depth or grade to be achieved.

All vertical cuts in existing pavements shall be tack coated. The surface of the joint once completed shall be flush with the existing pavement.

Specified compaction of bituminous pavement in all work included in this contract shall be achieved without the assistance of vibratory action of the roller unless otherwise directed.

All work under this section shall be considered incidental to the related contract pay items.

**SUPPLEMENTAL SPECIFICATIONS
SECTION 403
HOT BITUMINOUS PAVEMENT**

The provisions of Section 403 of the Standard Specifications shall apply with the following additions and modifications:

403.05 Basis of Payment

The accepted quantity of bituminous pavement will be paid for at the contract unit price complete in place. The City has previously purchased a portion of the bituminous pavement materials; see Attachment C for quantities of previously purchased materials. Previously purchased bituminous pavement shall be delivered to the project site by the material supplier. Contractor shall be responsible for coordinating delivery and for all work associated with placement of previously purchased Hot Mix Asphalt. Hot bituminous pavement materials (in addition to the pre-purchased materials), fine grading and all labor, materials and equipment necessary to complete the work shall be incidental to the pay items of this section.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
403.207	Hot Mix Asphalt, 19.0mm (Grading "B")	TON
403.208	Hot Mix Asphalt, 12.5mm (Grading "C")	TON

**SUPPLEMENTAL SPECIFICATION
SECTION 409
BITUMINOUS TACK COAT**

The provisions of Section 409 of the Standard Specifications shall apply with the following additions or modifications:

409.07 Application of Bituminous Material

The rate of application shall be 0.02 gallons per square yard. During application, care shall be taken to assure curbing shall not be discolored. Curbing discolored by tack coat shall be cleaned by Contractor at no cost.

409.08 Method of Measurement

The application of the bituminous tack coat shall be incidental to the application of Hot Bituminous Pavement and shall require no measurement or payment.

409.09 Basis of Payment

The payment for this work shall be incidental to Hot Bituminous Pavement.

**SUPPLEMENTAL SPECIFICATIONS
SECTION 411
UNTREATED AGGREGATE SURFACE COURSE**

The provisions of Section 411 of the Standard Specifications shall apply with the following additions or modifications:

411.02 Aggregate

Aggregate shall conform to the requirements of Supplemental Specification section 703.32 – Aggregate for Crushed Stone Dust Surface.

411.07 Method of Measurement

Crushed Stone Dust Surface Course will be measured by as a single lump sum item.

411.08 Basis of Payment

The accepted quantity of Crushed Stone Dust Surface Course will be paid for at the contract lump sum price. This price shall include fine grading, crushed stone dust surface and all labor, materials and equipment necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
411.14	Crushed Stone Dust Surface Course	Lump Sum

**SUPPLEMENTAL SPECIFICATION
SECTION 603
PIPE CULVERTS AND STORM DRAINS**

The provisions of Section 603 of the Standard Specifications shall apply with the following additions and modifications:

603.01 Description

This work shall consist of the construction of storm drains, sewer pipes by means of trenched or trenchless installation, service leads hereinafter referred to as "pipe" as shown on the plans, details, and specified herein.

When the alternative of pipe material is listed in the Bid, the Contractor shall signify his choice of pipe to be used by inserting his mark in the proper space provided.

The Contractor shall install locating/warning tape over the centerline of all sanitary, storm, and combined sewer pipes including main lines, service leads and catch basin laterals both within the right of way and outside of the established street as required by City ordinance. Both a green warning tape and a number 10 or 12 gauge single strand coated wire shall be installed at a maximum of 24 inches below finish surface grade for the entire length of the pipe. Magnetic warning tape may be used in place of the separate warning tape and wire.

All connections shall be made in conformance with the Plumbing Code of the City of Portland and the Maine State Plumbing Code.

603.02 Materials

Pipe materials shall be limited to and meet the requirements specified for the various subsections of the specifications listed below:

Reinforced Concrete Pipe-----	Stand. Spec.-----	706.02
P.V.C. Ring Type Sewer Pipe - (SDR 35 or Equal)-----	ASTM-----	D3034
HDPE Smooth Lined Pipe & Fittings (ADS N12-HP or Equal)-----	ASTM-----	F2648

603.03 Construction Requirements

Poly Vinyl Chloride (PVC) Sewer Pipe and Fittings:

Open ends of pipe shall be closed by suitable temporary bulkheads to prevent entrance of earth and other materials when pipe laying is not in progress. Contractor shall take all necessary precautions to prevent floatation of the pipe as a result of the water in the trench.

Each pipe length shall be inspected before being laid. Pipe shall be laid to conform to the lines and grades indicated on the drawings. Each pipe shall be so laid as to form a close joint with the next adjoining pipe and bring the inverts continuously to the required grade.

Bell holes shall be excavated or provided in the base material to receive the bell or coupling so that only the barrel of the pipe receives bearing pressure from the supporting material.

When each pipe has been properly bedded, enough of the backfill material shall be placed and compacted between the pipe and the sides of the trench to hold the pipe in correct alignment.

No pipe or fitting shall be permanently supported on blocks, wedges, boards or stones.

All joints shall be made in a dry trench and in accordance with the manufacturer's recommendations.

All PVC Gravity Sewer Pipe supplied shall conform to all aspects of ASTM specification D3034-73A and/or ASTM Spec. F789 for PVC sewer pipe, joints and fittings. Joints shall be rubber gasketed "Bell and Spigot" type. Installation of materials shall be as suggested in ASTM D2321. Minimum "pipe stiffness" at 4% deflection shall be 46 psi for all sizes when tested in accordance with ASTM D2421.

It is the responsibility of the Contractor to assure that the trench and the backfill around the pipe has been compacted sufficiently to limit deflection in the pipe to no more than 4%. All flexible pipe installed under this contract shall be tested by a "go-no-go" mandrel permitting no greater than 4% deflection. Testing of the pipe shall be done in the presence of a Department inspector. The inspector shall be given a minimum of 24 hour advance notice before testing is to take place. All pipe not passing the 4% deflection limit test shall be removed and replaced at no additional cost.

Pipe bundles shall be stored on a flat surface so as to support the barrels evenly. This is important as in hot weather PVC pipe will deflect or warp causing installing problems in line and grade. If a warped section is found, the Contractor shall not use such length of pipe.

In order to ensure proper compaction, alignment, and grade, and eliminate any construction problems that may be encountered, the Contractor shall be required to use only the 12-1/2 foot lengths of PVC pipe.

Pipe shall remain stacked in the original shipping bundles, and only pipe taken off the bundle for one day's laying shall be distributed along the trench.

PVC pipe will not bond to concrete or mortar and therefore connection to a cast-in-place or brick manhole and catch basin shall be made as shown on the pipe connection detail of the project plans.

Reinforced Concrete Pipe:

Reinforced concrete pipe shall be obtained only from a manufacturer of established good reputation in the industry. The pipe shall have a smooth and even interior surface, free from projections, indentations, or irregularities of any kind.

The joint shall be such that when joined the pipes will form a continuous and uniform line without projections, off-sets or irregularities and be capable of satisfying the specified leakage requirements.

Pipes shall be joined with rubber or rubber type gaskets that conform to the requirements established in ASTM Designation 443-67.

Each length of pipe shall be provided with proper ends made either of concrete formed on machined rings to ensure accurate joint surfaces or of metal rings. The diameters of the joints surface, depended upon to compress the gasket, shall not vary from the theoretical diameters by more than 1/16 inch. The joint shall be sealed by the rubber gasket so that the joint will remain tight under all conditions of service.

The rubber gasket shall be applied in accordance with the manufacturer's recommendations.

After the pipes are aligned in the trench and are ready to be jointed, all joint surfaces shall be cleaned. Immediately before jointing the pipe, the inside surface of the groove shall be thoroughly lubricated with a recommended lubricant. Pipe shall then be coupled immediately by carefully pushing each pipe into place without damage to pipe or gasket. The position of the gasket in the joint shall then be inspected to be sure it is properly put together and is tight.

Pipes shall be coupled by any suitable arrangement of come-along, winch, jack, or other power equipment that can exert sufficient force to couple pipe to its tightest position.

All pipe thirty-six inches in diameter or larger shall be sealed on the inside with cement mortar or with gunitite by the grout-weld method using a pneumatic machine of the Nicholson, Bondactor, or equal type. Cement mortar if used shall be applied by trowel and the joint shall be thoroughly filled and finished smoothly with the inside surface of the pipe. The grout-weld seal shall be applied only by experienced and skilled workmen in accordance with the instructions of the manufacturers of the machine.

The pipe shall be laid accurately to line and grade. Pipe bedded in compacted crushed stone shall not be supported on blocking, wedges, brick, or anything except the bedding material. Pipe on concrete cradle shall be supported on solid concrete blocks or precast concrete saddles which become part of the completed cradle.

Each length of pipe shall be shoved home against the pipe previously laid, and held securely in position. Joints shall not be "pulled" or "cramped". Holes provided for jointing shall be filled and compacted.

Pipe from which a core has been cut and the resulting hole repaired, shall be placed with the cored hole located forty-five degrees above or below the horizontal centerline of the pipe.

To prevent the entrance of earth and other materials when pipe laying is not actually in progress, the open ends of pipe shall be closed by suitable temporary bulkheads. The Contractor shall take all necessary precautions to prevent floatation of the pipe because of flooding of the trench. If water is in the trench when work is resumed, the bulkheads shall not be removed until the danger of earth and other materials entering the pipe has passed.

All pipe joints and structures shall be made water tight. There shall be no visible leakage, spurting or gushing of water, sand, silt, clay or soil of any description entering the pipe lines at the joints or structures. Where there is evidence of water or soil entering the pipeline, connecting pipes or structures, defects shall be repaired.

Polypropylene Pipe:

Pipes shall be ADS N-12 HP Sanitary Pipe with Water Tight (WT) Joint, or equal. Unless otherwise specified on the plans or herein, thermoplastic pipe and joint fittings shall conform to the following:

Pipes shall have a smooth interior and exterior surface with annular inner corrugations

Pipe shall have a minimum pipe stiffness of 46 psi when tested in accordance with ASTM D2412.

Pipe shall be constructed of virgin material conforming to the requirements of ASTM D4101.

Pipe shall be joined with a gasketed integral bell & spigot watertight joint in accordance with ASTM D3212. Spigot shall have two gaskets meeting the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gaskets are free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

Pipes shall have a reinforced bell with a polymer composite band.

Installation shall be in accordance with ASTM D2321 and Manufacturer's recommendations.

ADS N-12HP Pipe shall not be placed within City Street Right of Way.

603.034 Inspection

Pipe may be inspected at the manufacturing plant, or on the work site and shall be subject to rejection at any time, even though sample pipes may have been accepted as satisfactory at the manufacturing plant.

All pipe shall be subject to thorough inspection and tests. All tests shall be made in accordance with the methods prescribed by, and the acceptance or rejections shall be based on, applicable ASTM specifications.

Pipe will be inspected upon delivery and all pipe which does not conform to the requirements of this contract will be rejected and shall be immediately removed from the work area by the Contractor.

Unsatisfactory pipe will be either permanently rejected or minor repairs made. After delivery, any pipe will be rejected which has been damaged beyond the possibility of satisfactory repair.

If such pipe is found in the pipeline, it shall be removed and replaced or encased in a Class A concrete collar or envelope as directed, at no additional cost.

An inspection of the interior of all mainline pipe and catch basin lateral connections installed as part of the project shall be completed prior to final paving of the project by experienced personnel trained in locating breaks, obstacles and service connections by closed circuit television. A video tape and suitable log shall be provided to the Department and City for review prior to final paving.

603.11 Method of Measurement

The Department shall have the right to take samples of the concrete after it has been mixed, or as it is being placed in the forms, and to require cores to be cut from the finished pipe for any inspection and tests Department may require. Holes left by the removal of cores shall be filled in an approved manner by the Contractor at no additional cost.

Pipes will be measured by the linear foot in place within the limits specified below.

For measurement purposes the end of the pipe in closed structures will be considered at the centerline of the structure, and in masonry headwalls it will be considered to be at least the face of the headwall.

603.12 Basis of Payment

The accepted quantities of pipe for culverts, drains and sewers will be paid for at the contract unit price per linear foot, complete in place.

Payment for trench excavation to the established trench profile indicated on the plans with the exception of structural rock excavation and pavement section removal will be included in this item.

All sheeting, shoring, or temporary bracing will be included in this item. Payment for approved undercuts below the established trench profile will be paid for as Earth Excavation, Below Grade, as specified in Section 206 of the Supplemental Specifications.

Overdepth rock excavation will be paid for as Structural Rock Excavation as specified in Section 206 of the Supplemental Specifications.

Backfilling of the trench shall be incidental to this item, except in the case where the Department requires the contractor to backfill with Granular Borrow. Granular Borrow, in this case, will be paid for under pay item 203.25.

Should the Contractor elect to utilize "drag boxes" during storm drain line installation work, overcutting of the trench beyond the limits for excavation shown on the Pipe Installation Detail will be allowed to accommodate the boxes. However, no payment will be made for the excess excavation and backfill material beyond the payment limit, dimension "A", as shown on the Pipe Installation Detail.

If any excavation including a utility trench is extended to a depth of more than twenty (20) feet, it will be necessary to have the sideslopes or trench sheeting and shoring designed by a professional engineer registered in the State of Maine. No extra payment will be made for the engineered sheeting and shoring methods, materials or equipment used by the Contractor, or engineering services. All trench stabilization shall be considered incidental to the applicable pay items.

The costs of all necessary shoring and bracing of existing structures, pipes, or utilities in or near the trench shall be considered incidental to the applicable pay items.

The costs for PVC bends, retainer glands and thrust blocking shall be incidental to the appropriate pipe item.

The costs for providing Inserta Tees, and exterior drops to manholes, as called out on the plans and as detailed within the detail sheets, shall be incidental to the appropriate pipe item.

The cost of locating/warning tape including installation shall be considered incidental to the appropriate pipe item.

The cost of maintaining flows in existing sewer lines and manholes and any maintenance and cleaning of said sewers that may be required as a result of new sewer installation shall be incidental to the related pay item and no separate payment for this work will be made.

The accepted quantity of service leads will be paid for at the contract unit price per linear foot of pipe installed, complete in place. The amount bid for each lateral shall be full compensation for furnishing all labor, equipment, tools, adapters, reducers, and materials necessary to satisfactorily connect all laterals.

Payment for trench excavation, with the exception of structural rock excavation, will be included in this item. Pipe bedding materials, backfilling and backfilling materials shall also be included in this item for payment.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
603.149	10" Diameter DR35 PVC Pipe	Linear Foot
603.157	12" Diameter DR35 PVC Pipe	Linear Foot
603.167	15" Diameter RCP Pipe	Linear Foot
603.177	18" Diameter DR35 PVC Pipe	Linear Foot
603.195	24" Diameter Pipe (Outside R.O.W.)	Linear Foot
603.199	24" Diameter RCP Pipe	Linear Foot

**SUPPLEMENTAL SPECIFICATION
SECTION 604
MANHOLES, INLETS, AND CATCH BASINS**

The provisions of Section 604 of the Standard Specifications shall apply with the following additions and modifications:

604.01 Description

This work shall consist of the construction and placement of all manholes, inlets, catch basins, and drain basins.

604.03 Construction Requirements

Drain basins shall be ADS - Nyloplast or approved equal with ductile iron frame, grates and covers. Drain basins shall be capable of supporting H-20 wheel loading. Antifloatation footings shall be provided and installed per manufacture's recommendations.

Concrete Blocks shall not be used in any way in the construction or alteration of manholes or catch basins.

All manhole bases, barrel sections and top sections shall be marked, by the manufacturer, with the appropriate manhole station (and offset if applicable) and the street name, if more than one street is incorporated within a single contract.

Special precautions shall be taken to provide adequate ventilation and attending personnel for the safety of all workers who may be required to enter existing sewers or sewers under construction.

It is emphasized to the Contractor that sanitary sewer and drainage construction under this contract shall be coordinated with existing facilities so that continuous service and handling of existing flows is accomplished.

In the existing fifth paragraph, first sentence of that Subsection delete only "Metal frames and traps", and substitute therefore "Metal frames, steps, other appurtenances, and traps".

The outside surface of any masonry work for catch basins and manholes shall be plastered with mortar from 1/4 inch to 3/8 inch thick. The masonry shall be properly wetted before the plaster is applied. The plaster shall be carefully spread and troweled so that all cracks are thoroughly worked out. After hardening, the plaster shall be carefully checked by being tapped for bond and soundness.

All brick masonry surfaces with mortar shall be waterproofed with one coat of DEHYDRATINE 6 TROWEL MASTIC, DEHYDRATINE 10 SEMI-MASTIC or approved equal.

All poured concrete or precast concrete surfaces shall be waterproofed with two heavy coats of bituminous waterproofing materials. The material shall be MINWAX FIBROUS BRUSH COAT made by the Minwax Company, New York, New York; TREMCO 121 FOUNDATION COATING, made by the Tremco Manufacturing Company, Cleveland, Ohio; INERTOL NO-7 made by Inertol Company, Newark, New Jersey or approved equal.

All waterproofing material shall be applied according to the manufacturer's specifications and directions.

Catch basins shall be constructed as shown on the contract drawings. Unless otherwise indicated, catch basins along granite curbs shall have A-4 inlet stones. All catchbasins and

drain basins shall have Casco traps or Snouts, which shall be incidental to the contract unit price of the structure.

Leakage tests may be required on each manhole. The tests, if ordered, shall be the exfiltration test made as described below:

After the manhole has been assembled in place, all lifting holes and all exterior joints shall be filled and pointed with an approved non-shrinking grout or approved bituminous mastic as shown on the construction drawings. The test shall be made prior to placing the shelf and invert and before filling and pointing the horizontal joints. If the groundwater table has been allowed to rise above the bottom of the manhole, it shall be lowered for the duration of the test. All pipes and other openings into the manhole shall be suitably plugged and the plugs braced to prevent blow out.

The manhole shall then be filled with water to the top of the cone section. If the excavation has not been backfilled and observation indicates no visible leakage, that is, no water visibly moving down the surface of the manhole, the manhole may be considered to be satisfactorily water-tight. If the test, as described above is unsatisfactory, or if the manhole excavation has been backfilled, the test shall be continued. A period of time may be permitted if the Contractor so wishes, to allow for absorption. At the end of this period, the manhole shall be refilled to the top of the cone, if necessary, and the measuring time of at least 8 hours begun. At the end of the test period, the manhole shall be refilled to the top of the cone, measuring the volume of water added. This amount shall be extrapolated to a 24-hour rate and the leakage determined on the basis of depth. The leakage for each manhole shall not exceed 1 gallon per vertical foot for a 24-hour period. If the test fails this requirement, but the leakage does not exceed 3 gallons per vertical foot per day, repairs by approved methods may be made to bring the leakage within the allowable rate of 1 gallon per foot per day.

Leakage due to a defective section or joint or exceeding the 3 gallon per vertical foot per day shall be the cause for the rejection of the manhole. It shall be the Contractor's responsibility to uncover the manhole as necessary and to disassemble, reconstruct or replace it. The manhole shall then be retested and, if satisfactory, interior joints shall be filled and pointed.

No adjustment in the leakage allowance will be made for unknown causes such as leaking plugs and absorptions. It will be assumed that all loss of water during the test is a result of leaks through the joints or through the concrete. Furthermore, the Contractor shall take any steps necessary to assure the Department that the water table is below the bottom of the manhole throughout the test.

604.031 Drainage Structures Abandoned or Removed

The existing castings on manholes and/or catch basins to be abandoned or removed shall be carefully removed, cleaned and delivered to the City stockyard as directed. This work shall be incidental to the contract. All such castings shall become the property of the City.

Inlet stones for catch basins to be abandoned or removed shall be carefully removed, cleaned and delivered to the City stockyard as directed and shall be considered incidental to the contract.

The inlets and outlets of structures to be abandoned shall be plugged with bricks and mortar. The upper portions of the masonry shall be removed to a depth of four (4') feet below the finished grade, and the structures shall be completely filled with selected excavated material placed in six (6") inch layers and thoroughly compacted. Prior to backfilling, the sump shall be pumped and cleared of all water and foreign materials.

The existing masonry of structures to be removed shall be completely removed. The inlets and outlets shall be fully plugged with bricks and mortar. The cavity shall be completely filled with selected excavated materials placed in six (6") inch layers and thoroughly compacted.

604.032 Remove Existing Drainage Structures and Replace with New Drainage Structures

The existing castings on manholes and/or catch basins to be removed and replaced shall be carefully removed, cleaned and delivered to a City stockyard as directed. This work shall be incidental to the contract. All such castings shall become the property of the City. Existing inlet stones for catch basins to be replaced shall be carefully removed, cleaned and delivered to a City stockyard as directed and shall be incidental to the cost of said item.

604.04 Altering, Adjusting and Rebuilding Catch Basins and Manholes

Rebuilding existing catch basins shall include the removal and replacement of inlet stone, frame, grate, Casco Trap, adjustment to grade, connection of underdrain to basin, and installation of new inlet/outlet.

Adjusting manholes and catch basin's to grade shall include removing and resetting curb inlet stone (as applicable), tipdowns (as applicable), frame and cover and fully reconstructing riser brick or precast risers to install frame at finish grade.

604.045 Structure Frame Winterization

The Contractor may elect to protect existing and proposed valve boxes, catch basin frames and manhole frames from winter plowing operations in areas of the project that shall receive a surface pavement overlay after one winter season has elapsed by either of the methods described herein.

Method A: The Contractor may elect to set existing and proposed valve boxes and frames at finished binder course pavement grade during the winter. Under this method, prior to surface course paving in the spring, the Contractor shall sawcut and remove pavement around the frame, raise the frame to finished surface course pavement grade, and replace the binder course pavement removed from around each structure.

Method B: The Contractor may elect to set existing and proposed valve boxes and frames to the finished surface pavement grade and provide a 4 foot wide, hand placed pavement ramp/taper (9.5 mm HMA) around each valve box and frame to protect it during winter plowing operations. Under this method, the Contractor shall provide a pavement ramp/taper around each valve box and frame in the fall and remove the pavement ramp/taper prior to surface course paving in the spring.

Under either method, the Contractor shall be responsible for the condition of all valve boxes, frames and covers during the period between binder course paving and surface course paving. In the event of a loose valve box, frame or cover or in the event that the pavement ramp/taper is damaged, the Contractor shall be responsible for replacement of the damaged structure or for providing additional pavement material to safeguard the structure.

In the event that a pavement ramp/taper requires additional pavement after HMA is no longer available; QPR cold patch pavement may be substituted as an alternate material.

604.05 Method of Measurement

Under this Subsection the following sections shall be amended as follows:

1. Subsection (a) of the Standard Specifications shall be deleted and the following paragraph shall be included:

- Complete structures. Each drain basin, catch basin and manhole will be measured per each complete.
2. Subsections (c) and (d) of the Standard Specifications shall be deleted and the following paragraph shall be included:
All steps, masonry plugs, castings or other appurtenances installed as shown on the plans or as required shall not be measured for payment.
 3. Separate payment for manhole and catch basin removal shall be made whenever the center of the structure to be removed is 8 feet or more from the center of a new manhole or catch basin. If the center of a manhole or catch basin to be removed is less than 8 feet from the center of a new structure, no separate payment will be made for manhole or catch basin removal, in which case the cost of manhole or catch basin removal shall be considered incidental to the cost of the new structure.
 4. Each existing drainage structure to be removed and replaced with a new drainage structure will be considered as one unit, including inlet stone, tipdowns, frame, grate, Casco trap, adjustment to grade, and connection of underdrain to basin and installation of new inlet/outlet.

604.06 Basis of Payment

The first sentence of the first paragraph shall be replaced with:

The accepted quantities of catch basins drain basins, manholes, altered grates, and traps will be paid for at the contract unit price each of the respective types complete in place.

The first paragraph shall be amended by adding the following sentence:

The cost of furnishing and installing steps, antifloatation footings, masonry plugs, installing reinforced steel concrete stubs and other appurtenances shall be considered as incidental to the structure and no separate payment will be made therefore.

The following paragraphs shall be added:

The cost of furnishing and installing curb inlet stones shall be incidental to the catch basin structures and no separate payment will be made.

The cost of excavation and backfill of all catch basins, manholes, or stormwater treatment units, either new, abandoned, or removed and/or replaced shall be included in the cost of the specific work for each type of structure.

The cost of resetting curb inlet stones and tipdowns shall be considered incidental to the cost of adjusting catch basins to grade and no separate payments will be made. The cost of delivering inlet stones and/or castings to the City stockyard or other approved sites shall be considered as incidental to the contract items involved.

The cost of maintaining flows in existing sewer lines and manholes and any maintenance and cleaning of said sewers that may be required as a result of new manhole installations shall be incidental to the related pay item and no separate payment for this work will be made.

The cost of removal of existing structures shall be incidental to the installation of proposed structure which will replace it.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
604.131	4' Diameter Catch Basin	Each
604.15	4' Diameter Manhole	Each
604.153	5' Diameter Manhole	Each
604.156	8' Diameter Manhole (Doghouse)	Each
604.164	Rebuilding Catch Basins	Each
604.18	Adjusting Catch Basins and Manholes to grade	Each
604.2411	24" Nyloplast Area Drain or approved equal	Each

**SUPPLEMENTAL SPECIFICATION
SECTION 606
GUARDRAIL**

The provisions of Section 606 of the Standard Specifications shall apply with the following additions and modifications:

606.02 Materials:

All wood guardrail pieces shall all be treated with a timber Cabot semi-solid 6100 series stain, color: new cedar. Apply per manufactures recommendations. Wood posts and rails shall be supplied and constructed in compliance with the plans.

606.09 Basis of Payment:

Guardrail railing will be paid for by the linear feet of timber guardrail installed.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
606.611	Timber Guard Rail	Linear Foot

**SUPPLEMENTAL SPECIFICATION
SECTION 607
FENCES**

The provisions of Section 607 of the Standard Specifications shall apply with the following additions and modifications:

607.01 Description

This work shall include all new fencing to be installed within the Franklin Arterial center island median, the resetting of existing chain link fence, and the installation of new 6' high chain link fence as shown on the Drawings.

607.02 Materials

Franklin Arterial Median Fence: WireWall welded mesh 1.5" x 1.5", 12.5GA marine grade PVC Green (25-year warranty), standard rolls 48" wide x 100' long, manufactured by Riverdale Mills, Northbridge, MA and locally distributed by Brooks Inc., Thomaston, Maine (800) 426-4526.

Franklin Arterial Median Fence Posts: Vertical Posts "Standard C" Posts with two (2) horizontal rails (top and bottom), PVC green (25-year warranty), manufactured by Gregory Industries, Inc., 4100 13th Street, SW, Canton, Ohio 44710 and distributed by Master Halco, Boston, MA. (800) 969-1669.

New Chain Link Fence shall be 6' high, green vinyl.

Reset or replace chain link: Reuse materials whenever practicable, replace with materials matching existing fences as needed or as directed.

All materials shall meet the requirements of the subsection specified in the Standard Specifications.

607.03 Construction Requirements

Install fencing as per manufacturer's recommendation in the locations indicated on the plans and in accordance with the details.

The Contractor is responsible for locating, marking and avoiding all subsurface utilities during the post driving.

Direct drive post.

607.06 Method of Measurement

New fence will be measured by the linear foot complete in place. Measurement will be along the gradient of the fence from outside to outside of the end posts of each continuous run replaced. Remove and Reset Fence shall be measured as a single lump sum price.

607.07 Basis of Payment

The accepted quantities of fence will be paid for at the contract unit price per linear foot of type and size removed and replaced. Remove and Reset Fence shall be paid at the contract lump sum price. Payment shall be full compensation for removal and disposal of existing fence and for furnishing and assembling all materials, for excavation and backfilling holes, cleaning, stockpiling and for all incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
607.163	Chain Link Fence – 4 ft PVC Coated (Franklin Arterial Median)	Linear Foot
607.173	Chain Link Fence – 6 ft PVC Coated	Linear Foot
607.24	Remove and Reset Fence	Lump Sum

**SUPPLEMENTAL SPECIFICATIONS
SECTION 608
SIDEWALKS**

The provisions of Section 608 of the Standard Specifications shall apply with the following additions and modifications:

608.01 Description

This work shall consist of the construction of asphalt sidewalks, brick paved sidewalks and concrete unit pavers on a crushed gravel base, pervious surfaces on drainage stone, and pedestrian ramps with truncated domes in accordance with these specifications and in reasonably close conformity with the lines and grades and shown on the plans. Limits of the work where new bituminous asphalt or sidewalk will match existing shall be cleanly saw cut prior to demolition operations.

608.02 Materials

Materials shall meet the requirements as specified in the following sections.

608.04 Bituminous Sidewalk

Description

Bituminous sidewalks shall be defined as all asphalt surface pedestrian walkways excluding the proposed 12-foot wide bituminous trail.

Materials

Material for bituminous concrete base courses and surface courses for sidewalks and driveways shall conform to the requirements of Section 403 of the Standard Specifications for Hot Bituminous Pavement, Grading "B" and Grading "C" respectively. Crushed gravel base shall conform to the requirements of Section 304 of these specifications for Aggregate Base Course - Crushed, Type "A".

Construction Methods

1. Excavation: Excavation shall be made to the required depth and width. The foundation shall be shaped and compacted to a firm even surface conforming to the section shown on the plans and typical details. All soft and yielding material shall be removed and replaced with acceptable material.
2. Sidewalk Construction: Sidewalks shall be constructed as shown on the Site Details Sheet.
3. Placing Bituminous Material: Bituminous material shall be placed on the compacted base course in two courses, one base and one surface, so as to give the required depth when rolled. Compaction shall be accomplished by means of a power roller having a minimum total weight of 2,000 pounds with a minimum of 65 pounds per inch of width of the drive roll or by satisfactory power vibratory compaction equipment. In areas inaccessible to other equipment, hand tamping will be permitted. In any case the bituminous material shall be uniformly compacted.

608.041 Brick Sidewalk

Materials

Materials shall conform to the requirements of the various subsections of the specifications listed below:

Used Brick: The Contractor shall salvage existing bricks from the project area as specified in Section 203 of the Supplemental Specifications. The Department shall have full authority in the choice of brick to be disposed of.

The discarded brick shall become the property of the City and shall be delivered by the Contractor to a designated City stockyard.

New Brick: Conform to the various subsections of the specifications listed below.

Brick - Brick shall conform to requirements of ASTM Standard Specifications for Building Brick (made of clay or shale) Designation C62-66 for Grade SW with the following modifications:

1. The absorption limits shall be from 8 to 12 per cent for the average of 5 bricks.
2. The compressive strength shall not be less than 8000 pounds per square inch (psi).
3. The modulus of rupture shall not be less than 1000 pounds per square inch (psi).
4. The bricks shall be No. 1, wire cut type for paving.

Bricks shall be of standard size (2-1/4" x 3-5/8" x 7 5/8") with permissible variations not to exceed 1/16" in depth, 1/8" in width or 1/4" in length.

Bricks shall be as manufactured by the Morin Brick Co. of Auburn, Maine or an approved equal. Prior to ordering the brick, samples shall be submitted in whole straps to show color range.

All base courses and joints shall conform to the applicable subsections of Division 700 of the Standard Specifications.

Construction Methods

1. Subgrade: The subgrade for the sidewalks and driveways shall be shaped parallel to the proposed surface of the walks and drives and shall be thoroughly compacted. All depressions occurring shall be filled with a suitable material and again compacted until the surface is smooth and hard.
2. Foundation: After the subgrade has been prepared, a foundation of crushed gravel shall be placed upon it. After being thoroughly compacted, the foundation shall have a thickness as shown on the plans and typical details and shall be parallel to the proposed surface of the work.
3. Bituminous Base: A layer of hot bituminous pavement grading "B" shall be spread upon the properly prepared crushed gravel. After being thoroughly compacted, the bituminous base course shall have a minimum thickness of two (2") inches and shall be parallel to the proposed finish grade.
4. Sand-Cement Base: A layer of sand-cement base course material one (1") inch in thickness shall be spread upon the properly prepared bituminous base course. The course shall be thoroughly compacted and present a hard smooth surface parallel to the proposed finished slope and grade of the walks and drives. The ratio shall be six (6) parts of washed mortar sand to one (1) part Portland Cement.
5. Brick Placement: After the sand base course has been properly prepared, the brick shall be placed in the pattern shown on the plans and typical details. The brick shall be placed as closely together as possible and the sand joints between the brick shall be no wider than that allowed by the natural texture of the brick itself. NO OPEN JOINTS WILL BE ALLOWED. Brick shall be saw cut to fit spaces requiring less than a whole brick. No cut brick shall be less than two (2") inches in length. A journeyman brick mason shall supervise all brick placement.

After the bricks are carefully set upon the properly prepared sand-cement base, a plank or heavy sheet of plywood covering several courses of brick shall be placed upon the bricks and carefully rammed with a heavy hammer until the bricks reach a firm, unyielding bed and present a surface of the proper slope and grade. Any divergence from line and grade shall be corrected by taking up and relaying the bricks. After the ramming of the bricks, a sufficient amount of sand-cement shall be spread over the surface and thoroughly swept or raked so as to fill the joints. All surplus sand-cement remaining on the sidewalk and driveway after the joints have been properly filled, shall be carefully removed by sweeping. Care shall be taken to avoid raking out the joints during removal of excess sand-cement. A final application of sand only

shall be spread on the sidewalk. The application of sand shall then be removed by sweeping while the aforementioned precautions are being exercised.

608.045 Unit Pavers

Material: Materials for the unit pavers shall conform to the requirements of the various subsections of the specifications listed below:

Permeable Concrete Unit Pavers: Paver unit materials and fabrication shall meet or exceed the requirements of USPSI Designation CPS7180 Standard Specifications for Concrete Paving Stone:

1. Portland cement: ASTM C-150, Type 1.
2. Aggregate: ASTM C-33.
3. Compressive strength: Minimum 8,000 psi at time of delivery.
4. Absorption: Maximum 5%.
5. Freeze-thaw test: ASTM C67, no breakage and maximum 1% loss in dry weight after 50 cycles.
6. Abrasion resistance: ASTM C418, maximum volume loss 15 cu. cm. per 50 cu. cm. Average thickness loss 3 mm.
7. Provide only sound units free of defects that would interfere with proper placing of units or impair strength or permanence of construction. Minor cracks and minor chipping incidental to methods of manufacture, handling in shipment, and delivery will be subject to Department's review and acceptance. Pavers with excessive cracks and chipping, as determined by the Department, will be rejected as not complying with specification requirements.
8. Concrete unit pavers shall be "Cambridge Cobble III with Armortec", size and color as follows:
Cambridge Cobble III, color "Onyx-Natural" blend, square (size 2-3/8" x 6-1/16" x 6-1/16"), Or product equivalent in size, color, and functional performance, approved by the Department.
9. Underdrains shall be 6" in diameter and shall be constructed as shown on the plans and specified herein. The pipe material shall be perforated SDR-35. Coiled pipes shall not be used.

Concrete Unit Pavers: Paver unit materials and fabrication shall meet or exceed the requirements of USPSI Designation CPS7180 Standard Specifications for Concrete Paving Stone:

1. Portland cement: ASTM C-150, Type 1.
2. Aggregate: ASTM C-33.
3. Compressive strength: Minimum 8,000 psi at time of delivery.
4. Absorption: Maximum 5%.
5. Freeze-thaw test: ASTM C67, no breakage and maximum 1% loss in dry weight after 50 cycles.
6. Abrasion resistance: ASTM C418, maximum volume loss 15 cu. cm. per 50 cu. cm. Average thickness loss 3 mm.
7. Provide only sound units free of defects that would interfere with proper placing of units or impair strength or permanence of construction. Minor cracks and minor chipping incidental to methods of manufacture, handling in shipment, and delivery will be subject to Department's review and acceptance. Pavers with excessive cracks and chipping, as determined by the Department, will be rejected as not complying with specification requirements.
8. Concrete unit pavers shall be Cambridge Pavers "Roundtable Collection with Armortec", size and color as follows:
 - a. Square pavers (6" x 6" x 2-3/8" thick) color "Onyx-Natural" blend, Or product equivalent in size, color, and functional performance, approved by the Department.

- b. Square pavers (6" x 6" x 2-3/8" thick) color "Onyx", Or product equivalent in size, color, and functional performance, approved by the Department.
- c. Mixed size pavers (small 2-13/16" x 5-13/16" x 2-3/8" thick, medium 4-3/8" x 5-13/16" x 2-3/8" thick, large 5-13/16" x 8-13/16" x 2-3/8" thick) color "Onyx-Natural" blend, Or product equivalent in size, color, and functional performance, approved by the Department.

Edge Treatment: Pavers edge treatment shall be installed as indicated on the drawings and considered incidental to contract pay items 608.25 and 608.241.

Construction Method:

1. Spread the bedding sand evenly over the base course and screed to a nominal 1 in. thickness, not exceeding 1-1/2 in. thickness. The screeded sand should not be disturbed. Place sufficient sand to stay ahead of the laid pavers. Do not use the bedding sand to fill depressions in the base surface.
2. Ensure that pavers are free of foreign material before installation.
3. Lay the pavers in the pattern(s) as shown on the drawings. Maintain straight pattern lines.
4. Points between the pavers on average shall be between 1 /16 in. and 3 /16 in. wide.
5. Fill gaps at the edges of the paved area with cut pavers or edge units.
6. Cut pavers to be placed along the edge with masonry saw.
7. Use a low amplitude plate compactor capable of at least 5,000 lbf compaction at a frequency of 75 hz –100 hz.
8. Compact the pavers, sweeping dry joint sand into the joints and vibrating until they are full. This will require at least two or three passes with the compactor. Do not compact within 3 ft of the unrestrained edges of the paving units.
9. All work to within 3 ft of the laying face must be left fully compacted with sand-filled joints at the end of each day. Cover the laying face with plastic sheets overnight if not closed with cut and compacted pavers.
10. Sweep off excess sand when the job is complete.
11. The final surface elevations shall not deviate more than 3 /8 in. under a 10 ft long straightedge.
12. The surface elevation of pavers shall be 1 /8 to 1 /4 in. above adjacent drainage inlets, concrete collars or channels.
13. After removal of excess sand, check final elevations for conformance to the drawings.

608.046 Pervious Concrete

Material: Materials shall conform to the requirements of the various subsections of the specifications listed below:

Pervious Concrete Aggregates: Nominal maximum aggregate size shall not exceed one-third of the specified pavement thickness and shall meet the following gradation or approved equal:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieve
1/2"-----	100
3/8"-----	95 – 100
No. 4-----	15 – 40
No. 8-----	3 – 15
No. 16-----	1 – 10
No. 30-----	1 – 6
No. 50-----	1 – 3
No. 100-----	<1

Pervious Concrete Admixtures: Chemical admixtures that facilitate the production and placement of pervious concrete shall meet the following mix design or equivalent mix design, approved by Department. The quantities are given in the oven dried state (no free or absorbed moisture).

Material Name	Unit Quantity
Ciment Quebec II-----	600 lbs
3/8 Stone-----	2600 lbs
Water-----	20 gallons
Glenium 7500-----	18 oz. (3 oz. / cwt.)
Delvo-----	30 oz. (5 oz. / cwt.)
Microair-----	1 oz.
Rheomac VMA 362-----	60 oz. (10 oz. / cwt.)

Pigments: Use pigments complying with ASTM C979 if specified in Contract Documents.

Aggregate Base Courses: base courses for pervious concrete shall conform to the requirements of Section 703 of these specifications for Choker Course and Drainage Course.

Hot and Cold Weather Construction:

1. When hot weather is anticipated, submit detailed procedures for the production and transportation of concrete during hot weather.
2. In cold weather, comply with ACI 306.1, recording concrete temperature no less than twice per 24-hour period.

Underdrains: Underdrains shall be 6" in diameter and shall be constructed as shown on the plans and specified herein. The pipe material shall be perforated SDR-35. Coiled pipes shall not be used.

Construction Method:

1. Subgrade preparation:
 - a. Prepare subgrade as specified in the contract documents.
 - b. Construct subgrade to ensure that the required pavement thickness is obtained in all locations.
 - c. Keep all traffic off of the subgrade during construction to the maximum extent practical. Regrade subgrade disturbed by concrete delivery vehicles or other construction traffic, as needed.
2. Subbase: Prepare subbase in accordance with contract documents.
3. Setting formwork:
 - a. Set, align, and brace forms so that the hardened pavement meets the tolerances specified in the contract documents.
 - b. Apply form release agent to the form face which will be in contact with concrete, immediately before placing concrete.
 - c. The vertical face of previously placed concrete may be used as a form.
4. Batching, mixing, and delivery: Batch and mix in compliance with ASTM C 94/C 94M.
5. Placing and finishing pavement:
 - a. Do not place concrete on frozen subgrade or subbase.
 - b. Spread the concrete using a come-along, short-handle, square-ended shovel or rake.
 - c. Do not use steel trowels or power finishing equipment.
 - d. Finish the pavement to the elevations and thickness specified in Contract Documents.
6. Final surface texture: Compact the concrete to a dense, pervious surface.
7. Curing:

- a. Begin curing within 20 minutes of concrete discharge unless longer working time is accepted by the Department.
 - b. Completely cover the pavement surface with a minimum 4 mil thick polyethylene sheet. Cut sheeting to a minimum of a full placement width.
 - c. Cover all exposed edges of pavement with polyethylene sheet.
 - d. Secure curing cover material, protect concrete from sediments.
 - e. Cure pavement for a minimum of 7 uninterrupted days, unless otherwise specified.
8. Jointing:
- a. Construct joints at the locations indicated on the Contract Documents.
 - b. When jointing requirements are not indicated on the project drawings, submit drawings describing proposed jointing in accordance with Contract Documents.
 - 1) Provide control joints and score joints as specified on Landscape Plans.
 - 2) Use isolation joints only where pavement abuts fixed objects, such as buildings, foundations, and manholes.
 - 3) Extend isolation joints through the full depth of the pavement. Fill the entire isolation joint with expansion joint material.
 - c. Create contraction joints by one of the following methods:
 - 1) Tool contraction joints to the specified depth and width in fresh concrete immediately after the concrete is compacted.
 - 2) Saw-cut concrete after concrete has hardened sufficiently to prevent aggregate from being dislodged and soon enough to control pavement cracking. To minimize drying, ensure that curing materials are removed only as needed to make cuts.
 - 3) Contractor shall seal all joints with a semi ridged material. This will help reduce raveling at the joints.
9. Opening to traffic:
- a. Do not open the pavement to light traffic until the concrete has cured for at least 14 days and (28 days for heavy traffic), and not until the pervious pavement is accepted by the Department.
 - b. Contractor shall mechanically sweep pavement before it is opened to vehicular traffic.
 - c. Protect pervious pavement from sediments during construction.

608.05 Method of Measurement

Bituminous concrete sidewalks, brick sidewalks, permeable and concrete unit pavers and pervious concrete will be measured by the square yard of finished surface, complete in place.

608.06 Basis of Payment

The accepted quantities of brick sidewalk, bituminous concrete sidewalk, permeable and concrete unit pavers and pervious concrete will be paid for at the contract unit price bid per square yard complete in place and shall be full compensation for all materials, labor and equipment necessary to satisfactorily complete the work, including excavation, compaction, drainage courses, choker courses, aggregates, and underdrains. The City has previously purchased a portion of these materials; see Attachment C for quantities of previously purchased materials. Previously purchased pervious concrete, choker course and drainage course shall be delivered to the project site by the material supplier. Contractor shall be responsible for coordinating delivery. Previously purchased bricks and pavers are located at the City Stock Yard. The contract unit price shall include all labor and equipment necessary to load and deliver previously purchased bricks and pavers and to place all materials previously purchased by the City. Furnishing and installing materials beyond those quantities previously purchased by the City shall be the responsibility of the Contractor and incidental to the contract unit price.

Payment will be made under:

Pay Item

608.15

Brick Sidewalk with Bituminous Base

403.209

Hot Bituminous Concrete Sidewalk with Base

608.25

Permeable Concrete Unit Pavers with Sand Base

608.241

Concrete Unit Pavers with Base

608.291

Pervious Concrete with Base

Pay Unit

Square Yard

TON

Square Yard

Square Foot

Square Yard

**SUPPLEMENTAL SPECIFICATION
SECTION 609
CURB**

The provisions of Section 609 of the Standard Specifications shall apply with the following additions and modifications:

609.01 Description

This work shall include all resetting of existing curb as well as setting of City-salvaged curb as shown in the drawings. Contractor may examine City-salvaged materials at the Stock-yard prior to bidding, as described in the Contract Documents.

Material shall be in accordance with Section 712.04 except that drill holes through the curb will not be allowed.

609.03 Vertical Stone Curb, Terminal Section and Transition Sections

All joints of the curb shall have a four inch (4") by eight and one half inch (8-1/2") pad on the back side. The pad shall be filter fabric equal to Mirafi 140N. The pad shall be placed in full contact with the curb from a half inch (1/2") below top of curb to two inches (2") below gutter grade and backfilled to hold in place.

609.081 Removing and Stacking Vertical Curbing, Terminal Curbing, Transition Sections, Curb Inlets, and Curb Corners (Types 1 and 5)

The Contractor shall be responsible for the removal without damage, cleaning and stacking, all straight and curved curbing, terminal sections and curb corners. Contractor shall layout all curbing for visual inspection by the Department. Contractor to dispose of curbing materials, not designated for reuse by the Department. Contractor to assume 20% of existing curbing is not suitable for reuse. Removal of curbing shall be in accordance with the requirements of Subsection 202.03. Contractor may utilize City-Salvaged granite curbs for curbing materials to complete the curb installation shown on the contract plans. Contractor to provide all loading, handling, cleaning and transportation required for delivery of City-Salvaged materials from the City Stock Yard.

Each section of straight curbing shall have its overall length painted legibly and plainly on one end. Each section of circular curbing shall have its overall arc length and radius painted on one end.

Removing and stacking curb or edging shall include all labor, equipment, tools and materials for excavating, removing, cleaning, backfilling, handling, stacking and any incidental work necessary.

609.09 Method of Measurement

The first sentence of this section shall be replaced by: Reset Curbing will be measured as a single item with a lump sum price and will include the loading, delivery, and setting of City-Salvaged curbs.

The third sentence of this section shall be replaced by: All transition sections, terminal curb, sloped curb shall be incidental to Pay Item 609.38.

609.10 Basis of Payment

Materials and equipment necessary to complete the work of this Section shall be paid for Lump Sum under item 609.38 Reset Curbing, and will include the resetting of existing granite curbing as well as the loading, delivery, and installation of City-salvaged curbs from the City stockyard.

Pay Item

Payment will be made under:

Pay Unit

609.38

Reset Curbing

Lump Sum

**SECTION 614
MASONRY PLUG**

The following items shall be considered additions to the Standard Specifications under Section 614.

614.01 Description

This work shall consist of the construction of Masonry Plugs as shown on the plans and details, and specified herein. This work shall also include the placement of flowable concrete in abandoned pipelines.

614.02 Materials

Materials shall meet the requirements for the various subsections of the specifications listed below:

Bricks shall conform to requirements of ASTM Standard Specifications for Sewer Brick, Designation C-32-63, Grade MA and SA.

Masonry Mortar shall conform to Section 705 of the Standard Specifications.

614.03 Construction Methods

Excavation shall be made to the required depth and width to perform the work as required.

614.04 Method of Measurement

The installation of a masonry plug into a pipe with a diameter of less than 8 inches shall be incidental to the project and shall require no measurement or payment. The installation of a plug into a pipe with a diameter of 8 inches and larger shall be paid for on a per each basis, complete in place.

614.05 Basis of Payment

The accepted quantity of Masonry Plugs in pipes 8 inches and larger will be paid for at the contract unit price per each, which price shall include the cost of all excavation, bricks, mortar, flowable concrete, all labor, materials, and any equipment necessary to satisfactorily complete the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
614.14	Masonry Plug $\geq 8''$	Each

**SUPPLEMENTAL SPECIFICATIONS
SECTION 615
LOAM**

The provisions of Section 615 of the Standard Specifications shall apply with the following additions and modifications:

615.01 Description

This work shall consist of loaming and seeding areas as shown on the plans or as required.

Loam and its applications shall conform to the requirements of Section 615 of the Standard Specifications. Loam shall have a finished depth of four (4") inches and shall be screened through a one (1") inch square mesh screen.

Seeding shall be Method Number 1 and shall conform to the requirements of Section 618 of the Standard Specifications. The Contractor shall be required to continually seed area of loam and seed until a satisfactory growth of grass is established.

If so required, all areas to be loamed and seeded shall be mulched with an approved wood cellulose fiber compatible with recommended hydroseeding practices. This mulch shall be applied simultaneously with the seed and shall be of sufficient quantity to protect the seed and hold moisture in to insure a satisfactory growth of grass.

The specifications for the wood cellulose fiber proposed to be used shall be presented to the Department for acceptance at least ten (10) working days prior to the application thereof.

The Contractor shall also be responsible for mowing any and all areas loamed and seeded. The mowings will be required if deemed necessary to insure and maintain a satisfactory growth of grass and shall not exceed two mowings.

615.05 Method of Measurement

The first paragraph of this subsection will be modified as follows: Delete "per cubic yard" and replace with "per square yard."

615.06 Basis of Payment

The accepted quantity of loam, seed and mulch will be paid for at the contract unit price per square yard. Excavation and all labor, materials, and equipment necessary to satisfactorily complete the work shall be included. All costs for watering, furnishing labor and equipment for mowing will not be paid for separately, but shall be considered as incidental to this pay item.

The City has previously purchased a portion of the loam materials; see Attachment C for quantities of previously purchased materials. Previously purchased loam materials shall be delivered to the project site by the material supplier. Contractor shall be responsible for coordinating delivery. The contract unit price shall include all labor and equipment necessary to place material previously purchased by the City. Furnishing and installing materials beyond those quantities previously purchased by the City shall be the responsibility of the Contractor and incidental to the contract unit price for pay item 615.071.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
615.071	Loam, Seed & Mulch	Square Yard

**SUPPLEMENTAL SPECIFICATION
SECTION 620
GEOTEXTILES**

The provisions of Section 620 of the Standard Specifications shall apply with the following additions and modifications:

620.01 Description

This work shall consist of the installation of geotextile fabric as shown on the plans. Filter Fabric will be installed above all Group 2 Soils, except where Stabilization Fabric is required. Stabilization Fabric will be installed where trail width is 10 feet or greater. Stabilization Fabric shall have a minimum width of 15 feet.

620.02 Materials

Geotextiles shall be as follow:

Filter Fabric: Contractor shall use Mirafi 160N Nonwoven Polypropylene geotextile by TenCate Nicolon, Geotex 601 by Propex Geosynthetics, or approved equal.

Stabilization Fabric: Contractor shall use Mirafi 600x Woven geotextile by TenCate Nicolon, or approved equal.

620.03 Placement

Geotextile fabric shall be installed in accordance with manufacturer's install instructions. Overlap multiple widths of fabric a minimum of 12 inches. It is not necessary to sew seams.

Vehicles shall not drive directly on the fabric nor puncture it. Maintain at least a 6 to 12 inch cover between the truck tires and the geotextile.

620.08 Method of Measurement

The geotextile fabric shall be measured by square yard, complete in place.

620.09 Basis of Payment

The accepted quantity of geotextile fabric will be paid for at the contract unit price per square yard.

The City has previously purchased a portion of the filter fabric materials; see Attachment C for quantities of previously purchased materials. The contract unit price shall include all labor and equipment necessary to load, deliver and place material previously purchased by the City. Furnishing and installing materials beyond those quantities previously purchased by the City shall be the responsibility of the Contractor and incidental to the contract unit price for pay item 620.58.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
620.54	Stabilization/Reinforcement Geotextile	Square Yard
620.58	Non-Woven Geotextile	Square Yard

**SUPPLEMENTAL SPECIFICATION
SECTION 626
FOUNDATIONS, CONDUIT AND JUNCTION BOXES FOR HIGHWAY SIGNING, LIGHTING,
AND SIGNALS**

The provisions of Section 626 of the Standard Specifications shall apply with the following additions and modifications:

626.01 Description

This work shall consist of furnishing and installing all electrical work for the Bayside Trail in accordance with the Contract Drawings and as specified herein.

In general, electrical work shall include but not be limited to the following:

1. Power distribution equipment as indicated on the Drawings.
2. Secondary service entrances.
3. Provide all required conduit, wire, pullboxes, and accessory items to accomplish the work involved in providing the new electrical services as shown on the Contract Drawings. Meter enclosures shall be as required by the local utility company. Coordinate all work with the local utility for a complete installation.
4. Grounding and Bonding systems.
5. Underground Ductbanks.
6. All support material and hardware for raceway and electrical equipment.
7. Branch circuit wiring.
8. Termination of all cable and wire unless otherwise noted.
9. Site lighting and associated controls.
10. Start up, acceptance testing test reports and instruction of systems operation to the Department.

626.02 General

Insert the following in this section:

Installation of conduit for service related work shall be coordinated and approved by Central Maine Power Company.

626.021 Materials

Insert the following in this section:

Materials shall meet the requirements specified in the following Subsection of Division 700 - Materials:

Wiring Devices	715.02
Steel Conduit	715.02
Non-Metallic Conduit	715.03
Metallic Junction Boxes	715.05
Secondary Wiring	715.07
Luminaire, Lamp and Ballast	715.08
Service Equipment	715.11

626.04 Method of Measurement

This section shall be replaced with:

All wiring devices, foundations, conduit, junction boxes, secondary wiring, luminaries, and service equipment shall be measured as a single lump sum price

Power to Plazas will be measured as a single lump sum price.

626.05 Basis of Payment

The accepted quantity of wiring devices, foundations, conduit, junction boxes, secondary wiring, luminaries, and service equipment will be paid for at the contract lump sum price.

Power to Plazas will be paid at the contract lump sum price and shall include all work, materials, and equipment necessary to complete installation, including cabinets, concrete bases, associated service entrances, power pedestals, receptacles, and conduits as indicated on the Contract Drawings.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
626.2111	Wiring Devices, Foundations, Conduit, Junction Boxes, Secondary Wiring, Luminaries, Service equipment	Lump Sum
626.41	Power to Plazas	Lump Sum

**SUPPLEMENTAL SPECIFICATION
SECTION 627
PAVEMENT MARKINGS**

The provisions of Section 627 of the Standard Specifications shall apply with the following additions or modifications:

627.01 Description

This work shall consist of providing pavement lines and markings as indicated on the drawings and in all areas of roadway reconstruction and where existing pavement markings are damaged or removed by Contractor's operations.

Payment will be made under:

Pay Item

Pay Unit

627.711

White or Yellow Pavement Marking Line – Plan Quantity

Linear Foot

**SUPPLEMENTAL SPECIFICATION
SECTION 633
SEATWALLS**

The following items shall be considered additions to the Standard Specifications under Section 633.

633.01 Description

This work shall consist of furnishing and installing both single and double faced walls as called for on the plans and or authorized by the Department.

633.02 Quality Assurance

Materials and methods of construction shall comply with the following standards and association recommendations.

1. American Society for Testing and Materials (ASTM).

Comply with the applicable requirements of local governing authorities and American National Standards Institute (ANSI) A41.1, Building Code Requirements for Masonry, for the types of stone masonry construction indicated.

Installation: Performed only by experienced stone masons with satisfactory record of performance on completed projects of comparable size and quality.

Sample panel: Before starting stone masonry work, provide a sample panel using materials, bond and joint tooling indicated for project work. Building panel at the site of full thickness and approximately 2 1/2 feet long. Provide the range of color, texture, and workmanship proposed for the work. Correct and rebuild sample panel until Department acceptance of the work. Retain panel during construction as a standard for completed stone masonry work.

The approved sample panel may be a portion of the work and remain in place. Location as directed by the Department.

Do not change source or brands of mortar materials during the course of work.

633.03 Materials

Wall Stone: Provide "American Large Wall Stone" by Blue Rock Industries, Westbrook, ME (877) 772-6770 or Department approved equal.

1. Natural Variations in color and markings which are characteristics of the stone and do not impair strength or appearance are acceptable.
2. Provide sound stone uniform in color and texture, free from mineral stains, other foreign matter, and defects detrimental to appearance and durability.

Granite Cap: Swenson's Caledonia granite cap supplied by Swenson's Granite Works, 582 Bridgton Road, Westbrook, ME or Department approved equal. Spilt edges, thermal top. Final surface to be sealed per Manufacture's recommendation.

Granite Cap Adhesive: NP-1 Adhesive used to secure cap to wall and to fill cap stone joints.

Stone Accessories: Anchoring devices: provide strap anchors, inserts, anchor, slots, bolts, and rods of types and size indicated. Provide non corrosive metals or hot-dip galvanized finished steel materials.

Mortar:

1. Portland Cement: ASTM c150, Type I, white, non staining type.
2. Masonry cement: ASTM c91, white non staining type.
3. Hydrated lime: ASTM c207, Type S.
4. Aggregate: ASTM C144, clean masonry sand, 100% passing #16 sieve.
 - a. White mortar: Natural white sand or ground white stone.
5. Water: Clean, fresh, and potable.
6. Water repellent admixture: Ammonium stearate, aluminum tristearate or calcium stearate.
7. Colored mortar pigment: Lime-proof and alkali-proof mineral oxide pigments.

Stone Mortar Mixes: Provide water repellent admixture in all mortar used for stone masonry work. Add to mix in accordance with manufacture's recommendations. Maximum 2% by weight of portland cement content of mortar.

1. Setting mortar: 1 part non-staining masonry cement, 1 part hydrated lime, and 6 parts white damp loose sand.
2. Pointing mortar: 1 part non-staining masonry cement, 1 part hydrated lime, and 6 parts white damp loose sand.
3. Grout: 1 part non-staining masonry cement, 1-1/2 part white damp loose sand.
4. Measure and batch materials either by volume or weight. Use accurate measuring devices to ensure uniformity and coloration of mix. Shovel count measurement of sand is not acceptable.
5. Mix cementitious materials and aggregate in a clean mechanical mixer for at least 5 minutes. Add water in amount to provide satisfactory workable consistency of mortar.
6. Retemper mortar as required within 2 hours of mixing to replace water lost by evaporation. Use and place mortar in final position within 2 -1/2 hours of the initial mixing. Discard mortar after 2 -1/2 hours of the initial mixing.

633.04 Delivery, Storage and Handling

Stone masonry materials:

1. Deliver, store, and handle rough stone materials to prevent soiling and damage. Stack rough stone materials off the ground.
2. Deliver, store and handle cut stone materials in accordance with stone fabricators recommendations. Use non-staining materials for blocking and packing. Stack cut stone materials off the ground on no-staining skids. Protect from damage and soiling.

Masonry accessories: Deliver, store and handle masonry accessories to prevent weather damage and deterioration.

Mortar materials:

1. Deliver cement, lime, and admixture materials in manufacture unopened and undamaged containers with labels intact and legible. Store materials off the ground, under cover, and protect from weather damage and deterioration.
2. Stockpile and handle aggregates to prevent mixing with foreign materials.

633.05 Project Conditions

Do not use metal accessories with loose coatings, including ice, which will reduce bond.

Protect partially completed stone masonry work against weather damage and moisture, when work is not in progress. Cover tops of walls with strong, waterproof, non-staining, membrane. Extend membrane at least 2' - 0" down both sides of walls and hold securely in place.

Brace unsupported and newly - laid masonry walls. Maintain bracing in place until walls reach design strength.

Cold weather construction:

1. Precondition masonry materials to maintain 50 degrees F. when installed.
2. Do not install stone masonry work when the temperature of the outside air is below 40 degree F. and falling unless suitable means acceptable to the Department are provided to protect work from cold and frost and ensure that mortar well set without freezing. Comply with International Masonry Industry All-Weather Council cold weather constructions and protection recommendations.
3. No masonry work will be permitted when outside air temperature is below 25 degree F.
4. Do not use frozen materials or materials mixed or coated with ice or frost.
5. Do not build on frozen work. Remove and replace masonry damaged by frost or freezing.
6. Do not use anti-freeze or calcium chloride in any mortar.
7. Protect completed masonry work against freezing for not less than four days after laying.

Remove excess mortar and stains as work progresses.

Protect adjacent work from damage, soiling, and staining during masonry work operations.

633.06 Inspection

Examine substrates and installation conditions. Do not start stone masonry work until unsatisfactory conditions are corrected.

633.07 Preparation

Establish lines, levels and coursing.

Clean stone work before setting by thoroughly scrubbing with fiber bristle brushes and clean water. Drench stone with clean water prior to setting.

Damp proof stone backs, bonding face and edges, and face surfaces below finish grade with damp proofing material.

Ferrous metal: Where stone work will contact ferrous metal surfaces concealed in construction (anchors, supports, structural framing, and similar surfaces) apply a heavy coat of bituminous paint on metal contact surfaces prior to setting stone.

Do not use stone units with chips, cracks, voids, stains, or other visible defects.

633.08 Wall Erection

Set Stone in accordance with drawing details and final shop drawings for stone work. Provide anchors, supports, and other attachments as necessary to secure stone work in place. Shim and adjust accessories as required for proper setting of stone.

Set granite wall caps in full bed of mortar, rake out joints to minimum 1" depth before mortar is set. Provide vertical joints unfilled.

Provide non-staining wood coverings at projecting edges and corners to protect installed stonework. Maintain covering until removed for final cleaning of stonework.

633.09 Cleaning

Remove and replace stone units which are loose, broken, stained, or otherwise damaged. Provide new matching units, install as specified, and point up joints to eliminate evidence of replacement. Repoint defective and unsatisfactory joints and as required to provide a neat, uniform appearance.

Clean stonework not less than 6 days after completion of work, using clean water and stiff-bristle brushes. Do not use wire brushes, acid type cleaning agents or other cleaning compounds with caustic or harsh fillers.

Upon Completion of the work, remove from the site all excess materials, debris, tools, and equipment. Repair damage resulting from stone masonry work operations.

633.10 Method of Measurement

Stone Seating Walls will be measured per linear foot, along the centerline of the wall.

633.11 Basis of Payment

The accepted quantity of Stone Seating Wall will be paid for at the contract unit price per linear foot of wall. Payment shall be full compensation for design, fabrication, delivery and erection of Stone Seating Wall, furnishing all labor, equipment and materials including granite cap, concrete, mortar, fasteners, reinforcing mesh, reinforcing strips, tie strips, hardware, joint fillers, coping, woven drainage geotextile, impervious membrane, select backfill and technical field representative. Cost of excavation and cast-in-place concrete for leveling pad will not be paid for separately, but will be considered incidental to the Stone Seating Wall.

The unit price for Stone Seating Wall shall include costs for:

1. All design work, preparation of written submittals and plans, revision of submittals, sample submittals and any other necessary preliminary work prior to and after acceptance of the retaining wall by Department.
2. All materials, including transportation, for the Stone Seating Walls, including granite cap, concrete, mortar, attachment devices, fasteners, bearing blocks and shims, joint materials, copings, vertical corner elements, concrete masonry, reinforcing steel, crushed stone, select backfill and incidentals.
3. All labor and equipment required to excavate and prepare the wall foundation, form and cast the leveling pad, erect the seating wall to the lines and grades shown on the plans, place and compact backfill, place and compact the drainage layer, and construct any other items necessary to complete the seating wall.
4. All temporary sheeting, temporary excavation, and temporary dewatering necessary to perform the other work in this section.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
633.01	Stone Seating Wall	Linear Foot

**SUPPLEMENTAL SPECIFICATION
SECTION 637
DUST CONTROL**

The provisions of Section 637 of the Standard Specifications shall apply with the following additions or modifications:

637.01 Description

This work shall consist of applying water and calcium chloride to control dust resulting from traffic and Contractor's operations.

637.05 Method of Measurement

This section shall be replaced with:

All dust control will be measured as a single item and included in the Lump Sum Price for Pay Item 656.75.

637.06 Basis of Payment

The accepted quantity will be paid for within the contract lump sum price for item 656.75.

Payment will be full compensation for furnishing and applying water and calcium chloride as required.

**SUPPLEMENTAL SPECIFICATION
SECTION 645
HIGHWAY SIGNAGE**

The provisions of Section 645 of the Standard Specifications shall apply with the following additions or modifications:

645.01 Description

This work shall also include the demounting, stockpiling, reinstallation, and relocation of existing signage as shown on the plans. This work shall also include delivery of unused signs to the City stockyard and the disposal of signs as directed by the Department.

645.08 Method of Measurement

This section shall be replaced with:

All signage will be measured as a single item at a Lump Sum price.

645.09 Basis of Payment

This section shall be replaced with:

All labor, materials and equipment necessary to complete the work of this Section shall be paid for Lump Sum under item 645.303 Signage.

Payment will be made under:

Pay Item

645.3031

Signage

Pay Unit

Lump Sum

**SUPPLEMENTAL SPECIFICATION
SECTION 652
MAINTENANCE OF TRAFFIC**

The provisions of Section 652 of the Standard Specifications shall apply with the following additions and modifications:

652.3.6 Traffic Control

The Contractor shall prepare and submit a Traffic Control Plan (TCP) in accordance with 652.3.3. This TCP shall meet as a minimum, all items specified under this section of the Standard Specification.

Two way traffic shall be maintained at all times on Marginal Way and Franklin Arterial. Two way traffic flow shall be required on all streets during non-working hours. Contractor shall be responsible for furnishing, installing, and manufacturing all traffic control devices in accordance with this section and the TCP.

652.7 Method of Measurement

This section shall be replaced with:

All work necessary to maintain safe traffic control will be measured as a single item at a Lump Sum price.

652.8 Basis of Payment

This section shall be replaced with:

All labor, materials and equipment necessary to complete the work of this Section shall be paid for Lump Sum under item 652.39 Work Zone Traffic Control.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
652.31	Type I Barricade	Each
652.311	Type II Barricade	Each
652.33	Drum	Each
652.34	Cone	Each
652.35	Construction Signs	Square Foot
652.36	Maintenance of Traffic Control Devices	Calendar Day
652.38	Flaggers	Hour

**SUPPLEMENTAL SPECIFICATION
SECTION 656
TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL**

The provisions of Section 656 of the Standard Specifications shall apply with the following additions and modifications:

656.01 Description

Contractor shall submit a Soil Erosion Water Pollution Control Plan (SEWPCP) to the Department for approval prior to construction. All work and materials shall conform to the Drawings and the MDOT Erosion Control Best management Practices. Deficiencies in erosion control measures indicated by failures or erosion shall be immediately corrected by the Contractor providing additional measures or different techniques to correct the situation and prevent subsequent erosion.

656.04 Method of Measurement

This section shall be replaced with:

All work necessary to maintain temporary soil erosion and water pollution control in accordance with the approved SEWPCP will be measured as a single item at a Lump Sum price.

656.05 Basis of Payment

This section shall be replaced with:

All labor, materials and equipment necessary to complete the work of the approved SEWPCP shall be paid for Lump Sum under Item 656.75, Temporary Soil Erosion and Water Pollution Control.

	Payment will be made under:	
<u>Pay Item</u>		<u>Pay Unit</u>
656.75	Temporary Soil Erosion and Water Pollution Control	Lump Sum

**SUPPLEMENTAL SPECIFICATION
DIVISION 700
GENERAL STATEMENT**

The following are revisions and additions to the Standard Specifications. Provisions contained herein shall be considered to supplement or supersede those portions of the Standard Specifications as they apply to the Contract.

The GENERAL STATEMENT of this Division is hereby revised to read as follows:
All materials which are to be used in the work for which there is no prescribed testing by the project inspectors or other certified laboratories, the Contractor shall, prior to final acceptance as specified in subsection 105.17(b), submit a Materials Certification Letter similar to:

Company Letterhead

Mr. _____ Resident Date _____
Address _____ Project No. _____
_____ Town _____

"This is to certify that the below listed materials, which are incorporated into the above designated project, comply with the pertinent specified material requirements of the contract. Processing, project testing and inspection control of raw materials are in conformity with the applicable drawings and/or standards of all articles furnished. (List only those items used.)

- Castings, Grates, Frames and Traps
- Concrete Blocks, Bricks, Precast Sections, Appurtenant Structures
- Culverts, Underdrain, Sanitary Sewer Pipe and Storm Drain Pipe
- Regulatory Signs and Posts

All records and documents pertinent to this letter and not submitted herewith shall be maintained available by the undersigned for a period of not less than three (3) years from the date of completion of the project.

The Materials Certification letter shall be signed by a person having legal authority to bind the Contractor.

Materials for which the above Certificate is acceptable may be subject to random sampling and testing by the Department. Certified materials which fail to meet specification requirements may not be accepted.

**SUPPLEMENTAL SPECIFICATION
SECTION 703
AGGREGATES**

The provisions of Section 703 of the Standard Specifications shall apply with the following additions and modifications:

703.02 Coarse Aggregate for Concrete

Designated Aggregate Size

Sieve Size	Percent Passing Sieve				
	2 in.	1½ in.	1 in.	¾ in.	½ in.
2 in.	95-100	100	-	-	-
1-1/2 in.	-	95-100	100	-	-
1 in.	50-70	-	90-100	100	-
¾ in.	-	50-70	-	90-100	100
½ in.	15-30	-	25-60	-	90-100
¾ in.	-	10-30	-	20-55	-
No. 4	0-5	0-5	0-10	0-10	0-15
F.M. (+0.20)	7.45	7.20	6.95	6.70	6.10

Aggregate used in concrete shall not exceed the following maximum designated sizes:

- a. 2 inches for mass concrete
 - b. 1-1/2 inch for piles, pile caps, footings, foundation mats, and walls 8 inches or more thick
 - c. ¾ inch for slabs, beams, and girders.
 - d. ½ inch for fireproofing on steel columns and beams
- 1 inch for all other concrete

703.06 (a) Aggregate Base

Aggregate base - crushed, type "B" shall not contain particles of rock which will not pass the two inch (2") square mesh sieve, and shall conform to the type "B" aggregate, as listed in the subsection of the Standard Specifications.

"Crushed" shall be defined as consisting of rock particles with at least 50 per cent of the portion retained on the 1/4 inch square mesh sieve, having a minimum of 2 fracture faces.

703.06 (b) Aggregate Subbase

Sand subbase shall not contain particles of rock which will not pass the one inch (1") square mesh sieve, and shall conform to the type "F" Aggregate, as listed in this subsection of the Standard Specifications.

Gravel subbase shall not contain particles of rock which will not pass the three inch (3") square mesh sieve, and shall conform to type "D" Aggregate, as listed in this subsection of the Standard Specifications.

703.18 Common Borrow

Common borrow shall not contain any particle of bituminous material.

703.19 Granular Borrow

Granular borrow shall contain no particles which will not pass a three inch (3") square mesh sieve.

703.20 Gravel Borrow

Gravel borrow shall not contain particles of rock which will not pass three inch ("3") square mesh sieve.

703.30 Crushed Stone for Pipe Bedding and Underdrain

"Crushed Stone" shall be defined as rock of uniform quality and shall consist of clean, angular fragments of quarried rock, free from soft disintegrated pieces or other objectionable matter.

Crushed stone used as a bedding material for pipe and underdrain shall be uniformly graded and shall meet the follow gradations.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieve
3/4 – inch-----	100
3/8 – inch-----	20 – 55
No. 4-----	0 – 10

For pipe sizes 42 inches and larger:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieve
1-1/4 – inch-----	100
3/8 – inch-----	20 – 55
No. 4-----	0 – 10

The stone shall be free from vegetation, lumps or balls of clay, and other deleterious substances.

703.31 Crushed Stone for Excavation Below Grade

Crushed stone shall meet the following gradation requirements:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieve
2-1/2 – inch-----	100
2 – inch-----	95 – 100
1-inch-----	0 – 30
3/4-inch-----	0 – 5

The stone shall be free from vegetation, lumps or balls of clay, and other deleterious substances.

703.32 Aggregate for Crushed Stone Dust Surface

Stone Dust as supplied Pike Industries Spring Street Quarry meeting the following gradation or approved equal.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieve
1/2"-----	100
No. 4-----	90 – 100
No. 10-----	50 – 70
No. 20-----	30 – 50
No. 60-----	20 – 30
No. 200 -----	15 – 25

The stone shall be free from vegetation, lumps or balls of clay, and other deleterious substances.

703.33 Choker Course for Pervious Surfaces

Choker Course shall be 3/8" crushed washed stone consisting of durable, clean angular rock fragments obtained by breaking and crushing rock material, with a calcium carbonate content of 10% or less when tested per ASTM D3473 using a 10 minute reaction time. The minimum permeability of the drainage stone shall be 10 cm/sec. Sieve analysis by weight:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieve
1-1/2"-----	100
1"-----	100
3/4"-----	100
1/2"-----	100
3/8"-----	80 -100
No. 4-----	10 - 40
No. 8-----	0 - 10
No. 50-----	0 - 5
No. 200-----	<1

The choker course shall be free from vegetation, lumps or balls of clay, and other deleterious substances.

703.34 Drainage Course for Pervious Surfaces

Drainage Course shall be 1-1/2" crushed washed stone consisting of durable, clean angular rock fragments obtained by breaking and crushing rock material, with a calcium carbonate content of 10% or less when tested per ASTM D3473 using a 10 minute reaction time. The minimum permeability of the drainage course shall be 10 cm/sec. Sieve analysis by weight:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieve
1-1/2"-----	100
1"-----	20 - 60
3/4"-----	0 - 25
1/2"-----	0 - 5
3/8"-----	0 - 5
No. 4-----	0 - 5
No. 8-----	0 - 5
No. 200-----	<1

The drainage course shall be free from vegetation, lumps or balls of clay, and other deleterious substances.

**SUPPLEMENTAL SPECIFICATIONS
SECTION 715
LIGHTING MATERIALS**

The provisions of Section 715 of the Standard Specifications shall apply with the following additions and modifications:

715.01 Wiring Devices and Miscellaneous Electrical Equipment

Insert the following in this section:

Receptacles:

Ground Fault Interrupter (GFI) Receptacles shall be specification grade. Provide 20 ampere, "feed through" type ground fault circuit interrupter, with integral heavy duty NEMA 5 20R duplex receptacles arranged to protect connected downstream receptacles on same circuit. Provide unit designed for installation in a 2 3/4 inch deep outlet box without adapter, grounding type, Class A, Group 1. Provide waterproof in-use covers where indicated and required.

Locking receptacles shall conform to NEMA WD 6. One plug shall be furnished with each locking receptacle.

Receptacles shall meet the requirements for retention of plugs, overload, temperature, and assembly security in accordance with NEMA WD 1.

Convenience outlets installed in outdoor damp or wet locations for connection to 120-volt ac single-phase circuits shall consist of Ground Fault Circuit Isolation (GFCI) receptacles enclosed in weatherproof outlet boxes. Rubber or neoprene gaskets shall provide a positive seal against the weather.

Photocells:

UL 773 or UL 773A. Units shall be quick response, hermetically sealed cadmium-sulfide or silicon diode type cell rated 480 volts ac, 60 Hz with double-throw contacts. Switch shall turn on at or below 3 footcandles and off at 2 to 10 footcandles. A time delay shall prevent accidental switching from transient light sources. Provide switch in a U.V. stabilized polycarbonate housing with adjustable window slide, rated 1800 VA, minimum, or as indicated on the Contract Drawings.

Units shall be thread mount suitable for attachment to lighting contactor enclosure.

Lighting Contactors:

Lighting control contactors shall be UL listed, single coil electrically operated, electrically held, with 480 volt rated coils, or as indicated.

Units shall be furnished with silver plated contacts, self aligning type, with number of poles as indicated. Each contactor shall be furnished in individual NEMA 1 surface mounted enclosure with cover.

Units shall be rated as indicated on the Drawings and shall be rated for switching of HID lamp ballasts.

715.04 Pre-wired Conduit

The use of pre-wired conduit is not permitted.

715.05 Metallic Junction and Fuse Box

The use of fuse boxes is not permitted.

715.07 Secondary Wiring

Insert the following in this section:

Conductors shall be color coded in accordance with the following:

<u>CONDUCTOR</u>	<u>120/208 COLOR</u>	<u>480/277 COLOR</u>
Phase A	Black	Brown
Phase B	Red	Orange
Phase C	Blue	Yellow
Neutral	White	White/Gray
Equipment Grounds	Green	Green

715.08 Luminaire, Lamp and Ballast

Luminaires shall be as specified on the Contract Drawings.

715.11 Service Equipment

Insert the following in this section:

Panelboards:

Panelboards shall have mains and circuits as indicated on the drawings and all designed for three phase, four wire, solid neutral, 60-hertz service rated for 480/277 volt or 120/208V service as indicated. Where main circuit breakers are indicated on the Drawings, provide main circuit breaker type interiors. Back-fed branch circuit breakers shall not be utilized for main circuit breakers.

Panelboards shall be flush or surface mounted, etc., as indicated by panel schedule; code gauge galvanized steel boxes and enameled steel fronts sized for minimum 6" minimum side, top and bottom gutters, or greater as required by NEC. Each panel shall have door in door trim with full length piano hinge to allow for access to wireways.

Each panel shall have door provided with cylinder lock and latch allowing for common key access to each panel. Each panel shall have fully typed out directory indicating outlets, fixtures, devices and locations served by the intended circuit. Panelboards for use as service disconnecting means shall additionally conform to UL 869.

Mechanical lugs furnished with panelboards shall be cast copper or copper alloys of sizes suitable for the conductors indicated to be connected thereto. Panelboards shall have fully capacity neutral bus, ground bus and bolt-on circuit breakers.

Circuit breakers shall be molded-case, thermal-magnetic, quick-make, quick-break, bolt-in type. Interrupting rating of circuit breakers shall be as indicated. Provide with suitable handle locks where indicated. Where interrupting rating is not indicated, panels for 120/208 volts service shall have breakers with 10,000 ampere RMS minimum interrupting rating at 240 volts, main circuit breakers where indicated shall have 25,000 ampere RMS minimum interrupting rating at 240 volts. Panels for 480/277 volt service shall have breakers with 14,000 ampere RMS minimum interrupting rating at 480 volts.

Distribution panelboards shall be circuit breaker type and shall have mains and circuits as indicated on the drawings and all designed for three phase, four wire, solid neutral with bonding bar, 60-hertz service rated for 208/120 volt or 480/277 volt service as indicated. Circuit breaker

interrupting ratings shall be a minimum of 25,000 amperes, RMS or as indicated on the Contract Drawings. Distribution panelboards shall be of same manufacturer as breaker panelboards and shall have UL label.

Accessories: Provide a transient voltage surge suppression device at the main panelboard. The units shall be mounted in a metal enclosure suitable for attachment to the panelboard enclosure. The units shall meet UL standard 1449 and have a UL label.

**SUPPLEMENTAL SPECIFICATIONS
SECTION 800
WATER MAIN RELOCATION**

The following items shall be considered additions to the Standard Specifications under Section 800.

800.01 Description

This work shall consist of the following:

- Installing water main relocations as directed by the Department at Plowman Street.

All connections shall be made in conformance with the Plumbing Code of the City of Portland, Portland Water District specifications & details, and the Maine State Plumbing Code. The new water main shall match the size of the existing line. The Contractor shall be responsible for locating and reconnecting existing water main. The Contractor shall install locating/warning tape over the centerline of the new water main as required by City ordinance. The contractor shall provide all necessary labor, equipment, tools, and materials necessary to complete the water main relocation as directed by the Portland Water District upon test pit results.

The contractor shall coordinate and attend a Pre-Construction meeting with the Portland Water District, and provide all necessary notifications to the Water District, Department and the City during construction.

800.02 Materials

All materials must comply with the current Portland Water District specifications, details and requirements.

800.05 Basis of Payment

The amount bid for lump sum of water main relocation shall be full compensation for furnishing all labor, equipment, tools, adaptors, and materials necessary to satisfactorily relocate the water main impacted by the construction. The cost of coordination with the Portland Water District and the City of Portland is included in this pay item. Trench excavation, providing bedding materials, and all other effort necessary to satisfactorily complete the work shall be included. The cost of insulation shall be included in the pay item. Pipe backfilling and backfilling materials shall also be included in the pay item. The cost of locating/warning tape including installation shall be considered incidental. The cost for disinfection and testing shall be considered incidental to the pay item. The Portland Water District will waive the initial inspection fees, and will provide shutdown and reactivation of the water main. Refer to Supplemental Specification Section 104 for additional information regarding water main relocation.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
830.1011	Water Main Relocation	Lump Sum

**SUPPLEMENTAL SPECIFICATIONS
SECTION 841
BOLLARDS**

The following items shall be considered additions to the Standard Specifications under Section 841.

841.01 Description

This work shall consist of furnishing and installing all new bollards at locations and to the lines, grades and dimensions as shown on the plans or authorized by the Department.

1. Wooden Bollard
2. Recycled Granite Bollards and Blocks
3. Removable Metal Bollard

841.02 Materials

Contractor shall supply bollards in quantities shown on the Drawings and specified herein:

Wooden Bollard:

1. Wood shall be of hemlock. They shall be of well seasoned, straight and sound timber cut from live growing trees, free from loose knots or other structurally weakening defects, including shake, holes and heart rot over 25 mm [1 in] in diameter. The posts shall be free from season checks that exceed 6 mm [1/4 in] in width. A tolerance of 25 mm [1 in] in length and 6 mm [1/4 in] in width or thickness is permitted in the dimensions of rectangular posts. They shall be well sawn and have square edges except that wane not more than 38 mm [1-1/2 in] wide and extending not more than 1/2 the length of the piece will be allowed on that portion of the post to be placed below ground. Sound, tight, well spaced knots to 64 mm [2-1/2 in] diameter will be permitted.
2. Size: Nominal size is 10" deep x 10" wide x 7' long.
3. Exposed top of bollard shall have 1" chamfer all sides.
4. Finish shall be Cabot Semi-Solid Stain, 6100 Series, color to be "New Cedar".
5. Reflectors. 100mm x 200mm High Intensity Reflective Sheeting MDOT Item No. 645.302.

Recycled Granite Bollard: City owned / stockpiled

1. Granite bollards and blocks are located at the City of Portland Public Services stockpile site near 2490 Outer Congress Street. Granite Bollards have been previously selected and flagged by the City.
2. Size (average): 10" deep x 10" wide x 7' long.

Removable Metal Bollard:

1. Removable metal bollard manufactured by TrafficGuard Direct, Inc. , P.O. Box 201, Geneva, IL 60134, (877) 727-7347 model: Round Post Key Lock Removable Bollards, # RP3506.
2. Bollard Ground Sleeve, filler piece ASTM A513 Type 5. Bollard posts and ground sleeves must be supplied by TrafficGuard to provide consistent quality in appearance and performance.
3. Finish to be yellow

841.03 Construction Requirements

Wooden Bollard:

1. Direct burial in min. 6" crushed aggregate backfill as shown in detail.
2. Install in quantities and locations shown on plan.

Recycled Granite Bollard:

1. Direct burial in min. 6" crushed aggregate backfill as shown in detail.
2. Widest face of granite to be perpendicular to trail.
3. Install in quantities and locations shown on plan.
4. Shipping and Handling: Granite shall be properly banded for shipment, receive careful handling and be stored to prevent breakage, staining or other damage.
5. Contractor shall be responsible for all loading and delivery of recycled granite from the City Stock Yard.

Removable Metal Bollard

1. Install per manufacturer's recommendations in the locations as shown on the plans and details.
2. Bollards shall be delivered to job site as assembled units. Provide necessary protection to avoid damage to during delivery and unloading at the site. Units damaged or broken by the Contractor during or after installation but prior to final acceptance by the Department shall be replaced at the expense of the Contractor.

841.04 Method of Measurement

All bollards will be measured by each, complete in place, as required.

841.05 Basis of Payment

All bollards will be paid for at the contract unit price per each. Contract price shall be full compensation for furnishing, loading, handling, delivery, earthwork, installation, and all labor, material, equipment and other items necessary to satisfactorily complete the work.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
841.46	Wooden Bollard	Each
841.02	Recycled Granite Bollards and Blocks	Each
841.481	Removable Bollard	Each

**SUPPLEMENTAL SPECIFICATIONS
SECTION 842
BIKE RACKS**

The following items shall be considered additions to the Standard Specifications under Section 842.

842.01 Description

This work shall include all new bike racks as described in the contract documents.

842.02 Quality Assurance

Installer Qualifications: An experienced installer who has completed installation of bicycle racks similar in material, design, and extent to that indicated for this project and whose work has resulted in construction with a record of successful in-service performance.

Manufacturer Qualifications: A firm experienced in manufacturing bicycle racks similar to those required for this project and with a record of successful in-service performance.

Source Limitations: Obtain each color, finish, shape and type of bicycle hitch from a single source with resources to provide components of consistent quality in appearance and physical properties.

Product Options: Drawings indicate size, shape and dimensional requirements of bicycle racks and are based on the specific system indicated.

842.03 Submittals

Product Data: Include physical characteristics such as shape, dimensions, bicycle parking capacity and finish for each bicycle hitch.

Shop Drawings: Show installation details for each bicycle hitch.

Samples for Verification: Submit finish samples for review and verification.

Maintenance Data: For each bicycle hitch.

842.04 Delivery, Storage and Handling

Upon delivery, before signing for shipment, inspect for any damages.

Store bicycle racks in original undamaged packages and containers until ready for installation

Handle bicycle racks with sufficient care to prevent any scratches or damage to the finish.

842.05 Warranty

Bicycle racks carry a one year manufacturer's limited warranty against defects in materials and workmanship. The one year warranty period begins the date the product is shipped from the manufacturer.

842.06 Materials

Provide bicycle racks, model name: "Bike Hitch", manufactured by DERO BIKE RACK CO., 2657 32nd Avenue S, Minneapolis, MN 55406, 1-888-337-6729. Fax: 612-331-2731 Website: www.dero.com

1. Center beam: 2" schedule 40 pipe.
2. Ring: 1.5" OD 11 gauge tube.
3. Finishes: A 304 grade stainless steel finish.

842.07 Installation

Flange mount 5.5" x 5.25" x .25" foot - 4 anchors

Install Bike Racks per Manufacturer's recommendations and as described in the Contract Documents and Details Sheet. Final bike hitch location shall be coordinated with the Department prior to installation.

842.08 Method of Measurement

Bike Racks will be measured per each unit installed.

842.09 Basis of Payment

The accepted quantities of bike racks will be paid for at the contract unit price per each unit installed. Contract price shall be full compensation for furnishing, handling, delivery, earthwork, concrete base, installation, and all labor, material, equipment and other items necessary to satisfactorily complete the work.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
890.07	Bike Racks	Each

**SUPPLEMENTAL SPECIFICATIONS
SECTION 900
STORMWATER MANAGEMENT SYSTEMS**

The following items shall be considered additions to the Standard Specifications under Section 900.

900.01 Description

This work shall consist of the Rain Garden Soil Enhancement in accordance with these specifications and in conformity with lines, grades and details shown on the plans.

900.02 Materials

Materials shall meet the requirements specified in the subsections of this specification.

900.03 Submittals

Contractor shall provide submittals and Working Drawings, including the source and gradation of loamy sand specified herein in conformance with ASTM C136 – Standard Test Method for Sieve Analysis and ASTM C117 – Standard Test Method for Materials finer than 75µm, a soil textural analysis for loamy sand specified herein in conformance with ASTM D422 – Standard Test Method for Particle-Size Analysis of Soils.

900.04 Rain Garden Soil Enhancement Materials

Soil Media shall be a loamy sand soil combined with moderately fine, wood fiber or bark mulch, mixed at ratios specified in the Contract Documents. Soil media shall be a uniform mix, free of stones, stumps, roots, or other similar objects larger than 2 inches. Subcomponents of the Soil Media include:

Loamy Sand shall consist of native loamy sand that contains no more than 2% clay as determined through soil textural analysis.

Wood Fiber Mulch shall consist of a moderately fine, well composted bark free of refuse, physical contaminants and material toxic to plant growth mulch. The mulch shall have 100% passing a 1" screen.

900.05 Construction Methods

Rain gardens shall be constructed in an excavation conforming to the lines and grades depicted on the plans and detailed within the Contract Documents. Any modifications to the elevation, shape or location of the rain gardens shall be at the direction of and approval of the Department.

Rain gardens shall be constructed using the following methods and components:

1. Contractor shall limit compaction of subgrade. Subgrade of soil enhancement shall be mechanically raked with a toothed or "ripper-type" excavator bucket prior to installation of backfill in order to open subgrade and promote infiltration. Alternative methods must be approved by the Department.
2. Geotextile filter fabric shall be placed at the sides and bottom of the excavation to separate the soil media layer from the adjacent Group 2 Soils, as specified in Section 620 and shown in the Contract Documents. Large tree roots must be trimmed flush with the side walls in order to prevent fabric puncturing or tearing during installation procedures. All seams shall have a minimum of 12 inches overlap.
3. Soil media shall be lightly compacted and shall be mixed off site and installed fully mixed. The Contractor should avoid excessive compaction of the soil media during installation and should utilize wide track or marsh track equipment or light equipment with turf tires if travel on soil media is necessary. Up to 20% natural compaction may occur in the soil media. The contractor may presoak the placed soils to speed up the

natural compaction process. Final grades shall confirm to lines and grades depicted on the plans. The finish surface grade of the soil media shall be level.

4. Sideslopes of the rain gardens shall be constructed in accordance with lines and grades depicted on the plans and shall be seeded in accordance with Section 615. All sideslopes exceeding a 3:1 slope or receiving concentrated runoff shall be protected from erosion or sediment movement through the use of temporary erosion control fabric as described on the plans.
5. Erosion Control: The soil media must not be installed until the entire area that drains to the rain garden has been permanently stabilized with pavement or other structures unless the runoff is diverted. The area that drains to the rain garden shall be kept stable, avoiding erosion and deposition of sediments into the stormwater management system. Absolutely no runoff is to enter the rain garden until all contributing drainage areas have been sufficiently stabilized.

900.06 Method of Measurement

Rain Garden Soil Enhancement will be measured by the cubic yard of soil media.

900.07 Basis of Payment

The accepted quantities of the Rain Garden Soil Enhancement will be paid at the contract unit price bid per cubic yard of soil media and shall be full compensation for all excavation, installation, labor, materials and equipment required to complete the work in accordance with the plans.

<u>Pay Item</u>	Payment will be made under:	<u>Pay Unit</u>
615.12	Rain Garden Soil Enhancement	Cubic Yard