



## CONTRACT DOCUMENTS

### PAWTUCKET AVENUE WATER MAIN RELOCATION

**City of East Providence RFP # EP22/23-23**

Pawtucket Avenue  
East Providence, Rhode Island

Prepared for:

**City of East Providence Water Utilities Division**

60 Commercial Way

East Providence, RI 02914

Prepared by:



**Pare Corporation**

*Rhode Island Office*

8 Blackstone Valley Place

Lincoln, RI 02865

**May 2023**

**CITY OF EAST PROVIDENCE, RI  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

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**CITY OF EAST PROVIDENCE, RI  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

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**DIVISION 0**

**BIDDING AND CONTRACT REQUIREMENTS**



**CITY OF EAST PROVIDENCE  
PAWTUCKET AVENUE WATER MAIN RELOCATION  
ADVERTISEMENT  
REQUEST FOR PROPOSAL  
RFP EP22/23-23  
BID OPENING THURSDAY JUNE 22, 2023 AT 11:00AM**

The City of East Providence seeks sealed bids to furnish all labor, equipment, tools, appliances and materials and performing all operations in connection with the relocation of two 12-inch water mains on Pawtucket Avenue as described in the contract documents. Specifications may be downloaded from the City's website <https://eastprovidenceri.gov/rfp>

(1) original, Two (2) copies of proposals and (1) one thumb drive shall be submitted in one (1) sealed envelope to East Providence City Hall, Controllers Office, Room 103, Attn: Ralph Mitchell Procurement Specialist, 145 Taunton Ave., East Providence, RI 02914 no later than **THURSDAY JUNE 22, 2023 at 11:00 AM**. The bids will be publicly recorded. Bids received with a time of 11:01 AM or later will be rejected. The outside envelope needs to be marked **RFP EP22/23-23**.

The City reserves the right to reject any/or all companies, to waive any informality in the proposal statement and to accept the proposal of any company based on what the City deems to be in its best interest.

Any questions regarding the RFP may be directed in writing to Brandon M. Blanchard, P.E. of Pare Corporation at [bblanchard@parecorp.com](mailto:bblanchard@parecorp.com) and Ralph Mitchell, Procurement Specialist at [rmitchell@eastprovidenceri.gov](mailto:rmitchell@eastprovidenceri.gov) no later than **TUESDAY JUNE 13, 2023 AT 5:00 PM**.

Equal Opportunity/Affirmative Action Employer

Ralph Mitchell  
[rmitchell@eastprovidenceri.gov](mailto:rmitchell@eastprovidenceri.gov)



**CITY OF EAST PROVIDENCE  
PAWTUCKET AVENUE WATER MAIN RELOCATION  
BID FORM  
REQUEST FOR PROPOSAL  
RFP EP22/23-23  
BID OPENING THURSDAY JUNE 22, 2023 AT 11:00AM**

The undersigned bidder, being familiar with local conditions affecting the cost of the work, hereby proposes to provide all necessary labor, materials, equipment and incidental items necessary to do all the work called for in the Specifications and in accordance with the Contract Documents.

A mandatory pre-bid conference will be held on **Tuesday June 6, 2023 at City Hall, 145 Taunton Avenue, East Providence, Conference Room 306 at 10:00AM**. Questions on the bid are due by **Tuesday June 13, 2023 at 5:00PM**.

The undersigned further understands that the quantities of work as shown are approximate only and are subject to increase or decrease and offers to do the work whether the quantities are increased or decreased, at the unit prices stated. Davis-Bacon wages apply to this proposal.

All prices must be written in words and figures. In case of discrepancy, the amount shown in words will govern.

Bidder acknowledges receipt of the following addendum:

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At the time of the opening of bids, the bidder shall have inspected the sites of the work to familiarize himself with the conditions relating to the work under the contract.

No Bidder may withdraw their Bid within sixty (60) days following the closing time for receipt of Bids.

Bidder hereby agrees to begin work within ten (10) days after the date of the NOTICE TO PROCEED, unless otherwise specified or permitted by the CITY, and shall complete the work under the provisions of the Contract within 60 calendar days.

The undersigned bidder submits herewith Bid Security in the form of a Bid Bond or a Certified Check, in favor of the City of East Providence, in the amount not less than five (5) percent of the total amount bid in dollars, and agrees and consents that, if he is the successful bidder, the Bid Security shall be forfeited to the City of East Providence as liquidated damages, if the required Contract and Surety Bond are not executed within ten (10) days from the date of the NOTICE OF AWARD.

LIQUIDATED DAMAGES will be assessed at the rate of \$1,500.00 per day for each day beyond the contract length herein stipulated.

The undersigned bidder further agrees to pay the premiums for the Surety Bond (Performance, Labor and Materials Payment Bonds) for which said premiums are to be included in the Bid Price.

BIDDING FIRM: \_\_\_\_\_

NUMBER & STREET: \_\_\_\_\_

CITY/STATE/ZIP: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

TELEPHONE NO.: \_\_\_\_\_

Being a Corporation, incorporated under  
the laws of the State of

\_\_\_\_\_

(Partnership)

(Individual)

Composed of officers, partners  
or owner as follows:

\_\_\_\_\_  
(President, Owner, Partner)

(Corporate Seal)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Item No.	Estimated Quantity	UOM	Brief Description	Unit Bid Price in Figures	Amount in Figures
1	1	LS	Mobilization and Demobilization		
2	1	LS	Erosion and Sedimentation Controls		
3	5	EACH	Test Pits		
4	100	CY	Unsuitable Material Removal		
5	100	CY	Rock Removal		
6	1,260	LF	F&I 12" DI Water Main		
7	5	EACH	F&I 12" Gate Valve		
8	4	EACH	F&I 8" Gate Valve		
9	4	EACH	F&I 6" Gate Valve		
10	100	LF	F&I 8-Inch DI Water Service		
11	100	LF	F&I 6-Inch DI Water Service		
12	1	EACH	F&I Fire Hydrant		
13	5,000	LBS	F&I Ductile Iron Fittings		
14	50	CY	Controlled Density Fill		
15	120	TON	Temporary Trench Maintenance		
16	160	TON	Permanent Trench Patch		
17	150	CY	Concrete Road Base Restoration		
18	2,000	SY	Micro Mill and 2" Overlay		
19	70	SY	Parking Lot Restoration		
20	10	SY	Concrete Sidewalk Restoration		
21	1	EACH	Wheelchair Ramp Restoration		
22	40	LF	Remove and Reset Granite Curbing		
23	60	SY	Loam and Seed/Non Pavement Restoration		
24	1	EACH	Furnish and Install Traffic Loops		
25	400	HRS	Traffic Control Detail		
<b>Base Bid Price for Lines 1-25 in Figures</b>					
<b>Base Bid Price for Lines 1-25 in Words</b>					

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

**SECTION 00100**

**INSTRUCTIONS TO BIDDERS**

The City of East Providence Standard Instructions to Bidders follow as Section 00100 of these Contract Documents.

END OF SECTION



## **STANDARD INSTRUCTIONS TO BIDDERS (SHORT FORM) REQUEST FOR PROPOSALS**

**THESE INSTRUCTIONS ARE STANDARD FOR ALL REQUEST FOR PROPOSALS ISSUED BY THE PURCHASING DIVISION AND MAY BE DELETED, OR MODIFIED BY INDICATING SUCH CHANGE/S BY "SPECIAL INSTRUCTIONS TO BIDDERS."**

### **1.0 RECEIPT AND OPENING OF PROPOSALS:**

Sealed proposals will be received and date stamped East Providence City Hall, Controllers Office, Room 103, Attn: Procurement Specialist 145 Taunton Avenue, East Providence, Rhode Island 02914, until the time and date indicated on the Request for Proposals. No proposal received after that time will be considered. Mark outside bid envelope with item being proposed, and time and date of proposal due date.

### **2.0 FORM OF PROPOSAL:**

Proposals must be submitted on and in accordance with the proposal forms attached hereto, blank places must be filled in as noted, no change shall be made in the phraseology of the proposal form or in the item or items mentioned therein. Additionally, the proposals must contain the name and proper address of the proposing firm, and must be signed by a responsible member of the firm with his signature and official title. Proposals, which are not complete, or contain erasures or alterations, not initiated by the signer, may be rejected. FAXED proposals will not be accepted.

### **3.0 SUBMISSION OF PROPOSALS:**

3.1 Envelopes containing proposals must be sealed and addressed to the East Providence City Hall, Controllers Office, Room 103, Attn: Procurement Specialist 145 Taunton Avenue, East Providence, Rhode Island 02914 and must be marked with the name and address of the proposer, date and time of proposal due date, and name of item being proposed.

3.2 The Procurement Specialist will decide when the specified time has arrived to collect the proposals, and no proposal received thereafter will be considered.

3.3 Any proposer may withdraw his proposal by written request at any time prior to the advertised time for proposal due date. Telephonic proposals, amendments, or withdrawals will not be accepted. Additionally, FAXED bids will not be accepted.

3.4 No proposal may be withdrawn for a period of ninety (90) calendar days from the date and time of proposal due date. The City reserves the right to waive this requirement in order to best serve the interests of the City.

3.5 Negligence on the part of the proposer in preparing the proposal confers no rights for the withdrawal of the proposal after it has been opened.

3.6 Proposals received prior to the time of the due date will be securely kept unopened. No responsibility will attach to an officer or person of the City for the premature opening of a proposal not properly addressed and identified as a proposal.

#### **4.0 ADDENDA**

Copies of all Addenda will be posted to the City's Website. It is the Vendor's responsibility to check and download any and all addenda from the City's Website.

4.1 No Addenda will be posted later than four (4) working days prior to the date for receipt of bids except an Addendum, if necessary, postponing the date for receipt of bids or withdrawing the request for bids. Each bidder shall ascertain prior to submitting their bid that they have received all Addenda issued, and shall acknowledge their receipt in his bid.

#### **5.0 QUALIFICATIONS OF PROPOSER**

The City may make such investigations as it deems necessary to determine the ability of the proposer to perform the work, and the proposer shall furnish to the City all such information and data for this purpose as the City may request. The City reserves the right to reject any proposal if the evidence submitted by, or investigation of such proposer fails to satisfy the City that such proposer is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.

#### **6.0 CONTRACT SECURITY**

Only when a Contract Security is required in the Request for Proposal, the Contractor shall furnish a Bid Bond in the amount of Five Percent (5%) and a Surety Bond/Performance Bond in an amount equal to at least One Hundred Percent (100%) of the contract price as security for the faithful performance of the contract and for the payment of all persons performing labor on the project under the contract and furnishing materials, equipment and all other incidentals in connection with the contract. The surety on such bonds shall be a duly authorized surety company licensed to bond in the State of Rhode Island, and the cost of same will be paid by the Contractor. Before final acceptance, the bonds must be approved by the City.

The bonding company providing surety must be listed in the Federal Register as issued by the Department of Treasury, Department Circular 570, latest edition, as well as being licensed in the State of Rhode Island to provide surety.

#### **7.0 BID PRICES:**

Bidders shall state the proposed price/s in the manner as designated in the Bid Proposal Form. In the event that there is a discrepancy between the unit prices and the extended totals, the unit prices shall govern. In the event there is a discrepancy between the price written in words and in figures, the price written in words shall govern.

## **8.0 TERMS:**

Cash Discounts offered will be considered in determining awards. However, discounts for a period less than twenty (20) days will not be considered. The discount period shall be computed from date of delivery or from date the correct invoice is received by the City Controller, whichever date is later. The date of delivery shall be construed to mean the date on which the bid item is determined to meet the specifications and is therefore acceptable.

## **9.0 RHODE ISLAND SALES TAX:**

The City of East Providence is exempt from the Rhode Island Sales or Use Tax under the 1956 General Laws of the State of Rhode Island, Section 44-18-30, Para. 1, as amended.

## **10.0 "OR EQUAL" BIDDING:**

When the name of a manufacturer, a brand name, or manufacturer's catalogue number is issued as the bid standard in describing an item followed by "Or Approved Equal", this description is used to indicate quality, performance and other essential characteristics of the item required. If bidding on other than the make, model, brand or sample specified, but equal thereto, bidder must so state by giving the manufacturer's name, catalogue number and any other information necessary to prove that his intended substitution of a commodity is equal in all essential respects to the bid standard. Bidder must prove to the satisfaction of the City Manager, or by person or persons designated by him, that the bidders designated substitute is equal to the bid standard; otherwise, his bid will be rejected.

## **11.0 AWARD AND CONTRACT:**

11.1 Unless otherwise specified, the City reserves the right to make award by item, or items, or by total, as may be in the best interest of the City.

11.2 A written award (or acceptance of bid) mailed (or otherwise furnished) to the successful bidder followed by a City Purchase Order, shall be deemed to result in a binding contract without further action by either party.

11.3 It is the intent of the City to award a contract to the lowest responsible bidder in accordance with City Ordinances, Article V. Purchasing, Sec. 2- 243, and provided that the bid has been submitted in accordance with the requirements of the Bidding Documents, is judged to be reasonable, and does not exceed the funds available.

## **12.0 CONSIDERATION OF PROPOSALS REJECTION OF PROPOSALS**

12.1 The City reserves the right to reject the proposal of any proposer who has previously failed to perform properly or complete on time, contracts of a similar nature, or who is not in a position to perform the contract, or who has habitually and without just cause, neglected the payment of bills or disregarded its obligations to sub-contractors, material, or employees.

12.2 The City reserves the right to reject any or all proposals and in particular to reject a proposal not accompanied by any data required by the Bidding Documents or a proposal in any way incomplete or irregular, and to waive any informality in the proposals received, and to accept the proposal or parts thereof deemed to be most favorable to the best interest of the City.

12.3 The City shall have the right to waive any informality or irregularity in any proposal received

12.4 It is the intent of the City, if it accepts any Alternates, to accept them in the order in which they are listed in the proposal form, but the City shall have the right to accept Alternates in any order or combination and to determine the low bidder on the basis of the sum of the Base Bid and the Alternates accepted.

### **13.0 DELIVERY:**

All prices bid must be on the basis of F.O.B. Delivery Point, East Providence, Rhode Island. Therefore, shipping costs are to be included within the prices quoted. Deliveries must consist only of new merchandise or equipment and shall be made between 8:00 A.M. and 4:00 P.M. Prevailing Time, Monday through Friday.

No delivery shall become due or be acceptable without a written Purchase Order, issued by the Procurement Specialist.

### **14.0 AFFIRMATIVE ACTION REQUIREMENTS** **MBE/WBE PARTICIPATION**

Any firm or Contractor providing services to or doing business with the City shall adhere to the City's Affirmative Action Plan for MBE/WBE Participation. Said plan is on file with the City's Affirmative Action Officer.

**14.1 All bidders are required to submit the MBE/WBE Participation Affidavit.**

### **15.0 INSURANCE REQUIREMENTS:**

The Contractor shall carry the following insurance coverages at his own expense:

(a) General: All insurance for this contract shall be written by a company (or companies) acceptable to the city and all policies or certificates shall be submitted to the City for examination prior to commencement of operations by the contractor. In the event any policy or certificate, the amount of the insurance, or the company writing same are not satisfactory to the City, the contractor shall secure other policies or certificates in form and amount with a company satisfactory to the City. The contractor shall not permit policies to be changed, cancelled, or to lapse and all policies shall include a clause to the effect that the policy shall not be subject to cancellation or a reduction in the limits of liability or amounts of insurance until notice has been sent by mail to the city stating when, (not less than 30 days thereafter) such cancellation or reduction shall be effective. All certificates of insurance shall be delivered to the City and contain true transcripts from the policy or policies authenticated by the proper officer of the insurer evidencing in particular those insured, the extent of the insurance, the location and operations to which the insurance applies, the expiration date and the above mentioned notice as to the location and operations involved.

The Contractor is required to list the City of East Providence not only as Certificate Holder but as an Additional Insured as well, on the "Certificate of Insurance".

If any part of the work is sublet, similar insurance shall be provided by or in behalf of the subcontractors to cover their operations. The contractor shall be charged with the responsibility for insurance protection for all his subcontract operations and should the contractor's policy not cover each and every subcontractor, certificates of insurance acceptable to the City covering each and every subcontractor shall be filed with said City prior to the commencement of subcontract operations.

Statutory Workman's Compensation Insurance: shall be provided by the contractor for all labor employed on the project who may come within the protection of such laws, and Employer's General Liability Insurance shall be provided for the benefit of employees not protected by compensation laws. The contractor will be charged with the responsibility for proper and adequate workman's compensation for all subcontract operations.

Contractors Comprehensive General Liability and Property Damage Insurance INCLUDING Owner's Protective: the contractor shall carry the above insurance for a minimum limit of not less than \$1,000,000.00 for all damages arising out of injury to or death of one person and subject to that limit for each person, a total limit of not less than \$1,000,000.00 for all damages arising out of injury to, or death of two or more persons in any one occurrence and Property Damage Liability Insurance providing for a limit of not less than \$1,000,000.00 for all damages arising out of injury to or destruction of property (including loss of use) in any occurrence and subject to that limit per occurrence total limit of \$1,000,000.00 all damages arising out of injury to or destruction of property during the policy period.

Contractor's Liability Insurance: Shall also include all major divisions of coverage and be on a comprehensive general liability basis including:

Premises - Operations

Independent Contractor's protective

Products and completed operations

Blanket Contractual

Owned, non-owned and hired motor vehicles

Broad form coverage for property damage (including explosion, Collapse and underground).

Comprehensive Automobile Liability and Property Damage Insurance: The Contractor shall carry the above insurance covering all owned, hired or non-owned vehicles in the amount of \$300,000.00 for all damages arising out of bodily injuries to death of one person and subject to that limit for each person, a total of \$500,000.00 for all damages arising out of bodily injuries to or death of two or more persons in any one accident and Property Damage coverage in the amount of \$300,000.00 for all damages arising out of injury to or destruction of property.

## **16.0 OSHA SAFETY AWARENESS PROGRAM**

In accordance with R.I.G.L. 28-20-35, all contractors bidding on construction projects of the City with a total project cost of one hundred thousand dollars (\$100,000.) or more, are required to have an OSHA "ten hour construction safety program", for their on-site employees. The training program shall utilize instructors trained by the Occupational Safety and Health Administration, using an OSHA approved curriculum.



## MBE/WBE PARTICIPATION AFFIDAVIT

Item Description (as seen on RFP): \_\_\_\_\_

Prime Bidder: \_\_\_\_\_

Prime Bidder (Company) Phone Number: \_\_\_\_\_

Prime Bidder (Company) Zip Code: \_\_\_\_\_

Which one of the following describes your business' status in terms of Minority and/or Woman-Owned Business Enterprise certification with the State of Rhode Island? \_\_\_\_\_ MBE \_\_\_\_\_ WBE \_\_\_\_\_ Neither MBE nor WBE

**By initialing the following sections and signing the bottom of this document in my capacity as the contractor or an authorized representative of contractor, I make this Affidavit:**

It is the policy of the City of East Providence that minority business enterprises (**MBEs**) and women business enterprises (**WBEs**) should have the maximum opportunity to participate in procurements and projects as prime contractors and vendors. Pursuant to Sec. 21-52 of the Providence Code of Ordinances and Chapter 31-14 et seq. of the Rhode Island General Laws (as amended), MBE and WBE participation goals apply to contracts.

The goal for Minority Business Enterprise (MBE) participation is 10% of the total bid value.

The goal for Women's Business Enterprise (WBE) participation is 10% of the total bid value.

The goal for combined MBE/WBE participation is 20% of the total bid value.

**I acknowledge the City of East Providence's goals of supporting MBE/WBE certified businesses.** Initial \_\_\_\_\_

Are you subcontracting with other parties on this project: Yes \_\_\_ No \_\_\_ if yes fill out page 2, **Subcontractor Disclosure Form**.

Are you using any subcontractors on this job and not meeting the 20% MBE/WBE participation goal: Yes \_\_\_ No \_\_\_ if yes fill out page 3, **MBE/WBE Waiver Request Form**.

If awarded the contract, I understand that my company must submit to the Minority and Women's Business Coordinator at the City of East Providence (MBE/WBE Office), copies of all executed agreements with the subcontractor(s) being utilized to achieve the participation goals and other requirements of the RI General Laws. **I understand that these documents must be submitted prior to the issuance of a notice to proceed.** Initial \_\_\_\_\_

**I understand that, if awarded the contract, my firm must submit to the MBE/WBE Office canceled checks and reports required by the MBE/WBE Office on a quarterly basis verifying payments to the subcontractors(s) utilized on the contract.** Initial \_\_\_\_\_

If I am awarded this contract and find that I am unable to utilize the subcontractor(s) identified in my Statement of Intent, I understand that I must substitute another certified MBE and WBE firm(s) to meet the participation goals. **I understand that I may not make a substitution until I have obtained the written approval of the MBE/WBE Office.** Initial \_\_\_\_\_

**If awarded this contract, I understand that authorized representatives of the City of East Providence may examine the books, records and files of my firm from time to time, to the extent that such material is relevant to a determination of whether my firm is complying with the City's MBE/WBE participation requirements.** Initial \_\_\_\_\_

**I do solemnly declare and affirm under the penalty of perjury that the contents of the foregoing Affidavit are true and correct to the best of my knowledge, information and belief.**

Signature of Bidder \_\_\_\_\_ Printed Name \_\_\_\_\_

Company Name \_\_\_\_\_ Date \_\_\_\_\_

## SUBCONTRACTOR DISCLOSURE FORM

**Fill out this form only if you WILL SUBCONTRACT with other parties. If you will not subcontract any portion of the proposed bid, do not fill out this form.**

Prime Bidder: \_\_\_\_\_ Primary NAICS Code: \_\_\_\_\_

Item Description (as seen on RFP): \_\_\_\_\_

**Please List all Subcontractors below.** Include the total dollar value that you propose to share with each subcontractor and the dollar amount to be subcontracted. Please check off MBE and WBE where applicable. The directory of all state-certified MBE/WBE firms is located at [www.mbe.ri.gov](http://www.mbe.ri.gov). Business NAICS codes can be found at <http://www.naics.como/search/>

Proposed Subcontractor	MBE	WBE	Primary NAICS Code	Date of Mobilization	\$ Value of Subcontract
					\$
					\$
					\$
					\$
					\$
					\$
<b>A. MBE SUBCONTRACTED AMOUNT:</b>					\$
<b>B. WBE SUBCONTRACTED AMOUNT:</b>					\$
<b>C. NON MBE WBE SUBCONTRACTED AMOUNT:</b>					\$
<b>D. DOLLAR AMOUNT OF WORK DONE BY THE PRIME CONTRACTOR:</b>					\$
<b>E. TOTAL AMOUNT OF BID (SUM OF A, B, C &amp; D):</b>					\$
<b>F. PERCENTAGE OF BID SUBCONTRACTED TO MBEs AND WBEs. (Add A and B. Divide by E and multiply by 100).</b>					%

Please read and initial the following statement acknowledging you understand.

If the percentage of the total amount of the bid being awarded to MBE or WBE vendors is less than 20% (Box F) and the prime contractor is NOT a Rhode Island State-certified MBE or WBE, **you must fill out the MBE/WBE WAIVER REQUEST FORM for consideration by City of East Providence MBE/WBE Outreach Director.** Initial \_\_\_\_\_

\_\_\_\_\_  
Signature of Prime Contractor

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Date Signed

## MBE/WBE WAIVER REQUEST FORM

**Fill out this form only if you are using subcontractors and did not meet the 20% MBE/WBE participation goal. MBE or WBE Prime Bidders that are certified by the State of Rhode Island are NOT REQUIRED to fill out this form.**

Submit this form to the City of East Providence MBE/WBE Outreach Director, Elmer Carvalho-Pina at [epina@eastprovidenceri.gov](mailto:epina@eastprovidenceri.gov) and Procurement Specialist, Ralph Mitchell at [rmitchell@eastprovidenceri.gov](mailto:rmitchell@eastprovidenceri.gov) for review prior to bid submission.

This waiver applies only to the current bid which you are submitting to the City of Providence and does not apply to other bids your company may submit for in the future.

Prime Bidder: \_\_\_\_\_

Company Trade: \_\_\_\_\_

Item Description (as seen on RFP): \_\_\_\_\_

To receive a waiver, you must list the certified MBE and/or WBE companies you contacted, the name of the primary individual with whom you interacted and the reason the MBE/WBE company could not participate on the project.

MBE/WBE Company name	Individual's Name	Company Trade	Why did you choose not to work with this company?

I acknowledge the City of East Providence's goal of a combined MBE/WBE participation is 20% of the total bid value. I am requesting a waiver of \_\_\_\_\_% MBE/WBE (20% minus the Value of Box F on the Subcontractor Disclosure Form). If an opportunity is identified to subcontract any task associated with the fulfillment of this contract, a good faith effort will be made to select MBE/WBE certified businesses as partners.

\_\_\_\_\_  
Signature of Prime Contractor

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Signature of City of East Providence  
MBE/WBE Outreach Director

\_\_\_\_\_  
Printed Name of City of East Providence  
MBE/WBE Outreach Director

\_\_\_\_\_  
Date Signed



## **ANTI-COLLUSION DECLARATION**

The Bidder, by virtue of issuing a Bid certifies that Bidder has not divulged, discussed or compared the Bid with other Bidders and has not colluded with any other Bidder of parties to a Bid whomsoever. Bidder further certifies and agrees that premiums, rebates or gratuities are prohibited whether with, prior to, or after any delivery of material or services. Any such violation will result in the cancellation of this contract and the removal of offending parties from all Bid lists.

### **CONFLICT OF INTEREST**

The Bidder and all sub-contractors shall disclose in writing as part of their Bid any possible or potential conflicts of interest which are known to, or reasonably should be known to the Bidder or sub-contractors, which may exist between their firms and the City of East Providence.

All Bidders and their subcontractors and business partners must disclose with their Bid, the name of any officer, director, agent or employee who is also an employee or family member of an employee of the City of East Providence.

Further, the Bidder must disclose the name of any City of East Providence employee or family member or any elected official who owns, directly or indirectly, an investment or other proprietary interest, in the firm or any of its parent company, subsidiaries or affiliates.

The Bidder and all sub-contractors and business partners shall disclose in writing as part of their Bid, any familial, personal or business relationships between members of Bidders, sub-contractor's or business partner's firms and members of the City of East Providence, whether or not there is any belief that the relationship might constitute a possible conflict of interests.

**BIDDING FIRM:**

**SIGNATURE:**

**DATE:**

**PRINT NAME:**

**TITLE:**



**City of East Providence  
Attn: Procurement Specialist**

**ELECTRONIC BID DOCUMENT NOTIFICATION OF RECEIPT**

In order to compile a complete listing of all recipients of the initial bid package please return this completed form by e-mail [to Controllers@eastprovidenceri.gov](mailto:to%20Controllers@eastprovidenceri.gov)

It is the responsibility of all potential bidders to ensure any and all addenda are downloaded from the City website <https://eastprovidenceri.gov/rfp>

The undersigned hereby acknowledges electronic receipt of the bid documents for the procurement specified below.

***From:***

Company Name: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Bid No.: \_\_\_\_\_

Title of Specification received: \_\_\_\_\_

Date: \_\_\_\_\_

# Request for Taxpayer Identification Number and Certification

► Go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9) for instructions and the latest information.

Give Form to the  
requester. Do not  
send to the IRS.

Print or type. See Specific Instructions on page 3.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.				
	3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.				
	Individual/sole proprietor or single-member LLC	C Corporation	S Corporation	Partnership	Trust/estate
	Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► _____				
	Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.				
	Other (see instructions) ► _____				
	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):				
	Exempt payee code (if any) _____				
	Exemption from FATCA reporting code (if any) _____				
	(Applies to accounts maintained outside the U.S.)				
	2 Business name/disregarded entity name, if different from above				
	5 Address (number, street, and apt. or suite no.) See instructions.				
	Requester's name and address (optional)				
	6 City, state, and ZIP code				
	7 List account number(s) here (optional)				

## Part I Taxpayer Identification Number (TIN)

Social security number

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

or

Employer identification number

## Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments

other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign  
Here

Signature of  
U.S. person ►

Date ►

## General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9).

## Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer

identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

*If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.*

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

**Note:** If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

**Nonresident alien who becomes a resident alien.** Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.

5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

**Example.** Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

**What is backup withholding?** Persons making certain payments to you must under certain conditions withhold and pay to the IRS 24% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

### **Payments you receive will be subject to backup withholding if:**

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

## What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

## Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

## Penalties

**Failure to furnish TIN.** If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

**Civil penalty for false information with respect to withholding.** If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

**Misuse of TINs.** If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

## Specific Instructions

### Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

**a. Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

**Note: ITIN applicant:** Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

**b. Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

**c. Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

**d. Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

**e. Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

### Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

### Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

### Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

#### Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 <sup>1</sup>	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

**Exemption from FATCA reporting code.** The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

**Note:** You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

## Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

## Line 6

Enter your city, state, and ZIP code.

## Part I. Taxpayer Identification Number (TIN)

**Enter your TIN in the appropriate box.** If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

**Note:** See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

**How to get a TIN.** If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at [www.SSA.gov](http://www.SSA.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/Businesses](http://www.irs.gov/Businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. Go to [www.irs.gov/Forms](http://www.irs.gov/Forms) to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to [www.irs.gov/OrderForms](http://www.irs.gov/OrderForms) to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

**Note:** Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

**Caution:** A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

## Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

**Signature requirements.** Complete the certification as indicated in items 1 through 5 below.

**1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.**

You must give your correct TIN, but you do not have to sign the certification.

**2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

**3. Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.

**4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABL accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

**What Name and Number To Give the Requester**

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account <sup>1</sup>
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
5. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee <sup>1</sup>
b. So-called trust account that is not a legal or valid trust under state law	The actual owner <sup>1</sup>
6. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor <sup>4</sup>
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity <sup>4</sup> The
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

<sup>1</sup> List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

**\*Note:** The grantor also must provide a Form W-9 to trustee of trust.

**Note:** If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

**Secure Your Tax Records From Identity Theft**

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

**Protect yourself from suspicious emails or phishing schemes.**

Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to [phishing@irs.gov](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at [spam@uce.gov](mailto:spam@uce.gov) or report them at [www.ftc.gov/complaint](http://www.ftc.gov/complaint). You can contact the FTC at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see [www.IdentityTheft.gov](http://www.IdentityTheft.gov) and Pub. 5027.

Visit [www.irs.gov/IdentityTheft](http://www.irs.gov/IdentityTheft) to learn more about identity theft and how to reduce your risk.

## Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

SECTION 00200

SPECIAL INSTRUCTIONS FOR BIDDERS

1. WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

- A. Scope: The scope of this project includes, but is not limited to, furnishing all labor, equipment, tools, appliances, and materials and performing all operations in connection with the abandonment of two (2) existing 12-inch water mains, the installation of two (2) 12-inch ductile iron water mains, restoration of disturbed areas, and the installation of new valves, hydrants and appurtenances as shown on the drawings.
- B. Project Location: City of East Providence, Rhode Island.
- C. The Owner hereby reserves the right, at any time, or from time to time, to order additions, deletions, or revisions in the work to be authorized through a written amendment (change order), which shall be subject to the provisions in General Conditions - Article 10.

2. CONTRACT PERIOD AND TERM OF AGREEMENT

- A. The overall contract period is sixty (60) calendar days from date set in the Notice to Proceed. Substantial completion shall be forty-five (45) calendar days following the Notice to Proceed. Substantial completion shall be defined by the completion of permanent restoration in Pawtucket Avenue, including concrete road base and permanent pavement, so that all travel lanes are re-opened to traffic and traffic controls are removed.
- B. The Bidder must agree to commence work on or before a date to be specified in a written Notice to Proceed from the City and to fully complete the Project within the contract period specified in the Notice to Proceed. In the event that the Contractor fails to complete the work by the established end date, he agrees to pay the City all damages, which the City may suffer or incur, such as additional engineering, construction inspection and administrative expenses and any other consequential expenses for damages. The Director of Public Works will certify as to the damages incurred and the Contractor shall pay the City the amount thereof promptly on demand. In addition to the above, the Bidder agrees to pay as liquidated damages, the sum of \$1,500.00 a day for no fault of City excessive delay of project beyond the date of completion established under the Contract.

3. OBLIGATION OF THE BIDDER

- A. At the time of opening of Bids, each Bidder will be presumed to have inspected the Specifications and Contract Documents (including all Addenda), which have been made available to each Bidder. The failure or omission of any Bidder to receive or examine any form, instrument, or document or to inspect any item specified as a Trade-in shall in no way relieve any Bidder from any obligation with respect to his Bid.
- B. Any exceptions or deviations from the provisions contained in this Specification must be explained in detail and attached to the Bid. If such deviations do not depart from the intent of this notice and are in the best interest of the Owner, the Bid will receive careful consideration.

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVE WATER MAIN RELOCATION**

4. TAX EXEMPTION

- A. Rhode Island Sales and Use Tax: Materials and equipment purchased for installation under this Contract are exempt from the Rhode Island Sales Tax. The exemption from the Sales Tax shall be taken into account by the Bidder when preparing and submitting their Bid.
- B. Rhode Island Sales Tax: The City of East Providence is exempt from the payment of Rhode Island Sales Tax under the 1956 General Laws of the State of Rhode Island, 44-18-30 Paragraph 1, as amended.
- C. Federal Excise Taxes: The City of East Providence is exempt from the payment of any excise or federal transportation taxes. Prices submitted must be exclusive of taxes and will be so construed.

5. LABOR REGULATIONS

- A. The following paragraphs regarding labor regulations shall be included and become part of these Contract Documents:
  - 1. Non-resident Contractors are subject to Section 44-1-6 of the Rhode Island General Laws, as amended. (OUT OF STATE CONTRACTORS).
  - 2. The successful Bidder will be required to comply with the Contract Work Hours and Safety Standards Act (40 USC 327-330) as supplemented by Department of Labor Regulations (29 CFR, Part 5).
  - 3. The successful Bidder will be required to comply with the Safety and Health Regulations (29 CFR, Part 1926 and all subsequent amendments) as promulgated by the Department of Labor.
  - 4. The successful Bidder will be required to comply with Title VI of the Civil Rights Act of 1964 (P.L. 88-352).
- B. Bidders must, if required, submit a compliance report concerning their employment practices and policies in order to maintain their eligibility to receive award of the Contract.
- C. Additional labor requirements, such as prevailing wage requirements and minority and woman-owned business participation, are stipulated in the Contract Documents.

6. ADDENDA AND INTERPRETATIONS

- A. No interpretation on the meaning of the Contract Documents will be made to any Bidder orally. Every request for such interpretations should be in writing and to be given consideration, must be received at least seven (7) business days prior to the date fixed for the opening of the Bids. Requests for interpretation shall be made to the attention of Brandon M. Blanchard, P.E. and sent via email to [bblanchard@parecorp.com](mailto:bblanchard@parecorp.com).
- B. Any and all interpretations, and supplemental instructions, which, if issued, will be mailed by regular mail or emailed to all prospective Bidders (at the respective address furnished by the Bidder for such purpose), not later than forty-eight (48) hours prior to the date fixed for the opening of Bids (unless such addenda postpones the opening of Bids). Failure of Bidder to receive any such addendum or interpretations shall not relieve any Bidder from obligation under this Bid as submitted. All addenda so issued shall become part of the Contract

**CITY OF EAST PROVIDENCE  
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Documents.

7. PREVAILING WAGES

- A. In accordance with Rhode Island General Law 37-13-7, contracts in *excess of \$1,000* shall require compensation of all personnel based on *prevailing wages* for craftsmen, teamsters, and laborers engaged in construction, alteration and/or repair, painting and decorating. The current rates and reporting forms are available from the Rhode Island Department of Labor and Training. The selected Contractor shall be required to submit monthly certified payroll reports throughout the project, as required herein.

8. PERFORMANCE BOND

- A. In accordance with Rhode Island General Law 37-13-14, bidders/proposers for public works/public building contracts in *excess of \$5,000 shall furnish a performance bond, upon conditional award of the contract*, at 100% of the contract price, conditioned upon faithful performance of the contract. A Labor and Materials Bond, at full contract value, is required upon conditional award of the contract.

9. PLUMBING SERVICES

- A. Bidder shall have a Rhode Island licensed plumber available for any restorative plumbing work that is to be performed on a case-by-case basis to correct issues caused by the installer performing the work.
- B. Rhode Island General Law (RIGL) allows the City to use their employees or engage the services of licensed plumbers or other contractors/service providers that meet certain requirements as determined by the City, for the purpose of replacing water meters or meter reading devices. RIGL 5-20-35 (d) allows this exemption under Plumbers, Irrigators, and Water System Installation.

END OF SECTION

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

**SECTION 00400**

**SUPPLEMENTS TO BID FORM**

To: City of East Providence Controllers Office  
Attn: Procurement Specialist  
East Providence City Hall, Room 103  
145 Taunton Avenue  
East Providence, Rhode Island 02914

Project: City of East Providence Water Utilities Division (EPWUD)  
Pawtucket Avenue Water Main Relocation  
May 2023  
Pare Project No. 12200.16  
City of East Providence RFP No. EP22/23-23

Date: \_\_\_\_\_

Submitted by:  
(full name) \_\_\_\_\_

(full address) \_\_\_\_\_

In accordance with Section 00100 – Standard Instructions to Bidders, Section 00200 – Special Instructions to Bidders, and Section 00310 - Bid Form, we include the Supplements to Bid Form appendices listed below. The information provided shall be considered an integral part of the Bid Form. These appendices are as follows:

- Appendix A: Subcontractors: Include the names of all subcontractors, including qualifications and experience and the portions of the work they will perform.
- Appendix B: Qualifications of Bidder
- Appendix C: Debarment & Suspension Certification

END OF SECTION

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

**APPENDIX A**

Herewith is the list of Subcontractors referenced in the Bid submitted by:

\_\_\_\_\_

(Bidder)

\_\_\_\_\_

City of East Providence  
(Owner)

dated \_\_\_\_\_ and, which is an integral part of the Bid Form.

The following work will be performed (or provided) by the following Subcontractors, and coordinated by us:

SECTION OF WORK	NAME
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Attach a listing of relevant qualifications and experience on similar projects.

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

## APPENDIX B

List additional Relevant Experience of firm bidding the project as it relates to projects of similar nature and complexities as that proposed by the City of East Providence. Include: project time frame, contact personnel, description, bid cost, final project cost (minimum 3 projects).

This image shows a full page of blank white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page, providing a template for writing or drawing. There are no margins, text, or other markings present.

Include additional sheets if necessary.

## **APPENDIX C**

### **DEBARMENT & SUSPENSION**

#### **Executive Order 12549--Debarment and Suspension**

**Source:** The provisions of Executive Order 12549 of Feb. 18, 1986, appear at 51 FR 6370, 3 CFR, 1986 Comp., p. 189, unless otherwise noted.

By the authority vested in me as President by the Constitution and laws of the United States of America, and in order to curb fraud, waste, and abuse in Federal programs, increase agency accountability, and ensure consistency among agency regulations concerning debarment and suspension of participants in Federal programs, it is hereby ordered that:

**Section 1.** (a) To the extent permitted by law and subject to the limitations in Section 1(c), Executive departments and agencies shall participate in a system for debarment and suspension from programs and activities involving Federal financial and nonfinancial assistance and benefits. Debarment or suspension of a participant in a program by one agency shall have government-wide effect. (b) Activities covered by this Order include but are not limited to: grants, cooperative agreements, contracts of assistance, loans, and loan guarantees. (c) This Order does not cover procurement programs and activities, direct Federal statutory entitlements or mandatory awards, direct awards to foreign governments or public international organizations, benefits to an individual as a personal entitlement, or Federal employment.

**Sec. 2.** To the extent permitted by law, Executive departments and agencies shall: (a) Follow government-wide criteria and government-wide minimum due process procedures when they act to debar or suspend participants in affected programs. (b) Send to the agency designated pursuant to Section 5 identifying information concerning debarred and suspended participants in affected programs, participants who have agreed to exclusion from participation, and participants declared ineligible under applicable law, including Executive Orders. This information shall be included in the list to be maintained pursuant to Section 5. (c) Not allow a party to participate in any affected program if any Executive department or agency has debarred, suspended, or otherwise excluded (to the extent specified in the exclusion agreement) that party from participation in an affected program. An agency may grant an exception permitting a debarred, suspended, or excluded party to participate in a particular transaction upon a written determination by the agency head or authorized designee stating the reason(s) for deviating from this Presidential policy. However, I intend that exceptions to this policy should be granted only infrequently.

**Sec. 3.** Executive departments and agencies shall issue regulations governing their implementation of this Order that shall be consistent with the guidelines issued under Section 6. Proposed regulations shall be submitted to the Office of Management and Budget for review within four months of the date of the guidelines issued under Section 6. The Director of the Office of Management and Budget may return for reconsideration proposed regulations that the Director believes are inconsistent with the guidelines. Final regulations shall be published within twelve months of the date of the guidelines.

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

**Sec. 4.** There is hereby constituted the Interagency Committee on Debarment and Suspension, which shall monitor implementation of this Order. The Committee shall consist of representatives of agencies designated by the Director of the Office of Management and Budget.

**Sec. 5.** The Director of the Office of Management and Budget shall designate a Federal agency to perform the following functions: maintain a current list of all individuals and organizations excluded from program participation under this Order, periodically distribute the list to Federal agencies, and study the feasibility of automating the list; coordinate with the lead agency responsible for government-wide debarment and suspension of contractors; chair the Interagency Committee established by Section 4; and report periodically to the Director on implementation of this Order, with the first report due within two years of the date of the Order.

**Sec. 6.** The Director of the Office of Management and Budget is authorized to issue guidelines to Executive departments and agencies that govern which programs and activities are covered by this Order, prescribe government-wide criteria and government-wide minimum due process procedures, and set forth other related details for the effective administration of the guidelines.

**Sec. 7.** The Director of the Office of Management and Budget shall report to the President within three years of the date of this Order on Federal agency compliance with the Order, including the number of exceptions made under Section 2(c), and shall make recommendations as are appropriate further to curb fraud, waste, and abuse.

**Implementation in the SRF Programs**

A company or individual who is debarred or suspended cannot participate in primary and lower-tiered covered transactions. These transactions include SRF loans and contracts and subcontracts awarded with SRF loan funds.

Under 40 C.F.R. 32.510, the SRF agency must submit a certification stating that it shall not knowingly enter into any transaction with a person who is proposed for debarment, suspended, declared ineligible, or voluntarily excluded from participation in the SRF program. This certification is reviewed by the EPA regional office before the capitalization grant is awarded.

A recipient of SRF assistance directly made available by capitalization grants must provide a certification that it will not knowingly enter into a contract with anyone who is ineligible under the regulations to participate in the project. Contractors on the project have to provide a similar certification prior to the award of a contract and subcontractors on the project have to provide the general contractor with the certification prior to the award of any subcontract.

In addition to actions taken under 40 C.F.R. Part 32, there are a wide range of other sanctions that can render a party ineligible to participate in the SRF program. Lists of debarred, suspended and otherwise ineligible parties are maintained by the General Services Administration and should be checked by the SRF agency and all recipients of funds directly made available by capitalization grants to ensure the accuracy of certifications.

**Additional References**

C 40 C.F.R. Part 32: EPA Regulations on Debarment and Suspension.

**CERTIFICATION REGARDING DEBARMENT & SUSPENSION  
AND OTHER RESPONSIBILITY MATTERS**

In accordance with the Executive Order 12549, the prospective primary participant certifies to the best of his / her knowledge and belief, that 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 three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offence 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 (1) (b) of this certification.
- d. Have not within a three-year period preceding this application / proposal had one or more public transactions (federal, state, or local) terminated for cause of default.
- e. Acknowledge that all sub-contractors selected for this project must be in compliance with paragraphs (1) (a – d) of this certification.

\_\_\_\_\_  
Name and Title of Authorized Agent Date

\_\_\_\_\_  
Signature of Authorized Agent

\_\_\_\_\_ I am unable to certify to the above statements. My explanation is attached.

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

SECTION 00500

CONTRACT AGREEMENT

A sample Contract for this project follows.

END OF SECTION



This Contract (the “Contract”) is made and entered into by and between The City of East Providence, (the “City”) and [REDACTED] (the “Contractor”). This Contract shall become effective on the date it is executed by the last party to execute it (“the Effective Date”).

This Contract is for a project identified as City of East Providence Pawtucket Avenue Water Main Relocation Project # EP22/23-23

For and in consideration of the mutual promises, covenants and agreements set forth herein, and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the City and the Contractor agree as follows:

## **ARTICLE 1**

### **THE WORK OF THIS CONTRACT**

The Contractor shall execute the entire work described in the Contract Documents, within 60 calendar days from date of signed contract except to the extent specifically indicated in the Contract Documents to be the responsibility of others, or as follows:

## **ARTICLE 2**

### **DOCUMENTS INCORPORATED BY REFERENCE**

This Contract includes the plans and specifications by Pare Corporation dated May 2023 as identified thereon for the Pawtucket Avenue Water Main Relocation Project, City’s Request for Proposal issued [REDACTED], all of which are hereby incorporated herein by reference and made a part hereof. Change Orders issued hereafter, and any other amendments executed by the City and the Contractor, shall become and be a part of this Contract. Documents not included or expressly contemplated in this Article 2 do not, and shall not, form any part of this Contract.

## **ARTICLE 3**

### **REPRESENTATIONS OF THE CONTRACTOR**

In order to induce the City to execute this Contract and recognizing that the City is relying thereon, the Contractor, by executing this Contract, makes the following express representation to the City.

- (A) The Contractor is fully qualified to act as the contractor for the Project and has, and shall maintain, any and all licenses, permits or other authorizations necessary to act as the contractor for, and to construct, the Project;
- (B) The Contractor has become familiar with the Project site and the local conditions under which the Project is to be constructed and operated;
- (C) The Contractor has received, reviewed and carefully examined all the documents which make up this Contract, including, but not limited to, the plans and specifications, and has found them in all respects to be complete, accurate, adequate, consistent, coordinated and sufficient for construction;
- (D) The Contractor is familiar with all Federal, State, municipal, and department laws, ordinances, orders, and regulations which may in any way affect the work of those employed therein, including, but not limited to, any special acts relating to the work or the Project of which it is a part;
- (E) The Contractor is aware of the hazards involved in the work and the danger to life and property both evident and inherent, and that the Contractor will conduct the work in a careful and safe manner without injury to persons or property.

#### **ARTICLE 4**

#### **INTENT AND INTERPRETATION**

With respect to the intent and interpretation of this Contract, the City and the Contractor agree as follows:

- (A) This Contract, together with the Contractor's and Surety's performance in the total amount of the project cost and payment bonds for the Project, constitute the entire and exclusive agreements between the parties with reference to the Project, and said Contract supersedes any and all prior discussions, communications, representations, understandings, negotiations, or agreements. This Contract also supersedes any bid documents not incorporated herein pursuant to Article 2.
- (B) Anything that may be required, implied or inferred by the documents which make up this Contract, or any one or more of them, shall be provided by the Contractor for the Contract Price;
- (C) Nothing contained in this Contract shall create, nor be interpreted to create, privity or any other relationship whatsoever between the City and any person except the Contractor;
- (D) When a word, term, or phrase is used in this Contract, it shall be interpreted or construed first, as defined herein; second, if not defined, according to its generally accepted meaning in the construction industry; and third, if there is no generally accepted meaning in the construction industry, according to its common and customary usage;

- (E) The Contractor shall have a continuing duty to read, examine, review, compare and contrast each of the documents which make up this Contract, shop drawings, and other submittals and shall give written notice to the City of any conflict, ambiguity, error or omission which the Contractor may find with respect to these documents before proceeding with the affected work. The express or implied approval by the City of any shop drawings or other submittals shall not relieve the Contractor of the continuing duties impose hereby, nor shall any such approval be evidence of the Contractor's compliance with this Contract. **HOWEVER, THE CITY MAKES NO REPRESENTATION OR WARRANTY OF ANY NATURE WHATSOEVER TO THE CONTRACTOR CONCERNING SUCH DOCUMENTS.** The Contractor again hereby acknowledges and represents that it has received, reviewed and carefully examined such documents, has found them to be complete, accurate, adequate, consistent, coordinated and sufficient for construction, and that the Contractor has not, does not, and will not rely upon any representations or warranties by the City concerning such documents, as no such representations or warranties have been or are hereby made;
- (F) In the event of any conflict, discrepancy, or inconsistency among any of the documents which make up this Contract, the following shall control:
- (1) As between drawings and specifications, the specifications shall govern;
  - (2) As between figures given on plans and scaled measurements, the figures shall govern;
  - (3) As between this document and the plans or specifications, this document shall govern.

## **ARTICLE 5**

### **OWNERSHIP OF DOCUMENTS WHICH MAKE UP THE CONTRACT**

The documents which make up this Contract, and each of them, as well as any other documents furnished by the City, shall remain the property of the City. The City shall provide the Contractor with a sufficient number of copies of the complete Contract as the City determines is necessary. The Contractor shall have the right to keep the Contractor's executed set; provided, however, that in no event shall the Contractor use, or permit to be used, any portion or all of such Contract on other projects without the City's prior written authorization. All sets in usable condition, with the exception of the Contractor's executed set, shall be returned to the City at the completion or cessation of the work or termination of the Contract.

## **ARTICLE 6**

### **CONTRACTOR'S PERFORMANCE**

The Contractor shall perform all of the work required, implied or reasonably inferable from this Contract including, but not limited to, the following:

- (A) Construction of the Project;
- (B) The furnishing of the required 100% Performance Bond and Certificate of General Liability insurance coverage of \$1,000,000, as well as Workers' Compensation Insurance as required by the State of Rhode Island for itself and any of its employees.
- (C) The provision and furnishing, and prompt payment of labor, supervision, services, materials, supplies, equipment, fixtures, appliances, facilities, tools, transportation, storage, power, fuel, heat, light, cooling, or other utilities, required for construction and all necessary building permits and other permits required for the construction of the Project;
- (D) The creation and submission to the City of detailed and comprehensive as-built drawings depicting all as-built construction. Said as-built drawings shall be submitted to the City upon final completion of the Project and receipt of same by the City shall be a condition precedent to final payment to the Contractor.

**ARTICLE 7**  
**TIME FOR CONTRACTOR'S PERFORMANCE**

- (A) The Contractor shall commence the performance of this Contract within ten (10) calendar days after the Notice to Proceed and shall diligently continue its performance to and until final completion of the Project (subject to a winter shutdown period if necessary as provided for in Article 8 Paragraph (L)). The Contractor shall accomplish Substantial Completion of the Project on or before the date established pursuant to Paragraphs (K) and (L) in Article 8.
- (B) The Contractor shall pay the City the sum of \$1,500 Dollars per day for each and every calendar day of unexcused delay in achieving Substantial Completion beyond the date set forth herein for Substantial Completion. Any sums due and payable hereunder by the Contractor shall be payable, not as a penalty, but as liquidated damages representing an estimate of delay damages likely to be sustained by the City, estimated at the time of executing this Contract. When the City reasonably believes that Substantial Completion will be unexcusably delayed, the City shall be entitled, but not required, to withhold from any amounts otherwise due the Contractor an amount then believed by the City to be adequate to recover liquidated damages applicable to such delays. If and when the Contractor overcomes the delay in achieving Substantial Completion, or any part thereof, for which the City has withheld payment, the City shall promptly release to the Contractor those funds withheld, but no longer applicable, as liquidated damages.
- (C) The term "Substantial Completion", as used herein, shall mean that point as determined by the City at which the Project is at a level of completion in strict compliance with this Contract such that the City or its designee can enjoy beneficial use or occupancy and can use or operate in all respects, for its intended purpose. Partial use or occupancy of the

Project being deemed substantially complete, and such partial use or occupancy shall not be evidence of Substantial Completion.

- (D) All limitations of time set forth herein are material and are of the essence of this Contract.

**ARTICLE 8**  
**PAYMENTS TO CONTRACTOR**

- (A) The City shall pay, and the Contractor shall accept, as full and complete payment for the Contractor's timely performance of its obligations hereunder, the Contract Sum of [REDACTED] (\$ [REDACTED]) total for the completion of work of the City of East Providence Pawtucket Avenue Water Main Relocation Project at the price set forth in this Paragraph 8 shall constitute the Contract Price, which shall not be modified except by Change Order as provided in this contract.
- (B) The City shall pay the Contract Price to the Contractor in accordance with the procedures set forth in this Paragraph 8. On or before the 15th day of each month after commencement of performance, but no more frequently than one monthly, the Contractor may submit a Payment Request for the period ending the 31st day of preceding the month. Said Payment Request shall be in such format and include whatever supporting information as may be required by the City. Each Payment Request shall be signed by the Contractor and shall constitute the Contractor's representation that the quantity of work has reached the level for which payment is requested, that the work has been properly installed or performed in strict compliance with this Contract and that the Contractor knows of no reason why payment should not be made as requested. Thereafter, the City shall review the Payment Request and may also review the work at the project site or elsewhere to determine whether the quantity and quality of the work is as represented in the Payment Request and is as required by this Contract. The City shall approve in writing the amount which, in the opinion of the City, is properly owing to the Contractor. The payment of the Contractor's invoice will be made no later than thirty (30) days after the receipt of the invoice subject to the above. The Contractor shall submit progress invoices dated the last day of the month. These invoices will be submitted on G702 and G703 (AIA approved) documents.
- (C) The City will retain a percentage of the progress or monthly payments claimed, including approved change orders. The retainage shall remain at five percent (5%) until seventy-five percent (75%) of the Contract is complete, as determined by the City. At that time if the City decides the Contractor is making adequate progress, the City may reduce retainage to two and one half percent (2.5%) of the dollar value of all work satisfactorily complete to date, including change orders. Any further reduction in the retainage amount shall be at the City's discretion. The retainage shall be paid by the City to the Contractor within ninety (90) days of the date the work is accepted by the City unless a dispute exists with respect to the work.
- (D) Upon Substantial Completion, the City may reduce the amount of retainage to the final

retainage of 2.5% of the dollar value of all work satisfactorily completed to date, including approved change orders plus an additional retainage based on the City's estimate of the fair value of any punch list items and the cost of completing and/or correcting such incomplete or defective items or work. As these items are completed or corrected, they shall be paid for out of the retainage until Final Completion and Acceptance of Work is declared by the City. The final (2.5%) retainage shall be paid to the Contractor by the City within ninety (90) days of the date the work is accepted by the City unless a dispute exists with respect to the work.

- (E) Upon Final Completion and Acceptance of the Work, City shall issue a certificate attached to the final payment request stating that the Work has been accepted by the City under the conditions of the Contract Documents. The entire balance to be due the Contractor shall be paid to the Contractor within ninety (90) days of Final Completion and Acceptance of Work.
- (F) When payment is received from the City, the Contractor shall immediately pay all subcontractor, materialmen, laborers and suppliers the amounts they are due for the work covered by such payment. In the event the City becomes informed that the Contractor has not paid a subcontractor, materialman, laborer, or supplier as provided herein, the City shall have the right, but not the duty, to issue future checks and payment to the Contractor of amounts otherwise due hereunder naming the Contractor and any such subcontractor, materialman, laborer, or supplier as joint payees. Such joint check procedure, if employed by the City, shall create no rights in favor of any person or entity beyond the right of the named payees to payment of the check and shall not be deemed to commit the City to repeat the procedure in the future.
- (G) Neither payment to the Contractor, utilization of the Project for any purpose by the City, nor any other act or omission by the City shall be interpreted or construed as an acceptance of any work of the Contractor not strictly in compliance with this Contract.
- (H) The City shall have the right to refuse to make payment and, if necessary, may demand the return of a portion or all of the amount previously paid to the Contractor due to:
  - (1) The quality of a portion, or all, of the Contractor's work not being in accordance with the requirements of this Contract;
  - (2) The quantity of the Contractor's work not being as represented in the Contractor's Payment Request, or otherwise;
  - (3) The Contractor's rate of progress being such that, in the City's opinion, substantial or final completion, or both, may be inexcusably delayed;
  - (4) The Contractor's failure to use Contract funds, previously paid the Contractor by the City, to pay Contractor's Project-related obligations including, but not limited to, subcontractors, laborers and material and equipment suppliers;

- (5) Claims made, or likely to be made, against the City or its property;
- (6) Loss caused by the Contractor;
- (7) The Contractor's failure or refusal to perform any of its obligations to the City.

In the event that the City makes a written demand upon the Contractor for amounts previously paid by the City as contemplated in this paragraph, the Contractor shall promptly comply with such demand.

- (I) When Substantial Completion has been achieved, the Contractor shall notify the City in writing and shall furnish to the City a listing of those matters yet to be finished. The City will thereupon conduct an inspection to confirm that the work is in fact substantially complete. Upon its confirmation that the Contractor's work is substantially complete, the City will so notify the Contractor in writing and will therein set forth the date of Substantial Completion. If the City, through its inspection, fails to find that the Contractor's work is substantially complete, and is required to repeat all, or any portion, of its Substantial Completion inspection, the Contractor shall bear the cost of such repeat inspection(s) which cost may be deducted by the City from any payment then or thereafter due to the Contractor.
- (J) When the Project is finally complete and the Contractor is ready for final inspection, it shall notify the City thereof in writing. Thereupon, the City will perform a final inspection of the project. If the City confirms that the project is complete in full accordance with this Contract and the Contractor has performed all of its obligations to the City hereunder, the City will furnish a final Approval for Payment certifying that the project is complete and the Contractor is entitled to the remainder of the unpaid Contract Price, less any amount withheld pursuant to this Contract. If the City is unable to issue its final Approval for Payment and is required to repeat its final inspection of the Project, the Contractor shall bear the cost of such repeat inspection(s), which costs may be deducted by the City from the Contractor's final payment.
- (K) The Contractor is to begin work within ten (10) days after the date of the Notice to Proceed and shall complete the work within 60 consecutive days of notification of each assignment. If the Contractor fails to complete the work as set forth in this paragraph 8(L), the Contractor shall pay the City the sum of One Thousand Five Hundred Dollars (\$1,500) per day for each and every calendar day of unexcused delay in completing the work. Any sums due and payable hereunder by the Contractor shall be payable, not as a penalty, but as liquidated damages representing an estimate of delay damages likely to be sustained by the City, estimated at or before the time of executing this Contract. When the City reasonably believes that the date of completion will be un-excusably delayed, the City shall be entitled, but not required, to withhold from any amounts otherwise due the Contractor an amount then believed by the City to be adequate to recover liquidated

damages applicable to such delays. If and when the Contractor overcomes the delay in achieving completion of the work, or any part thereof, for which the City has withheld payment, the City shall promptly release the Contractor those funds withheld, but no longer applicable, as liquidated damages.

- (L) The time for completion noted above has been developed upon the assumption that the work may be suspended during winter shutdown if necessary. Winter shutdown shall be determined by the Director of Public Works for the City of East Providence. The time period specified for completion of the work in Paragraph (K) above shall be suspended during such winter shutdown. The contractor shall plan on winter shutdown period based upon these dates unless otherwise directed by the City. The winter shutdown dates are subject to change depending upon weather conditions. The City shall notify the Contractor in writing if there is a change in the winter shutdown period due to weather, environmental or other conditions which preclude the work from being executed in accordance with these documents.
- (M) Prior to being entitled to receive final payment, and as a condition precedent thereto, the Contract shall furnish to the City, in the form and manner required by the City:
  - (1) An affidavit that all of the Contractor's obligations to subcontractors, laborers, equipment or material suppliers, or other third parties in connection with the Project, have been paid or otherwise satisfied;
  - (2) If required by the City, separate releases of lien or lien waivers from each subcontractor, lower tier subcontractor, laborer, supplier or other person or entity who has, or might have a claim against the City or the City's property;
  - (3) If applicable, consent(s) of surety to final payment;
  - (4) All product warranties, operating manuals, instruction manuals and other record documents, drawings and things customarily required of the Contractor, or expressly required herein, as a part of or prior to Project closeout.

## **ARTICLE 9**

### **MUNICIPAL POLICE TRAFFIC CONTROL**

The cost of municipal police traffic control shall be paid in accordance with RIGL §37-12-10. The Contractor shall be responsible for scheduling municipal police officers for traffic control purposes through the police department. If traffic control assignments are cancelled without twenty-four (24) hours notice, the Contractor is responsible to pay the City of East Providence for the hours police officers would have worked it if had not been for the untimely cancellation of the assignment. The City at its sole discretion may require such scheduling to be pre-approved by the Public Works Department. The Contractor is responsible for all highway safety equipment for traffic control purposes

including but not limited to proper signage and traffic cones.

## **ARTICLE 10**

### **CEASE AND DESIST ORDER**

In the event the Contractor fails or refuses to perform the work as required herein, the City may instruct the Contractor to cease and desist from performing further work in whole or in part. Upon receipt of such instruction, the Contractor shall immediately cease and desist as instructed by the City and shall not proceed further until the cause for the City's instruction has been corrected, no longer exists, or the City instructs that the work resume. In the event the City issues instructions to cease and desist, and in the further event that the Contractor fails and refuses within seven (7) calendar days of receipt of same to provide adequate assurance to the City that the cause of such instructions will be eliminated or corrected, then the City shall have the right, but not the obligation, to carry out the work with its own forces, or with the forces of another contractor, and the Contractor shall be fully responsible and liable for the costs of performing such work by the City. The rights set forth herein are in addition to, and without prejudice to, any other rights or remedies the City may have against the Contractor.

## **ARTICLE 11**

### **DUTIES, OBLIGATIONS AND RESPONSIBILITIES OF THE CONTRACTOR**

In addition to any and all other duties, obligations and responsibilities of the Contractor set forth in this Contract, the Contractor shall have and perform the following duties, obligations and responsibilities to the City:

- (A) The Contractor is again reminded of its continuing duties set forth in Subparagraph 4(E) which are by reference hereby incorporated in this Subparagraph 10(A). The Contractor shall not perform work without adequate plans and specifications, or, as appropriate, approved shop drawings, or other submittals. If the Contractor performs work knowing or believing it involves an error, inconsistency or omission in the Contract without first providing written notice to the City and the Architect, the Contractor shall be responsible for such work and pay the cost of correcting same;
- (B) All work shall strictly conform to the requirements of this Contract;
- (C) The work shall be strictly supervised, the Contractor bearing full responsibility for any and all acts or omissions of those engaged in the work on behalf of the Contractor;
- (D) The Contractor hereby warrants that all labor furnished under this Contract shall be competent to perform the tasks undertaken, that the product of such labor shall yield only first-class results, that all materials and equipment provided shall be new and of high quality, that the completed work will be complete, of high quality, without defects, and that all work strictly complies with the requirements of this Contract. Any work not strictly complying with the requirements of this Subparagraph shall constitute a breach of the Contractor's warranty.

- (E) The Contractor shall obtain and pay for all required permits, fees and licenses customarily obtained by the Contractor. The Contractor shall comply with all legal requirements applicable to the work;
- (F) The Contractor shall employ and maintain at the Project site only competent supervisory personnel.
- (G) The Contractor shall keep an updated copy of this Contract at the Project site. Additionally, the Contractor shall keep a copy of approved shop drawings and other submittals. All of these items shall be available to the City at all regular business hours. Upon final completion of the work, all of these items shall be finally updated and provided to the City and shall become the property of the City.
- (H) The Contractor shall maintain the Project site in a reasonably clean condition during performance of the work. Upon final completion, the Contractor shall thoroughly clean the Project site of all debris, trash and excess materials or equipment.
- (I) At all times relevant to this Contract, the Contractor shall permit the City to enter upon the Project site and to review or inspect the work without formality or other procedure.

## **ARTICLE 12**

### **DUTIES, OBLIGATIONS AND RESPONSIBILITIES OF THE CITY**

- (A) Except for permit fees which are the responsibility of the Contractor, the City shall secure and pay for necessary approvals, easements, assessments and charges required for the construction, and services performed pursuant to the Contract.
- (B) If the Contractor fails to correct work which is not in accordance with the requirements of the contract, and persistently fails to carry out the work in accordance with the Contract, the City, by a written letter, may order the contractor to stop all work, or any portion thereof, until the cause of such order has been eliminated; however, the right of the City to stop the work shall not give rise to a duty on the part of the city to exercise this right for the benefit of the Contractor or any other person or entity.
- (C) Upon completion and acceptance of the work, the City shall issue a certificate attached to the final payment request that the work has been accepted by the City under the conditions of the Contract.

## **ARTICLE 13**

### **“OR EQUAL” CLAUSE**

- (A) Whenever a material or article required is specified or shown on the drawings by using the name of the proprietary product of a particular manufacturer or vendor, any material or article which will perform adequately the duties imposed by the general design may be

considered equal and satisfactory providing the material or article so proposed is of equal substance and function in the City's opinion. It shall not be purchased or installed without the City's written approval. In all cases new material shall be used in the project.

- (B) If more than one brand, make of material, device, or piece of equipment is shown or specified, each should be regarded as the equal of the other. Any other brand, make of material, device, or equipment, which in the opinion of the City or its Authorized Representative, is the recognized equal of that specified (considering quality, workmanship and economy of operation), and is suitable for the purpose intended, may be accepted.

#### **ARTICLE 14** **INDEMNITY**

The Contractor shall indemnify and hold the City harmless from any and all claims, liability, damages, loss, cost and expense of every type whatsoever including, without limitation, attorney's fees and expenses, in connection with the Contractor's performance of this Contract, provided that such claims, liability, damage, loss, cost or expense is due to sickness, personal injury, disease or death, or loss or destruction of tangible property (other than the work itself), including loss of use resulting therefrom, to the extent caused by the Contractor, or anyone for whose acts the Contractor may be liable, regardless of whether such liability, claim, damage, loss, cost or expense is caused in part by the City.

#### **ARTICLE 15** **CLAIMS BY THE CONTRACTOR**

Claims by the Contractor against the City are subject to the following terms and conditions:

- (A) All Contractor claims against the City shall be initiated by a written claim submitted to the City. Such claim shall be received by the City no later than seven (7) calendar days after the event, or the first appearance of the circumstances, causing the claim, and the same shall set forth in detail all known facts and circumstances supporting the claim;
- (B) The Contractor and City shall continue their performance hereunder regardless of the existence of any claims submitted by the Contractor.
- (C) In the event the Contractor discovers previously concealed and unknown site conditions which are materially at variance from those typically and ordinarily encountered in the general geographical location of the Project, the Contract Price shall be modified, either upward or downward, upon the written claim made by either party within seven (7) calendar days after the first appearance to such party of the circumstances. As a condition precedent to the City having any liability to the Contractor due to concealed and unknown conditions, the Contractor must give the City written notice of, and an opportunity to observe, such condition prior to disturbing it. The failure by the Contractor to give written notice and make the claim as provided by this Subparagraph

15(c) shall constitute a waiver by the Contractor of any rights arising out of or relating to such concealed and unknown condition.

- (D) In the event the Contractor seeks to make a claim for an increase in the Contract Price, as a condition precedent to any liability of the City therefor, the Contractor shall strictly comply with the requirements of Subparagraph 15(A) above and such claim shall be made by the Contractor before proceeding to execute any additional or change work. Failure of the condition precedent to occur shall constitute a waiver by the Contractor of any claim for additional compensation.
- (E) In connection with any claim by the Contractor against the City for compensation in excess of the Contract Price, any liability of the City for the Contractor's cost shall be strictly limited to direct cost incurred by the Contractor and shall in no event include indirect cost or consequential damages of the Contractor. The City shall not be liable to the Contractor for claims of third-parties including subcontractors, unless and until liability of the Contractor has been established therefor in a court of competent jurisdiction.
- (F) In the event the Contractor shall be delayed in performing any task which at the time of the delay is then critical, or which during the delay becomes critical, as the sole result of any act or omission by the City or someone acting in the City's behalf, or by City-authorized Change Orders, unusually bad weather not reasonably anticipatable, fire or other Acts of God, the date for achieving Substantial Completion, or, as applicable, final completion, shall be appropriately adjusted by the City upon the written claim of the Contractor to the City. A task is critical within the meaning of this Subparagraph 15(A) if, and only if, said task is on the critical path of the Project schedule so that delay in performing such task will delay the ultimate completion of the Project. Any claim for an extension of time by the Contractor shall strictly comply with the requirements of Subparagraph 15(A) above. If the Contractor fails to make such claim as required in this Subparagraph 15(F), any claim for an extension of time shall be waived.

## **ARTICLE 16**

### **SUBCONTRACTORS**

Upon execution of this Contract, the Contractor shall identify to the City, in writing, those parties intended as subcontractors on the Project. The City shall, in writing, state any objections the City may have to one or more of such subcontractors. The Contractor shall not enter into a subcontract with an intended subcontractor with reference to whom the City objects. The Contractor shall not award work to a subcontractor(s) in excess of fifty (50) percent of the Contract Price, without prior written approval of the City. All subcontracts shall afford the Contractor rights against the subcontractor which correspond to those rights afforded to the City against the Contractor herein. Nothing contained in this Contract shall create any contractual relation between any subcontractor and the City.

**ARTICLE 17**  
**WAGE RATES**

- (A) There shall be paid to each laborer or mechanic of the Contractor or subcontractor engaged in the work on the Project under this Contract in the trade or occupation, an hourly wage rate pursuant to §37-13-7 of the General Laws of the State of Rhode Island regardless of any contractual relationship which may be alleged to exist between the Contractor or any subcontractor and such laborers and mechanics.
- (B) If, after the award of the Contract, it becomes necessary to employ any person in a trade or occupation not classified in the Contract, such person shall be paid at not less than a rate to be determined by the same authority which established the other wage rates for this Contract. Such approved minimum rate shall be retroactive to the time of the initial employment of such person in such trade or occupation. The Contractor shall notify the City of his intention to employ persons in trades or occupations not classified in sufficient time for the City to obtain approved rates for such trades or occupations.
- (C) The foregoing specified wage rates are minimum rates only, and the City will not consider any claims for additional compensation made by the Contractor because of payment by the Contractor of any wage rate in excess of the applicable rate contained in this Contract. All disputes in regard to the payment of wages in excess of those specified in this Contract, shall be adjusted by the Contractor.
- (D) Except as may otherwise be required by law, all claims and disputes pertaining to the classification of labor employed on the Project under this Contract, shall be decided by the City's governing body or other duly designated official.

**ARTICLE 18**  
**CHANGE ORDERS**

One or more changes to the work within the general scope of this Contract, may be ordered by Change Order. The Contractor shall proceed with any such changes, and the same shall be accomplished in strict accordance with the following terms and conditions:

- (A) Change Order shall mean a written order to the Contractor executed by the City after execution of this Contract, directing a change in the work and may include a change in the Contract Price or the time for the Contractor's performance, or any combination thereof. Said change orders must be approved by the City Manager on behalf of the City;
- (B) Any change in the Contract Price resulting from a Change Order shall be determined as follows:
  - (1) By mutual agreement between the City and the Contractor as evidenced by (a) the change in the Contract Price being set forth in the Change Order, (b) such change in the Contract Price, together with any conditions or requirements relating

thereto, being initialed by both parties and (c) the Contractor's execution of the Change Order; or,

- (2) If no mutual agreement occurs between the City and the Contractor, the change in the Contract Price, if any, shall be derived by determining the reasonable actual costs incurred or savings achieved, resulting from revisions in the work. Any such costs or savings shall be documented in the format, and with such content and detail as the City requires.
- (C) The execution of a Change Order by the Contractor shall constitute conclusive evidence of the Contractor's agreement to the ordered changes in the work, this Contract as thus amended, the Contract Price and the time for performance by the Contractor. The Contractor, by executing the Change Order, waives and forever releases any claim against the City for additional time or compensation for matters relating to or arising out of or resulting from the work included within or affected by the executed Change Order.
- (D) The Contractor shall notify and obtain the consent and approval of the Contractor's surety with reference to all Change Orders if such notice, consent or approval are required by the City, the Contractor's surety or law. The Contractor's execution of the Change Order shall constitute the Contractor's warranty to the City that the surety has been notified of, and consents to, such Change Order and the surety shall be conclusively deemed to have been notified of such Change Order and to have expressly consented thereto.

#### **ARTICLE 19**

#### **DISCOVERING AND CORRECTING DEFECTIVE OR INCOMPLETE WORK**

- (A) In the event that the Contractor covers, conceals or obscures its work in violation of this Contract or in violation of a directive from the City, such work shall be uncovered and displayed for the City's inspection upon request, and shall be reworked at no cost in time or money to the City;
- (B) If any of the work is covered, concealed or obscured in a manner not covered by Subparagraph 19(A) above, it shall, if directed by the City, be uncovered and displayed for the City's inspection. If the uncovered work conforms strictly with this Contract, the costs incurred by the Contractor to uncover and subsequently, replace such work shall be borne by the City. Otherwise, such costs shall be borne by the Contractor;
- (C) The Contractor shall, at no cost in time or money to the City, correct work rejected by the City as defective or failing to conform to this Contract. Additionally, the Contractor shall reimburse the City for all testing, inspections and other expenses incurred as a result thereof;
- (D) In addition to its warranty obligations set forth elsewhere herein, the Contractor shall be specifically obligated to correct any and all defective or nonconforming work for a period

of twelve (12) months following final completion upon written direction from the City.

- (E) The City may, but in no event be required to, choose to accept defective or nonconforming work. In such event, the Contract Price shall be reduced by the greater of (1) the reasonable costs of removing and correcting the defective or nonconforming work, and (2) the difference between the fair market value of the Project as constructed and the fair market value of the project had it not been constructed in a manner as to include defective or nonconforming work. If the remaining portion of the unpaid Contract Price, if any, is insufficient to compensate the City for the acceptance of defective or nonconforming work, the Contractor shall, upon written demand from the City, pay the City such remaining compensation for accepting defective or nonconforming work.

## **ARTICLE 20**

### **TERMINATION BY THE CONTRACTOR**

If the City repeatedly fails to perform its material obligations to the Contractor for a period of thirty (30) days after receiving written notice from the Contractor of its intent to terminate hereunder, the Contractor may terminate performance of this Contract by written notice to the City. In such event, the Contractor shall be entitled to recover from the City as though the City had terminated the Contractor's performance under this Contract for convenience pursuant to Subparagraph 22(A) hereunder.

## **ARTICLE 21**

### **CITY'S RIGHT TO SUSPEND CONTRACTOR'S PERFORMANCE**

- (A) The City shall have the right at any time to direct the Contractor to suspend its performance, or any designated part thereof, for any reason whatsoever, or without reason, for a cumulative period of up to thirty (30) calendar days. If any such suspension is directed by the City, the Contractor shall immediately comply with same;
- (B) In the event the City directs a suspension of performance under this Paragraph 21, through no fault of the Contractor, the City shall pay the Contractor as full compensation for such suspension the Contractor's reasonable costs, actually incurred and paid, of:
  - (1) demobilization and remobilization, including such costs paid to subcontractors;
  - (2) preserving and protecting work in place;
  - (3) storage of materials or equipment purchased for the Project, including insurance thereon;
  - (4) performing in a later, or during a longer, time frame than that contemplated by this Contract.

**ARTICLE 22**  
**TERMINATION BY THE CITY**

The City may terminate this Contract in accordance with the following terms and conditions:

- (A) The City may, for any reason whatsoever, terminate performance under this Contract by the Contractor for convenience. The City shall give written notice of such termination to the Contractor specifying when termination becomes effective. The Contractor shall incur no further obligations in connection with the work and the Contractor shall stop work when such termination becomes effective. The Contractor shall also terminate outstanding orders and subcontracts. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders. The City may direct the Contractor to assign the Contractor's right, title and interest under termination orders or subcontracts to the City or designee. The Contractor shall transfer title and deliver to the City such completed or partially completed work and materials, equipment, parts, fixtures, information and Contract rights as the Contractor has. When terminated for convenience, the contractor shall be compensated as follows:
- (1) The Contractor shall submit a termination claim to the City specifying the amounts due because of termination for convenience together with costs, pricing or other data required by the City. If the Contractor fails to file a termination claim within one (1) year from the effective date of termination, the City shall pay the Contractor, an amount derived in accordance with Subparagraph (3) below;
  - (2) The City and the Contractor may agree to the compensation, if any, due to the Contractor hereunder;
  - (3) Absent agreement to the amount due to the Contractor, the City shall pay the Contractor the following amounts:
    - a) Contract prices for labor, materials, equipment and other services accepted under this contract;
    - b) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the work, and in terminating the Contractor's performance, plus a fair and reasonable allowance for jobsite overhead and profit thereon (such profit shall not include anticipated profit or consequential damages); provided however, that if it appears that the Contractor would not have profited or would have sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss, if any;
    - c) Reasonable costs of settling and paying claims arising out

of the termination of subcontracts or orders pursuant to Subparagraph 18(A) of this Paragraph. These costs shall not include amounts paid in accordance with other provisions hereof.

The total sum to be paid the Contractor under this Subparagraph 18(A) shall not exceed the total Contract Price, as properly adjusted, reduced by the amount of payments otherwise made, and shall in no event include duplication of payment.

- (B) If the Contractor does not perform the work, or any part thereof, in a timely manner, supply adequate labor, supervisory personnel or proper equipment or materials, or if it fails to timely discharge its obligations for labor, equipment, and materials, or proceeds to disobey applicable law, or otherwise commits a violation of a material provision of this Contract, then the City, in addition to any rights it may have against the Contractor or others, may terminate the performance of the Contractor and assume possession of the Project site and of all materials and equipment at the site and may complete the work. In such case, the Contractor shall not be paid further until the work is complete. After final completion has been achieved, if any portion of the Contract Price, as it may be modified hereunder, remains after the cost to the City of completing the work, including all costs and expenses of every nature incurred, has been deducted by the City, such remainder shall belong to the Contractor. Otherwise, the Contractor shall pay and make whole the City for such cost. This obligation for payment shall survive the termination of the Contract. In the event the employment of the Contractor is terminated by the City for cause pursuant to this Subparagraph 22(B) and is subsequently determined by a Court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience under Subparagraph 2(A) and the provision of Subparagraph 22(A) shall apply.

## **ARTICLE 23**

### **INSURANCE**

The Contractor shall carry and maintain the following insurance coverage at his own expense and add the City of East Providence as an additionally insured

- (A) All insurance for this Contract shall be written by a company (or companies) acceptable to the City and all policies or certificates shall be submitted to the City for examination prior to commencement of operations by the Contractor. In the event any policy or certificate, the amount of the insurance, or the company writing same are not satisfactory to the City, the Contractor shall secure other policies or certificates in form and amount with a company satisfactory to the City. The Contractor shall not permit policies to be changed, cancelled, or to lapse and all policies shall include a clause to the effect that the policy shall not be subject to cancellation or a reduction in the limits of liability or amounts of insurance until notice has been sent by mail to the City stating when, (not less than thirty days thereafter) such cancellation or reduction shall be effective. All certificates of insurance shall be delivered to the City and contain true transcripts from the policy or policies authenticated by the proper officer of the insurer evidencing in

particular those insured, the extent of the insurance, the location and operations to which the insurance applies, the expiration date and the above mentioned notice as to the location and operations involved.

If any part of the work is sublet, similar insurance shall be provided by or in behalf of the subcontractors to cover their operations. The Contractor shall be charged with the responsibility for insurance protection for all his subcontract operations and should the Contractor's policy not cover each and every subcontractor, certificates of insurance acceptable to the City covering each and every subcontractor shall be filed with said City prior to the commencement of subcontract operations.

(B) Contractor's Liability Insurance.

Liability insurance shall include all major divisions of coverage and be on a comprehensive general liability basis including:

Premises - Operations (including X-C-U)

Independent Contractor's protective

Products & completed operations

Blanket Contractual

Owned, non-owned and hired motor vehicles

Broad form coverage for property damage (including explosion, collapse and underground).

(C) The insurance required by this Subparagraph (b) shall be written for not less than the following, or greater if required by Law:

(1) Workers' Compensation:

a. State of Rhode Island - Statutory

b. Employer's Liability

(2) Comprehensive General Liability (including Premises Operations; Independent Contractor's Protective; Products & Completed Operations; Broad Form Property Damage):

(a) Bodily Injury:

\$1,000,000 - Each Occurrence

\$1,000,000 - Annual Aggregate

(b) Property Damage:

\$1,000,000 - Each Occurrence

\$1,000,000 - Annual Aggregate

(c) Products & Completed Operations to be maintained for one (1) year after final payment.

(d) Property Damage Liability Insurance will provide X, C, or U coverage as

applicable.

(3) Contractor's Liability:

(a) Bodily Injury:  
\$1,000,000 - Each Occurrence

(b) Property Damage:  
\$1,000,000 - Each Occurrence  
\$1,000,000 - Annual Aggregate

(4) Personal injury, with Employment Exclusion deleted:  
\$1,000,000 Annual Aggregate

(5) Comprehensive Automobile Liability:

(a) Bodily Injury:  
\$ 500,000 - Each Person  
\$1,000,000 - Each Occurrence

(b) Property Damage:  
\$1,000,000 - Each Occurrence

(6) Property Insurance:

The Contractor shall purchase and maintain property insurance upon the entire Work at the site to the full insurable value thereof. This insurance shall include the interests of the City, the Contractor, Subcontractors and Subcontractors in the Work shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss or damage including, without duplication of coverage, theft, vandalism and malicious mischief.

(D) Insurance Covering Special Hazards:

Special hazards shall be covered by rider or riders to the Public Liability and Property Damage Insurance policy or policies herein above required to be furnished by the Contractor or by separate policies of insurance in the amounts stated in Paragraph 5(C).

- (1) Property Damage Liability arising out of the collapse of or injury to any building or structure due to excavation (including burrowing, filling or backfilling in connection therewith), tunneling, pile driving, cofferdam work, or caisson work; or moving, shoring, underpinning, razing or demolition of any building or structure, or removal or rebuilding of any structural support thereof.
- (2) Property Damage Liability for injury to or destruction of property arising directly or indirectly from blasting or explosions, however caused, other than explosions

of air or steam vessels, piping under pressure, prime movers, machinery, or power transmitting equipment.

- (3) Property Damage Liability for injury to or destruction of wires, conduits, pipes, mains, sewers, or other similar property, or any apparatus in connection therewith below the surface of the ground arising from and during the use of mechanical equipment for the purpose of excavating or drilling within project limits; injury to or destruction of property at any time resulting there from.
- (4) The Contractor shall require similar insurance in such amounts to be taken out and maintained by each subcontractor.

(E) “ALL RISK” Insurance:

The Contractor shall acquire and maintain “All Risk” type Builder’s Insurance. This insurance shall be in an amount equal to 100% of the insurable portion of the Project, and shall be for the benefit of the City, the Contractor, and each subcontractor as their interest may respectively appear.

#### **ARTICLE 24** **SURETY BONDS**

The Contractor shall be licensed to do business in the State of Rhode Island and shall furnish separate performance and payment bonds to the City. Each bond shall set forth a penal sum in an amount of not less than the Contract Price. Each bond furnished by the Contractor shall incorporate by reference the terms of this Contract as fully as though they were set forth verbatim in such bonds. In the event the Contract Price is adjusted by Change Order executed by the Contractor, the penal sum of both the performance bond and the payment bond shall be deemed increased by like amount. The performance and payment bonds furnished by the Contractor shall be in form suitable to the City and shall be executed by a surety, or sureties, reasonably acceptable to the City.

#### **ARTICLE 25** **PATENTS**

The Contractor shall pay all applicable royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent rights, and save the City harmless from loss on account thereof, except that the City shall be responsible for any such loss on when a particular process, design, or product of a manufacturer(s) is specified. However, if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, the Contractor shall be responsible for such loss unless the Contractor promptly gives such information to the City.

**ARTICLE 26**  
**APPRENTICES**

Apprentices shall be permitted to work only under a bona fide apprenticeship program registered with a State Apprenticeship Council which is recognized by the Federal Committee of Apprenticeship, United States Department of Labor; or if no such Council exists in a State, under a program registered with the Bureau of Apprenticeship, United States Department of Labor.

**ARTICLE 27**  
**ASSIGNMENTS**

The Contractor shall not assign the whole or any part of this Contract, or any monies due or to become due hereunder, without the written consent of the City. In case the Contractor assigns all or any part of any monies due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the Contractor shall be subject to prior claims of all persons, firms or corporations for services rendered or materials supplied for the performance of the work called for in this Contract.

**ARTICLE 28**  
**APPLICABLE LAW**

The law is hereby agreed to be the law of the State of Rhode Island.

**ARTICLE 29**  
**SUCCESSORS AND ASSIGNS**

Each party binds itself, its successors, assigns, executors, administrators or other representatives to the other party hereto and to successors, assigns, executors, administrators or other representatives of such party in connection with all terms and conditions of this Contract.

**CITY**

The City of East Providence  
East Providence, RI 02914

**CONTRACTOR**

By:

\_\_\_\_\_  
(Signature)

ROBERTO L. DASILVA, Mayor  
(Printed Name and Title)

\_\_\_\_\_  
(Date of Execution)

By:

\_\_\_\_\_  
(Signature)

(Printed Name and Title)

\_\_\_\_\_  
(Date of Execution)

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

SECTION 00620

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That           we, \_\_\_\_\_, as  
Principal, and \_\_\_\_\_, as  
Surety, are held and firmly bound unto the State of Rhode Island, as Oblige, in the sum of  
\_\_\_\_\_ Dollars (\$ \_\_\_\_\_ ), well and  
truly to paid, and for the payment of which we and each of us hereby bind our self, our heirs, executors,  
administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the Principal has submitted a Bid for the City of East Providence's Pawtucket Avenue  
Water Main Relocation.

NOW, THEREFORE, if the City of East Providence shall accept the Bid of the Principal and the  
Principal shall enter into a Contract with the City of East Providence in accordance with the terms of such  
Bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good  
and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor  
and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter  
such Contract and give such bond or bonds, if the Principal shall pay to the City of East Providence the  
difference not to exceed the penalty hereof between the amount specified in said Bid and such larger  
amount for which the City may in good faith contract with another party to perform the Work covered by  
said Bid, then this obligation shall be null and void, otherwise to remain in full force.

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

**BID BOND**

IN WITNESS WHEREOF, the parties hereto have signed, sealed and delivered this instrument at the City of East Providence, Rhode Island, this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

WITNESS:

\_\_\_\_\_  
(Principal)

By: \_\_\_\_\_  
Name & Title  
(Affix Corporate Seal)

\_\_\_\_\_  
(Surety)

By: \_\_\_\_\_  
Attorney-in-fact  
(Affix Corporate Seal Here)

FEIN No.

(Attach Power of Attorney to this Bond)

END OF SECTION

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

SECTION 00630

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, \_\_\_\_\_, as Principal,  
and \_\_\_\_\_, as Surety, are held  
and firmly bound unto the City of East Providence, as Oblige, in the sum of \_\_\_\_\_  
Dollars (\$ \_\_\_\_\_), well and truly to paid, and for the payment of which we  
and each of us hereby bind our self, our heirs, executors, administrators, successors and assigns, jointly  
and severally, firmly by these presents.

THIS OBLIGATION IS UPON THE CONDITION that if the person or persons designated in the  
contract annexed hereto as the Contractor, shall faithfully furnish and perform everything required to be  
furnished and performed by them under the provisions of said Contract then this obligation shall be void;  
otherwise, it shall remain in full force and effect.

In the event that the said contract is abandoned by the Contractor, or the work of the Contractor is  
discontinued by the City of East Providence under the provisions of the GENERAL CONDITIONS, said  
surety hereby further agrees that it shall, if requested in writing by the City of East Providence, take such  
action as is necessary to complete said contract.

FOR VALUE RECEIVED, said surety company hereby stipulates and agrees that no change, extension of  
time, alteration or addition to the terms of said contract or to the work to be performed thereunder or the  
Contract Documents accompanying the same shall in any wise affect its obligation on this bond, and does  
hereby waive notice of any such change, extension of time, alteration or addition to the terms of said  
contract or to the work or to the specifications.

Said surety hereby certifies and affirms under the penalties of perjury that said surety is licensed by the  
State of Rhode Island.

Any legal action commenced by Principal or Surety must be commenced within two (2) years from the  
date of final payment.

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

**PERFORMANCE BOND**

IN WITNESS WHEREOF, the parties hereto have signed, sealed and delivered this instrument at the City of East Providence, Rhode Island, this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

WITNESS:

(Principal)

By: \_\_\_\_\_  
Name & Title  
(Affix Corporate Seal)

(Surety)

By: \_\_\_\_\_  
Attorney-in-fact  
(Affix Corporate Seal Here)

FEIN No.

(Attach Power of Attorney to this Bond)

END OF SECTION

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

SECTION 00700

GENERAL CONDITIONS

- A. This Contract is governed by the enclosed General Conditions, except where modified by Section 00800- Supplemental Conditions.

END OF SECTION

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

**ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE**

and

Issued and Published Jointly by



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*A Practice Division of the*  
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

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1420 King Street, Alexandria, VA 22314-2794  
(703) 684-2882  
[www.nspe.org](http://www.nspe.org)

American Council of Engineering Companies  
1015 15th Street N.W., Washington, DC 20005  
(202) 347-7474  
[www.acec.org](http://www.acec.org)

American Society of Civil Engineers  
1801 Alexander Bell Drive, Reston, VA 20191-4400  
(800) 548-2723  
[www.asce.org](http://www.asce.org)

Associated General Contractors of America  
2300 Wilson Boulevard, Suite 400, Arlington, VA 22201-3308  
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# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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## ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
  2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
  3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
  4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
  5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
  7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
  8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
  9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
  10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
  11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

## 1.02 Terminology

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
  - a. does not conform to the Contract Documents; or
  - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
  - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
  2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
  3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
  4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

## ARTICLE 2 – PRELIMINARY MATTERS

### 2.01 *Delivery of Bonds and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

### 2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

### 2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

## 2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

## 2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
  - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
  - 2. a preliminary Schedule of Submittals; and
  - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

## 2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

## 2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
  - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on

Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

### **ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE**

#### **3.01   *Intent***

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

#### **3.02   *Reference Standards***

- A. Standards, Specifications, Codes, Laws, and Regulations
  1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
  2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

### 3.03 *Reporting and Resolving Discrepancies*

#### A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

#### B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
  - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
  - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

### 3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

### 3.05 *Reuse of Documents*

#### A. Contractor and any Subcontractor or Supplier shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

#### B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

### 3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

## **ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS**

### **4.01   *Availability of Lands***

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

### **4.02   *Subsurface and Physical Conditions***

- A. *Reports and Drawings:* The Supplementary Conditions identify:
  - 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
  - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
  - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
  - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
  - 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

#### 4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer’s Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner’s obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer’s findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor’s cost of, or time required for, performance of the Work; subject, however, to the following:
  - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
  - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
  - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
  - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and

contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

- c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

#### 4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
  - a. reviewing and checking all such information and data;
  - b. locating all Underground Facilities shown or indicated in the Contract Documents;
  - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
  - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the

consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

#### 4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

#### 4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
  1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
  2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
  3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

## **ARTICLE 5 – BONDS AND INSURANCE**

### **5.01   *Performance, Payment, and Other Bonds***

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

### **5.02   *Licensed Sureties and Insurers***

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also

meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

#### 5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

#### 5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
  - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
  - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
  - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
  - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

- a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
    - b. by any other person for any other reason;
  5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
  6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
  2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
  3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
  4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
  5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
  6. include completed operations coverage:
    - a. Such insurance shall remain in effect for two years after final payment.
    - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

## 5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

## 5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
  2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
  3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
  4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
  5. allow for partial utilization of the Work by Owner;
  6. include testing and startup; and
  7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors,

members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

#### 5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
  2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

#### 5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

#### 5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's

interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

**ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES**

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

#### 6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
  - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
  - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

#### 6.05 *Substitutes and “Or-Equals”*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or “or-equal” item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
  - 1. “*Or-Equal*” Items: If in Engineer’s sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an “or-equal” item, in which case review and approval of the proposed item may, in Engineer’s sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
    - a. in the exercise of reasonable judgment Engineer determines that:
      - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
  - 3) it has a proven record of performance and availability of responsive service.
- b. Contractor certifies that, if approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
  - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
  - 1) shall certify that the proposed substitute item will:
    - a) perform adequately the functions and achieve the results called for by the general design,
    - b) be similar in substance to that specified, and
    - c) be suited to the same use as that specified;
  - 2) will state:
    - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
    - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

- c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
  - 3) will identify:
    - a) all variations of the proposed substitute item from that specified, and
    - b) available engineering, sales, maintenance, repair, and replacement services; and
  - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.
- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

#### 6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be

required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
  - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
  - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner,

Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

#### 6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

#### 6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

## 6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

## 6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

## 6.11 *Use of Site and Other Areas*

### A. *Limitation on Use of Site and Other Areas:*

- 1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
- 2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
- 3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought

by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

#### 6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

#### 6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
  - 1. all persons on the Site or who may be affected by the Work;
  - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
  - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and

shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

#### 6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

#### 6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

#### 6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is

required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

#### 6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

##### 1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

##### 2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

##### C. *Submittal Procedures:*

##### 1. Before submitting each Shop Drawing or Sample, Contractor shall have:

- a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
- b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
- c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
- d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

*D. Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

*E. Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

**6.18** *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

#### 6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
  - 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
  - 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
  - 1. observations by Engineer;
  - 2. recommendation by Engineer or payment by Owner of any progress or final payment;
  - 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
  - 4. use or occupancy of the Work or any part thereof by Owner;
  - 5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
  - 6. any inspection, test, or approval by others; or
  - 7. any correction of defective Work by Owner.

#### 6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
  - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
  - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

#### 6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

## **ARTICLE 7 – OTHER WORK AT THE SITE**

### **7.01 *Related Work at Site***

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
1. written notice thereof will be given to Contractor prior to starting any such other work; and
  2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

### **7.02 *Coordination***

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
  2. the specific matters to be covered by such authority and responsibility will be itemized; and
  3. the extent of such authority and responsibilities will be provided.

- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

### 7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

## **ARTICLE 8 – OWNER'S RESPONSIBILITIES**

### 8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

### 8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

### 8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

### 8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

### 8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

### 8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

#### 8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

#### 8.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

#### 8.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

#### 8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

#### 8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

#### 8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

### **ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION**

#### 9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

#### 9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or

continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

#### 9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

#### 9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

#### 9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not

exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

#### 9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

### **ARTICLE 10 – CHANGES IN THE WORK; CLAIMS**

#### 10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

## 10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

## 10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
  - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
  - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
  - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

## 10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

## 10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data

shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
  2. approve the Claim; or
  3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

## **ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

### **11.01 *Cost of the Work***

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
  - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
  - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
  - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of

said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not

limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

## 11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
  1. Contractor agrees that:
    - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
    - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
  1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

## 11.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to

the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
  - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
  - 2. there is no corresponding adjustment with respect to any other item of Work; and
  - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

## **ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES**

### **12.01 *Change of Contract Price***

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
  - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
  - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
  - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
  - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
  - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
  - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
  - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
  - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
  - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

#### 12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

#### 12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or

neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

## **ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

### **13.01 *Notice of Defects***

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

### **13.02 *Access to Work***

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

### 13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
  - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
  - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
  - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

### 13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

#### 13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

#### 13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

#### 13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
  2. correct such defective Work; or
  3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
  4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

#### 13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

### 13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

## **ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION**

### 14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

### 14.02 *Progress Payments*

#### *A. Applications for Payments:*

- 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an

Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

*B. Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
  - a. the Work has progressed to the point indicated;
  - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
  - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
  - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or

- involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
- b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
  - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
  - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
  - b. the Contract Price has been reduced by Change Orders;
  - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
  - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

*C. Payment Becomes Due:*

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

*D. Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
  - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
  - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
  - c. there are other items entitling Owner to a set-off against the amount recommended; or
  - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

*14.03 Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

*14.04 Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before

final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

#### 14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
  - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
  - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
  - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

#### 14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 14.07 *Final Payment*

##### A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
  - b. consent of the surety, if any, to final payment;
  - c. a list of all Claims against Owner that Contractor believes are unsettled; and
  - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

##### B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying

documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

*C. Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

*14.08 Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

*14.09 Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
  1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
  2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

## ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

### 15.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

### 15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
  2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
  3. Contractor's repeated disregard of the authority of Engineer; or
  4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
  2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
  3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when

so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

#### 15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
  - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
  - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
  - 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
  - 4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

#### 15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days

to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

## **ARTICLE 16 – DISPUTE RESOLUTION**

### **16.01 *Methods and Procedures***

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
  - 1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
  - 2. agrees with the other party to submit the Claim to another dispute resolution process; or
  - 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

## **ARTICLE 17 – MISCELLANEOUS**

### **17.01 *Giving Notice***

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

#### 17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

#### 17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

#### 17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

#### 17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

#### 17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SECTION 00800

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract and other provisions of the Contract Documents as indicated below. All provisions, which are not so amended or supplemented, remain in full force and effect.

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

General

The terms "Plans" and "Project Plans" used in various locations throughout these Specifications shall have the same meaning as "Drawings" as defined in the General Conditions. The word "site" shall mean the specific area adjacent to and including the area upon which the construction work is performed. The words "as directed", "as permitted", "as required", or words of like effect shall mean the direction, permission, requirement of the OWNER is intended and similarly the words, "approved", "acceptable", "satisfactory", or words of like effect shall mean approved by, or acceptable, or satisfactory to the OWNER, unless otherwise provided herein. The words "necessary", "suitable" "equal", or words of like effect shall mean necessary, suitable, or equal in the opinion of the OWNER.

The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract have the meanings assigned to them in the General Conditions.

SC-1.01. SPECIFIC CHANGES

Include following sections under paragraph 1.01.

SC-1.19. Engineer – Delete paragraph 1.19 in its entirety and replace with the following:

1.19. Engineer - Owner or Owner's representative as defined by the Owner.

SC-1.42. Delete paragraph 1.42 in its entirety and replace with the following:

1.42. Specifications - Sections included under Division 1 through Division 16 of the Project Manual.

SC-1.44. Insert the following at the beginning of the definition.

Substantial completion shall mean either that the Work required by the Contract has been completed except for work having a Contract Price of less than one per cent of the then adjusted total contract price, or...

SC-1.51. Add the following new definitions after paragraph 1.51 of the General Conditions:

1.52 Conditions of the Contract - The combined General Conditions and Supplementary Conditions.

1.53 Project Manual - Invitation to Bid, Instructions to Bidders, Special Conditions, Bid Form, Supplements to Bid Form, Agreement, Bonds, General Conditions, Supplementary Conditions, Specifications, and Appendices.

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ARTICLE 2 - PRELIMINARY MATTERS

SC-2.01B. Delete paragraph 2.01B of the General Conditions in its entirety and insert the following in its place:

2.01B. Before any Work at the site is started, CONTRACTOR shall deliver to OWNER, with copies to ENGINEER, each additional insured identified in Article 5 of the Supplementary Conditions, certificates of insurance (and other evidence requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with the requirements of Article 5.

SC-2.03. Delete paragraph 2.03 of the General Conditions in its entirety and insert the following in its place:

2.03. The Contract Time will commence at the issuance of the Notice to Proceed or within fifteen days of contract execution.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

SC-3.01. Add a new paragraph immediately after Paragraph 3.01. of the General Conditions which is to read as follows:

3.01 D. Each and every provision of law and clause required by law to be inserted in these Contract Documents shall be deemed to be inserted herein, and they shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or if not correctly inserted, then upon the application of either party, the Contract Documents shall forthwith be physically amended to make such insertion.

ARTICLE 4.0 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

SC-4.01. Add a new paragraph immediately after Paragraph 4.01. of the General Conditions which is to read as follows:

4.01D. If all lands and rights-of-way are not obtained as herein contemplated before construction begins, CONTRACTOR shall begin the work upon such land and rights-of-way as OWNER has previously acquired.

ARTICLE 5 - BONDS AND INSURANCE

Amend paragraph 5.01 by adding the following sections:

D. The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. Bonds shall be in a form acceptable to the Owner and shall be issued by companies licensed to issue such Bonds in the State of R.I., and the cost thereof shall be included in the Contract Sum. Bonding companies shall be approved by the OWNER and shall be listed on the U.S. Treasuries Circular 570 of approved bonding companies. The amount of each bond shall be equal to 100 percent of the Contract Sum, as amended.

Insurance companies shall be approved by the Owner and shall be rated A- or better.

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- E. The Contractor shall deliver the required bonds to the OWNER on or before the date the Agreement is entered into.
- F. The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

Amend 5.04. as follows:

SC-5.04. The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Law:

5.04A.1. and 5.04A.2. Worker's Compensation

(1) Worker's Compensation Statutory Coverage

5.04A.3., 5.04A.4., and 5.04A.5. Comprehensive General Liability including Premise/Operations; Explosion, Collapse and Underground Property Damage; Products/Completed Operations, Broad Form Contractual, Independent Contractors; Broad Form Property Damage; and Personal Injury liabilities. Carrier shall be "A-rated or higher.

(1)	Bodily Injury:	\$1,000,000	Each Occurrence
		\$2,000,000	Annual Aggregate

(2)	Property Damage:	\$1,000,000	Each Occurrence
		\$2,000,000	Annual Aggregate

(3)	Personal Injury, with employment exclusion deleted	\$2,000,000	Annual Aggregate
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5.04A.6. Comprehensive Automobile Liability including all owned (private and others), hired and non-owned vehicles: Carrier shall be A- rated or higher.

(1)	Bodily Injury: & Property Damage	\$1,000,000	Each Person, combined single limit
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SC-5.04. Add a new paragraph immediately after Paragraph 5.04B.6. of the General Conditions which is to read as follows:

5.04B.7. CONTRACTOR may purchase and maintain excess liability insurance in the umbrella form in order to satisfy the limits of liability required for the insurance to be purchased and maintained in accordance with paragraph 5.04. Evidence of such excess liability shall be delivered to OWNER in the form of a certificate indicating the policy numbers and limits of liability of all underlying insurance.

SC-5.04. ADD paragraph 5.04C of the General Conditions:

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5.04C. If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with this Article 5 on the basis of its not complying with the Contract Documents, OWNER will notify CONTRACTOR in writing thereof within ten days of the date of delivery of such certificates to OWNER in accordance with Paragraph 2.01B. CONTRACTOR will provide such additional information in respect of insurance provided by him/her as OWNER may reasonably request.

SC-5.05. DELETE paragraph 5.05 of the General Conditions in its entirety.

SC-5.06. DELETE paragraph 5.06 of the General Conditions in its entirety.

SC-5.07B and 5.07C. DELETE paragraph 5.07B and 5.07C of the General Conditions in its entirety.

SC-5.08. DELETE paragraph 5.08 of the General Conditions in its entirety.

SC-5.09. DELETE paragraph 5.09 of the General Conditions in its entirety and replace with the following:

5.09. If OWNER has any objection to the coverage afforded by, or other provisions of, the insurance required to be purchased and maintained by CONTRACTOR in accordance with Article 5.0 on the basis of its not complying with the Contract Documents, OWNER shall notify CONTRACTOR thereof in writing. CONTRACTOR shall provide to the OWNER such additional information in respect of insurance provided by as the OWNER may reasonably request.

**ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES**

Amend Article 6.0. by adding the following:

**SC 6.0. Equal Opportunity**

The Contractor and the Contractor's Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex or national origin.

Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising.

SC-6.02. Add the following new paragraphs immediately after Paragraph 6.02B of the General Conditions:

6.02C. This Agreement is subject to the applicable provisions of the Contract Work Hours and Safety Standards Act, Public Law 87-581, 87th Congress, as amended. No Contractor or Subcontractor contracting for any part of the work shall require or permit any laborer or mechanic to be employed on the Work in excess of forty hours in any work week unless such laborer or mechanic 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 forty hours in such work week.

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6.02D. CONTRACTOR shall employ only competent persons to do the work and whenever OWNER shall notify CONTRACTOR, in writing, that any person on the Work appears to be incompetent, disorderly, or otherwise unsatisfactory, such person shall be removed from the Project and shall not again be employed on it except with the consent of OWNER.

6.02E. Except as may be otherwise required by law, all claims and disputes pertaining to the classification of labor employed on the project under this Contract shall be decided by the governing body having jurisdiction.

SC-6.06. DELETE Paragraphs 6.06A and 6.06B of the General Conditions in their entirety and insert the following in its place:

6.06A. CONTRACTOR shall not employ any subcontractor, supplier or other person or organization, (including those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, against whom OWNER may have reasonable objection. Acceptance of any Subcontractor, other person or organization by OWNER does not waive OWNER's rights to reject defective Work. CONTRACTOR shall not be required to employ any Subcontractor, other person or organization against which CONTRACTOR has reasonable objection.

SC-6.06. Add a new sentence at the end of Section 6.06. to read as follows:

6.06H. OWNER or ENGINEER may furnish to any Subcontractor, Supplier or other person or organization, to the extent practicable, information about amounts paid on their behalf to CONTRACTOR in accordance with CONTRACTOR's Applications for Payment.

SC-6.20. Add two sentences at the end of Paragraph 6.20A to read as follows:

If through the acts of neglect on the part of the CONTRACTOR, any other Contractor or any Subcontractor shall suffer loss or damage on the Work, CONTRACTOR shall settle with such other Contractor or Subcontractor by agreement or arbitration if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against OWNER on account of any damage alleged to have sustained, OWNER shall notify CONTRACTOR, who shall indemnify and safe harmless OWNER against any such claims.

#### ARTICLE 8 – OWNER'S RESPONSIBILITIES

SC-8.02. DELETE Section 8.02 in its entirety, and replace with the following:

8.02. In case of termination of the employment of Engineer, Owner shall appoint an engineer. Whose status under the Contract Documents shall be that of the former Engineer.

#### ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

SC-9.03. Add a new paragraph immediately after Paragraph 9.03A of the General Conditions which is to read as follows:

9.03B. OWNER will designate an agent to represent him/her at the Site who is not ENGINEER's agent or employee. The duties and responsibilities of the agent will be as enumerated in the agent's agreement with OWNER, a copy of which will be furnished to CONTRACTOR upon written request.

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ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

SC-11.03.D. DELETE Paragraph 11.03D. in its entirety and replace with the following:

11.03D. The unit price of an item of Unit Price Work shall be subject to re-evaluation and adjustment under the following conditions:

11.03D.1. If there is no corresponding adjustment with respect to any other item of Work; and

11.03D.2. If CONTRACTOR believes that CONTRACTOR has incurred additional expense as a result thereof; or if OWNER believes that the quantity variation entitles OWNER to an adjustment in the unit price, either OWNER or CONTRACTOR may make a claim for an adjustment in the Contract Price in accordance with Article 12 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

SC-13.05. Add a new paragraph immediately after paragraph 13.05 of the General Conditions to read as follows:

13.05B. If the OWNER stops Work under Paragraph 13.05 CONTRACTOR shall be entitled to no extension of Contract Time or increase in Contract Price.

ARTICLE 14 - PAYMENTS TO THE CONTRACTOR AND COMPLETION

SC-14.02.

Add a new sentence immediately after paragraph 14.02A.1 of the General Conditions, which is to read as follows:

The CONTRACTOR shall furnish evidence that payment received on the basis of materials and equipment not incorporated and suitably stored, has in fact been paid to the respective supplier(s) within sixty days of payment by OWNER. Failure to provide such evidence of payment may result in the withdrawal or previous approval(s) and removal of the cost of related materials and equipment from the next submitted Application for Payment.

Replace the words “Ten days” in the first sentence of paragraph 14.02C.1 of the General Conditions with “Thirty days”.

Add four new paragraphs immediately after paragraph 14.02.B.5 of the General Conditions, which are to read as follows:

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14.02.B.6. Should CONTRACTOR neglect to pay any undisputed claims, made in writing to OWNER within thirty days after completion of the Work, but continuing unsatisfied for a period of ninety days, OWNER may pay such claim and deduct the amount thereof from the balance due CONTRACTOR. OWNER may also, with the written consent of CONTRACTOR, use any monies retained, due, or to become due under this Contract for the purpose of payment for both labor and materials for the Work, for which claims have not been filed.

Security is provided both by the Payment Bond and the power of OWNER to retain any monies for claims, but payment by one shall in no way impair or discharge the liability of the other.

Any and all liens for work and materials may be paid off by OWNER within a reasonable time after filing for record in accordance with State and local laws, notice of such liens except where the claim on which the lien is filed is being litigated by CONTRACTOR, and in such case OWNER may pay the amount of any final judgment or decree or any such claim within a reasonable time after such final judgment or decree shall be rendered.

All monies paid by OWNER in settlement of liens as aforesaid, with the costs and expenses incurred by OWNER in connection therewith, shall be charged to CONTRACTOR, shall bear interest at the rate of one and a half percent per month, and shall be deducted from the next payment due CONTRACTOR under the terms of this Contract.

SC-14.03.

Add two new paragraphs immediately after paragraph 14.03 of the General Conditions, which are to read as follows:

14.03.B. No materials or supplies for the Work shall be purchased by CONTRACTOR or Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. CONTRACTOR warrants that he/she has good title to all materials and supplies used by him/her in the Work, free from all liens, claims or encumbrances.

14.03.C. CONTRACTOR shall indemnify and save OWNER harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, material, men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this Contract. CONTRACTOR shall at OWNER's request, furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If CONTRACTOR fails to do so, then OWNER may, after having served written notice on the said CONTRACTOR either pay unpaid bills, of which OWNER has written notice, direct, or withhold from the CONTRACTOR's unpaid compensation a sum of money deemed reasonable sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to CONTRACTOR shall be resumed, in accordance with the terms of this Contract, but in no event shall the provisions of this section be construed to impose any obligations upon OWNER to either CONTRACTOR or his/her Surety.

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SC-14.07.

DELETE Section 14.07 B. Review of Application and Acceptance and Replace with the following:

14.07B. Within 30 days of satisfactory completion of the work and receipt by OWNER of Contractor's final application for payment, Owner will make final payment to the Contractor.  
Payment hereunder is subject to satisfactory evidence of payment to all subcontractors and resolution of any and all claims and/or liens.

SC-14.08.

DELETE Sections 14.08. Final Completion Delayed.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

SC-15.02.

Add a new paragraph immediately after paragraph 15.02.A.4. of the General Conditions which is to read as follows:

15.02.A.5. If CONTRACTOR abandons the Work, or sublets this Contract or any part thereof, without the previous written consent of OWNER, or if the Contract or any claim thereunder shall be assigned by CONTRACTOR otherwise than as herein specified;

Delete Section 15.03.A.3 and 15.03.A.4 in its entirety.

ARTICLE 16 - DISPUTE RESOLUTION

SC-16.01.

Add a new sentence at the end of Article 16.01 of the General Conditions, which is to read as follows:

CONTRACTOR shall carry on the Work and maintain the progress schedule during the dispute resolution proceedings, unless otherwise agreed by him/her and OWNER in writing.

Delete all references to arbitration in "General Conditions", Article 16. Arbitration shall be in accordance with the provisions of the State Arbitration Laws (State of Rhode Island, General Laws, Title 37, Chapter 16), which shall take precedence and shall govern.

Every contract for the construction, alteration, repair or painting or demolition of any public building, sewer, water treatment or disposal project, highway, or bridge one party to which is the state, a city, a town, or an authority, a board, a public corporation, or any similar body created by statute or ordinance or any committee, agency, or subdivision of any of them which has a contract price of ten thousand dollars (\$10,000) or more and which is executed on or after July 1, 1967, out of, or concerning the performance or interpretation of, the contract as follows:

"All claims, disputes, and other matters in question arising out of or relating to this contract or the performance or interpretation thereof shall be submitted to arbitration. Arbitration shall be commenced by a demand in writing made by one party to the contract upon the other within a reasonable time after the dispute,

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claim, or other matter in question arose but in no event after payment in full of the contract price has been made and accepted. The written demand shall contain a statement of the question to be arbitrated and a detailed statement of each time or matter in dispute and the name of the arbitrator appointed by that party. The other party to the contract within (10) days of the receipt of the written demand shall appoint an arbitrator and give notice in writing thereof to the party who commenced arbitration. The two (2) arbitrators appointed by the parties shall within ten (10) days of the date of the appointment of the second arbitrator select a third arbitrator who shall be designated as chairperson and who immediately shall give written notice to the parties of his or her appointment. The third arbitrator shall select a time, date and place for hearing and give each party five (5) days notice in writing thereof. The date for hearing shall not be more than fifteen (15) days after the date of appointment of the third arbitrator. The arbitrators shall render their award in writing to each of the parties not more than thirty (30) days after the date hearing shall commence unless the parties shall otherwise agree in writing. In the event the party of whom arbitration is demanded shall fail to appoint his or her arbitrator within the time specified or the two (2) arbitrators appointed by the parties are unable to agree on an appointment of the third arbitrator within the time specified, either party may petition the residing justice of the superior court to appoint a single arbitrator who shall hear the parties and make an award as provided herein. The petitioner shall give five (5) days notice in writing to the other party before filing his or her petition.”

ARTICLE 17 - MISCELLANEOUS

SC-17.07.

Add a new paragraph immediately after paragraph 17.06 of the General Conditions, which is to read as follows:

17.07. Both the address given in the Bid Form upon which this Agreement is founded, and CONTRACTOR's office at or near the site of the Work are hereby designated as places to either of which notices, letters, and other communications to CONTRACTOR shall be certified, mailed, or delivered. The delivering at the above named place, or depositing in a postpaid wrapper directed to the first-named place, in any post office box regularly maintained by the post office department, of any notice, letter or other communication to Contractor shall be deemed sufficient service thereof upon CONTRACTOR; and the date of said service shall be the date of such delivery or mailing. The first-named address may be changed at any time by an instrument in writing, executed and acknowledged by CONTRACTOR, and delivered to OWNER and ENGINEER. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon CONTRACTOR personally.

SC-17.08.

Add the following new paragraphs immediately after paragraph 17.07. of the Supplementary Conditions:

17.08. WAGE RATES: The requirements and provisions of all applicable laws and any amendments thereof or additions thereto as to the employment of labor, and to the schedule of minimum wage rates established in compliance with laws shall be a part of these Contract Documents. Copies of the wage schedules are included in Section 00800, if applicable under this Contract. If, after the Notice of Award, it becomes necessary to employ any person in a trade or occupation not classified in the wage determinations, such person shall be paid at not less than such rates as shall be determined by the officials administering the laws mentioned above. Such approved minimum rate shall be retroactive to the time of the initial employment of such person in such trade or occupation. CONTRACTOR shall notify OWNER of his/her intention to employ persons in trades or occupations not classified in sufficient time for OWNER to obtain approved rates

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for such trades or occupations.

17.08.1. The schedules of wages referred to above are minimum rates only, and OWNER will not consider any claims for additional compensation made by CONTRACTOR because of payment by CONTRACTOR of any wage rate in excess of the applicable rate contained in these Contract Documents. All disputes in regard to the payment of wages in excess of these specified in the schedules shall be resolved by CONTRACTOR.

17.08.2 The said schedules of wages shall continue to be the minimum rates to be paid during the life of this Agreement and a legible copy of said schedules shall be kept posted in a conspicuous place at the site of the work.

## **PART II - STATE GOVERNMENT PROVISIONS**

Each and every other provision of law or clause required by law to be inserted in this Contract shall be deemed to be also inserted herein in accordance with paragraph SC-3.1.1. of Supplementary Conditions.

### **1.0 STATE OF RHODE ISLAND PROVISIONS**

1.1. The OWNER and CONTRACTOR agree that all applicable State of Rhode Island Provisions which apply to the work to be performed under this Contract will be followed. The CONTRACTOR must inform him/herself of all pertinent State of Rhode Island Provisions with performing this work. The most recent revisions of any State Provisions will apply in this Contract. The most recent provisions supersede any conflicting provisions of this Contract.

1.2. State Wage Rates, As Applicable.

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SECTION 00840

PAYMENT BOND

- A. An example Payment Bond form is enclosed herein.

END OF SECTION

## PAYMENT BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

### CONTRACT

Effective Date of Agreement:

Amount:

Description (*Name and Location*):

### BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

### CONTRACTOR AS PRINCIPAL

### SURETY

\_\_\_\_\_  
Contractor's Name and Corporate Seal

\_\_\_\_\_  
Surety's Name and Corporate Seal

By: \_\_\_\_\_  
Signature

By: \_\_\_\_\_  
Signature (Attach Power of Attorney)

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

Attest: \_\_\_\_\_  
Signature

Attest: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

*Note: Provide execution by additional parties, such as joint venturers, if necessary.*

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to Owner, this obligation shall be null and void if Contractor:
  - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and
  - 2.2 Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.
3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
4. Surety shall have no obligation to Claimants under this Bond until:
  - 4.1 Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
  - 4.2 Claimants who do not have a direct contract with Contractor:
    1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
    2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
    3. Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
6. Reserved.
7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.
8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.
9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders, and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

#### 15. Definitions

15.1 Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

15.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract, or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – (*Name, Address, and Telephone*)

Surety Agency or Broker:

Owner's Representative (*Engineer or other*):

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

SECTION 00850

NOTICE OF AWARD

- A. An example Notice of Award is enclosed herein.

END OF SECTION

# Notice of Award

Date: \_\_\_\_\_

Project:	
Owner:	Owner's Contract No.:
Contract:	Engineer's Project No.:
Bidder:	
Bidder's Address: <i>[send Notice of Award Certified Mail, Return Receipt Requested]</i>	

You are notified that your Bid dated \_\_\_\_\_ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for \_\_\_\_\_

*[Indicate total Work, alternates, or sections of Work awarded.]*

The Contract Price of your Contract is \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

*[Insert appropriate data if unit prices are used. Change language for cost-plus contracts.]*

\_\_\_\_\_ copies of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

\_\_\_\_\_ sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner [\_\_\_\_\_] fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security [Bonds] as specified in the Instructions to Bidders (Article 20), General Conditions (Paragraph 5.01), and Supplementary Conditions (Paragraph SC-5.01).
3. Other conditions precedent:  
\_\_\_\_\_

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

\_\_\_\_\_  
Owner  
By: \_\_\_\_\_  
Authorized Signature  
\_\_\_\_\_  
Title

Copy to Engineer

**CITY OF EAST PROVIDENCE  
WATER UTILITIES DIVISION  
PAWTUCKET AVENUE WATER MAIN RELOCATION**

SECTION 00860

NOTICE TO PROCEED

- A. An example Notice to Proceed is enclosed herein.

END OF SECTION

# Notice to Proceed

Date: \_\_\_\_\_

Project: \_\_\_\_\_

Owner: \_\_\_\_\_

Owner's Contract No.: \_\_\_\_\_

Contract: \_\_\_\_\_

Engineer's Project No.: \_\_\_\_\_

Contractor: \_\_\_\_\_

Contractor's Address: *[send Certified Mail, Return Receipt Requested]*

You are notified that the Contract Times under the above Contract will commence to run on \_\_\_\_\_. On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the date of Substantial Completion is \_\_\_\_\_, and the date of readiness for final payment is \_\_\_\_\_ [(or) the number of days to achieve Substantial Completion is \_\_\_\_\_, and the number of days to achieve readiness for final payment is \_\_\_\_\_].

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also, before you may start any Work at the Site, you must:

\_\_\_\_\_ *[add other requirements]*.

\_\_\_\_\_  
Owner

\_\_\_\_\_  
Given by:

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

Copy to Engineer

**DIVISION 1**

**GENERAL REQUIREMENTS**

**SECTION 01010**

**SUMMARY OF WORK**

**PART 1 GENERAL**

**1.1 LOCATION OF WORK**

- A. The work of this Contract is located in the City of East Providence, Rhode Island. The work is primarily at the following locations:
1. Pawtucket Avenue, from  $\pm 530$  feet south of Taunton Avenue to  $\pm 850$  feet north of Waterman Avenue.
  2. East Providence Senior Center property, with street address 610 Waterman Avenue and Tax Assessor's Plat 406/Block 05/Lot 001.
  3. Private property (Shaw's shopping plaza) abutted by Pawtucket Avenue to the east and Taunton Avenue to the north, identified as Tax Assessor's Plat 406/Block 01/Lot 001.
  4. Roslyn Avenue.

**1.2 SCOPE OF WORK**

- A. Furnish all labor, materials, equipment, and incidentals required to abandon two (2) existing 12-inch water mains; install two (2) 12-inch ductile iron water mains; extend existing services to connect to new water main; install new valves, hydrants, fittings, and appurtenances; and restore all disturbed areas including concrete road base as shown on the Drawings and specified herein.
- B. The work includes construction of the following major elements as further described in the Contract Documents. All lengths, sizes, and dimensions given are approximate:
1. Installing approximately 1,250 linear feet of 12-inch DI water main.
  2. Performing all required testing and disinfection of the new water mains.
  3. Performing all excavations and backfilling areas to be excavated including furnishing all backfill materials and restoring surface pavement.
  4. Restoring roadways, driveways, berms, sidewalks, wheelchair ramps, curb, and landscaped areas as shown or as directed by the Engineer.
  5. Furnishing, installing, and maintaining all traffic control and safety measures during the construction period, including signs, barricades, detours, maintenance of safe vehicular and pedestrian access to abutting properties, businesses and commercial establishments and assuring an uninterrupted supply of utility services to all abutters within the project area, at all times.
  6. Furnishing all materials, labor, and equipment for the relocation, protection, or temporary disturbance of existing utilities (i.e. water, gas, drain) to permit the work shown on the Drawings.
  7. Furnishing, installing, operating and maintaining trench support and construction dewatering in accordance with various applicable regulations and regulatory approvals.
  8. Restoring municipal and private property including turf, landscaping, hardscapes, utilities, fencing, signs, and trees.
  9. Coordinating all construction activities with the appropriate local and State Authorities, and utility companies.

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PAWTUCKET AVENUE WATER MAIN RELOCATION**

10. Attending a pre-construction conference and the required construction progress meetings as stipulated in the Contract Documents.
11. Submitting a construction schedule, list of subcontractors, and proposed source locations for off-site materials.
12. Submitting all required shop drawings, in a timely manner, to the Engineer for review.
13. Mobilizing and demobilization to/from the site.
14. Performing quality control testing as specified in the Contract Documents.
15. Installing and maintaining soil erosion and sedimentation controls consisting of silt fencing, filter fabric, compost filter socks, silt sacks and silt bags, and providing dust control as required.
16. Furnishing all bonds, obtaining necessary permits and licenses, maintaining all items required by the applicable permits, and paying all fees.
17. Providing traffic control planning, devices, and coordination of police details. Payment for police details shall be made directly by the Contractor and reimbursed by the Owner.
18. Providing temporary bypass as required to maintain uninterrupted water service to Shaw's shopping plaza.
19. Performing other incidental work and miscellaneous tasks to perform the work in a manner that meets the project intent as stipulated in the Contract Documents.

**1.3 WORK BY OTHERS**

- A. The Contractor's occupation of the work site or portions thereof and its operations throughout the course of the Work will be affected by the operations of others adjacent to and within the work site. Contractor is made aware that part of the work is proposed on private property and their activities shall be coordinated with private property owners in addition to Engineer and the City of East Providence.
- B. In addition to those activities detailed hereinbefore the Contractor shall also coordinate its operations in public rights-of-way with other utilities, RIDOT, and the City of East Providence as provided elsewhere in the Contract Documents.
- C. The Contractor's use of the premises shall be within the limits shown on the Drawings, in accordance with schedule milestones specified by the Contract Documents and as defined in the Agreement for the performance of the Work.
- D. The Contractor shall maintain access and utilities to the adjacent businesses and residents at all times.
- E. The Contractor shall assume full responsibility for security of all its materials and equipment stored on site, including that of subcontractors.
- F. If directed by the Owner, the Contractor shall move any stored items which interfere with operations of the Owner or other contractors, without an increase to Contract Price or Contract Time.
- G. The Contractor and its subcontractor(s) shall not be allowed to keep equipment and/or materials in public right-of-ways without the express written consent of the City of East Providence. The Contractor and its subcontractor(s) shall not be allowed to keep equipment and/or materials in privately owned lands without the express written consent of the property owner.

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- H. The Contractor shall obtain and pay for use of additional storage or work areas if needed to perform the Work.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

**PART 1      GENERAL**

1.1      The Contractor is responsible for obtaining all federal, state and local permits required to complete the work and to comply with all regulatory requirements. The Contractor shall fill out all forms and furnish all drawings required to obtain the permits. A copy of the approved permit shall be submitted to the Engineer. All fees associated with these permits shall be paid by the Contractor as part of the project. Work shall not commence on any phase of the work requiring a permit until the permit is obtained.

A.      The Work specified in this section includes permits and regulatory requirements. Specific requirements are also included in other specification areas.

B.      Related Work Described Elsewhere:

1.      Contract, Section 05000
2.      Summary of Work, Section 01010
3.      Environmental Protection Procedures, Section 01110
4.      Temporary Facilities, Section 01500
5.      Traffic Regulation, Section 01570
6.      Erosion Control, Section 02273

1.2      **SUBMITTALS**

A.      Submit draft copies of all permit applications to the Engineer a minimum of five (5) days before the permit application is submitted to the permitting agency.

B.      Submit a copy of all permits obtained by the Contractor.

1.3      **REGULATORY AGENCIES**

A.      Contractor shall comply with all laws, rules, regulations, and ordinances promulgated by any authority having jurisdiction over the Work, including, but not limited to:

1.      Permit for Discharge of Construction Water into the City of East Providence's Sewer System in accordance with the Rules and Regulations for the Use of Wastewater Facilities within the City of East Providence  
Contact: City of East Providence
2.      Road Opening/Utility Permit for State roadways.  
Contact: Rhode Island Department of Transportation.

1.4      **PERMITS OBTAINED BY OWNER:**

A.      Contractor shall comply with all permits and Orders of Conditions obtained by the City of East Providence.

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1. Utility Permit and Transportation Management Plan (TMP) approval from the Rhode Island Department of Transportation (RIDOT).

**1.5 PERMITS OBTAINED BY CONTRACTOR**

- A. City of East Providence:
  1. Special Excavation Permit – Department of Public Works
  2. Any other permit not listed but required to complete the project as intended
- B. Prior to performing the Work, Contractor shall be responsible for obtaining and paying for all other permits required for the work of this Contract including but not limited to permits required of his equipment, work force, and of particular operations (such as fuel storage, air emissions, disposal of excavated material). Such permits may include those listed above. Contractor shall determine and obtain all necessary permits to enable Contractor and Engineer occupation of the construction trailers at the work site.
- C. The Contractor shall be solely responsible for obtaining, and paying for at no additional cost to the City, all permits, licenses, mitigation, certifications or approvals required for either transportation, off-loading, stockpiling, storage and final use or off-site disposal of excavated material and construction and demolition material generated during the performance of the Work.
- D. At no additional cost to the City, the Contractor shall be responsible for collecting representative samples of materials to be disposed of off-site and providing any analyses as may be required to receive agency approvals for use or off-site disposal of material and for scheduling and coordinating inspections necessary for receipt of local or state permits, approvals or certifications.
- E. The Contractor shall be responsible for providing to the City in a timely and acceptable manner copies of all permits, licenses, certifications or approvals or other applicable information required to demonstrate receipt of required permits.
- F. Should the Contractor propose construction or means and methods which are not allowed by the permits included herein, the Contractor shall be solely responsible for obtaining any permit amendments or new permits which would allow compliance with Contractor's proposed means and methods at no additional cost to the City. The Contractor shall be constrained from commencing construction within the affected areas until applicable permit amendments or new permits have been received.

**PART 2 PRODUCTS (Not Used)**

**PART 3 EXECUTION**

**3.1 PERMIT COSTS AND FINES**

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- A. Any and all costs, including the City and Engineer costs, of fines levied by RIDEM/EPA for violations of RIPDES, RIDOT for violations of the Road Opening/Utility Permit, or other permit requirements which are a direct result of the Contractor's performance or lack thereof shall be paid by the Contractor at no additional cost to the City.

END OF SECTION

**CITY OF EAST PROVIDENCE, RI  
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**SECTION 01110  
PROCEDURES**

**ENVIRONMENTAL**

**PROTECTION**

---

**PART 1      GENERAL**

**1.1      SCOPE OF WORK**

- A.    Furnish all labor, materials and equipment and perform all work required for the prevention of environmental pollution in conformance with applicable laws and regulations, during and as the result of construction operations under this Contract. For the purpose of this Section, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic and/or recreational purposes.
- B.    The control of environmental pollution requires consideration of air, water, and land, and involves management of noise and solid waste, as well as other pollutants.
- C.    Schedule and conduct all work in a manner that will minimize the erosion of soils in the area of the work. Provide erosion control measures such as diversion channels, sedimentation or filtration systems, berms, staked hay bales, seeding, mulching or other special surface treatments as are required to prevent silting and muddying of streams, rivers, impoundments, lakes, etc. All erosion control measures shall be in place in an area prior to any construction activity in that area.
- D.    This Section is intended to ensure that construction is achieved with a minimum of disturbance to the existing ecological balance between a water resource and its surroundings. These are general guidelines. It is the Contractor's responsibility to determine the specific construction techniques to meet these guidelines.
- E.    Erosion and sediment control measures shall conform with the Rhode Island Soil Erosion and Sediment Control Handbook.

**1.2      APPLICABLE REGULATIONS**

- A.    Comply with all applicable Federal, State, and local laws and regulations concerning environmental pollution control and abatement.

**1.3      NOTIFICATIONS**

- A.    The Engineer will notify the Contractor in writing of any non-compliance with the foregoing provisions or of any environmentally objectionable acts and corrective action to be taken. State or local agencies responsible for verification of certain aspects of the environmental protection requirements shall notify the Contractor in writing, through the Engineer, of any non-compliance with State or local requirements. After receipt of such notice from the Engineer or from the regulatory agency through the Engineer, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Owner may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time

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lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later determined that the Contractor was in compliance.

**1.4 IMPLEMENTATION**

- A. Prior to commencement of the work, meet with the Engineer to develop mutual understandings relative to compliance with these provisions and administration of the environmental pollution control program.
- B. Remove temporary environmental control features, when approved by the Engineer and incorporate permanent control features into the project at the earliest practicable time.

**PART 2 PRODUCTS (Not Used)**

**PART 3 EXECUTION**

**3.1 EROSION CONTROL**

- A. Conform with Section 02273 - Erosion Control of these Specifications.

**3.2 PROTECTION OF STREAMS AND SURFACE WATERS**

- A. Take all precautions to prevent, or reduce to a minimum, any damage to any stream or surface water from pollution by debris, sediment or other material, or from the manipulation of equipment and/or materials in or near such streams. Water that has been used for washing or processing, or that contains oils or sediments that will reduce the quality of the water in the stream, shall not be directly returned to the stream. Divert such waters through a settling basin or filter before being directed into streams or surface waters.
- B. Do not discharge water from dewatering operations directly into any live or intermittent stream, channel, wetlands, surface water or any storm sewer. Water from dewatering operations shall be treated by filtration, settling basins, or other approved method to reduce the amount of sediment contained in the water to allowable levels.
- C. Take all preventative measures to avoid spillage of petroleum products and other pollutants. In the event of any spillage, prompt remedial action shall be taken in accordance with a contingency action plan approved by the Rhode Island Department of Environmental Management. Submit two copies of approved contingency plans to the Engineer.
- D. Water being flushed from pipelines after disinfection shall be treated with a dechlorination solution, in a method approved by the Engineer, prior to discharge. Refer to Section 02704 - Pipeline Pressure, Leakage, and Disinfection of these Specifications.

**3.3 PROTECTION OF LAND RESOURCES**

- A. Restore land resources within the project boundaries and outside the limits of permanent work to a condition, after completion of construction that will appear to be natural and not

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detract from the appearance of the project. Confine all construction activities to areas shown on the Drawings.

- B. Outside of areas requiring earthwork for the construction of the new facilities, do not deface, injure, or destroy trees or shrubs, nor remove or cut them without prior approval.
- C. Before beginning operations near them, protect trees that may possibly be defaced, bruised, injured, or otherwise damaged by the construction equipment, dumping, or other operations, by placing boards, planks, or poles around them. Monuments and markers shall be protected similarly.
- D. Any trees or other landscape features scarred or damaged by the Contractor's equipment or operations shall be restored to their original condition. The Engineer will decide the method of restoration to be used and whether damaged trees shall be treated and healed or removed and disposed of:
  - 1. All scars made on trees by equipment, construction operations, or by the removal of limbs larger than 1-in in diameter shall be coated as soon as possible with an approved tree wound dressing. All trimming or pruning shall be performed in an approved manner by experienced workmen with saws or pruning shears. Tree trimming with axes will not be permitted.
  - 2. Climbing ropes shall be used where necessary for safety. Trees that are to remain, either within or outside established clearing limits, that are subsequently damaged by the Contractor and are beyond saving in the opinion of the Engineer, shall be immediately removed and replaced.
- E. The locations of the Contractor's storage and other construction buildings, required temporarily in the performance of the work, shall be in cleared portions of the job site or areas to be cleared as shown on the Drawings and approved by the Engineer and shall not be within wetlands or floodplains. The preservation of the landscape shall be an imperative consideration in the selection of all sites and in the construction of buildings. Drawings showing storage facilities shall be submitted for approval of the Engineer.
- F. If the Contractor proposes to construct temporary roads or embankments and excavations for plant and/or work areas, he shall submit the following for approval at least ten days prior to scheduled start of such temporary work:
  - 1. A layout of all temporary roads, excavations, embankments and drainage to be constructed within the work area.
  - 2. Details of temporary road construction.
  - 3. Drawings and cross sections of proposed embankments and their foundations, including a description of proposed materials.
  - 4. A drawing showing the proposed restoration of the area in accordance with the Drawings and Specifications. Indicate the proposed removal of any trees and shrubs outside the limits of existing clearing area. Indicate locations of guard posts or barriers required to control vehicular traffic and protect trees and shrubs to be maintained undamaged. The Drawing shall provide for the obliteration of construction scars as such and shall provide for a natural appearing final condition of the area. Modification of the Contractor's approved drawings shall be made only with the written approval of the Engineer. No unauthorized road construction, excavation or embankment construction including disposal areas will be permitted.

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- G. Remove all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess of waste materials, or any other vestiges of construction as directed by the Engineer. It is anticipated that excavation, filling and plowing of roadways will be required to restore the area to near natural conditions which will permit the growth of vegetation thereon.
- H. All debris and excess material will be disposed of outside wetland or floodplain areas in an environmentally sound manner.

**3.4 PROTECTION OF AIR QUALITY**

- A. Burning - The use of burning at the project site for the disposal of refuse and debris will not be permitted.
- B. Dust Control - Maintain all excavations, embankment, stockpiles, access roads, plant sites, waste areas, borrow areas and all other work areas within or without the project boundaries free from dust which could cause the standards for air pollution to be exceeded and which would cause a hazard or nuisance to others.
- C. An approved method of stabilization consisting of sprinkling or other similar methods will be permitted to control dust. The use of petroleum products is prohibited. The use of chlorides may be permitted with approval from the Engineer.
- D. Sprinkling, to be approved, must be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times, and the Contractor shall have sufficient competent equipment on the job to accomplish this. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs, as determined by the Engineer.

**3.5 NOISE CONTROL**

- A. Make every effort to minimize noises caused by the construction operations. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise in compliance with Federal and State regulations.

**3.6 MAINTENANCE OF POLLUTION CONTROL FACILITIES DURING CONSTRUCTION**

- A. Maintain all facilities constructed for pollution control as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created.

END OF SECTION

**CITY OF EAST PROVIDENCE, RI  
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**SECTION 01150**

**MEASUREMENT AND PAYMENT**

**PART 1 GENERAL**

**1.1 EXTENT OF WORK**

- A. Measurement. The quantities to be measured under the various items in the proposal will be those quantities of work completed in accordance with the drawings and specifications. The methods of measurement will be as stated hereinafter for the individual items.
- B. Prices. The unit or lump sum prices for all items in the Bid Form shall be full compensation for the work of the Contractor specified and shall include the cost of furnishing all materials, labor, tools and equipment and all work and expense incidental to and necessary to complete the work in accordance with the drawings and specifications.

**1.2 WORK NOT PAID FOR SEPARATELY**

- A. Stripping Topsoil. Payment for stripping topsoil, including stockpiling, is included in the prices for the various Items of Work in the Bid Form and no separate payment will be made thereof.
- B. Clearing and Grubbing. Payment for clearing and grubbing, including disposal, is included in the prices for the various items of work in the Bid Form and no separate payment will be made thereof.
- C. Earth Excavation. Payment for earth excavation to the depths indicated on the drawings or authorized by the Engineer for the construction of all structures, foundations, pipes, and appurtenances, including disposal of the excavated materials in fills, backfills, embankments, designated stockpiles, or as spoil as approved by the Engineer, is included in the prices for the various items of work in the Bid Form and no separate payment will be made thereof.
- D. Boulder Excavation. Payment for boulder excavation less than one (1) cubic yard in size, including furnishing and installing appropriate backfill material, is included in the various items of work in the Bid Form and no separate payment will be made thereof.
- E. Filling, Backfilling, Embankment, and Disposal of Surplus Materials. Payment for filling; backfilling for all structures, foundations, underground electric conduits and pipes, including appurtenances; construction of embankment; and disposal of surplus material is included in the prices for the various items of work in the Bid Form and no separate payment will be made thereof, unless otherwise indicated.
- F. Sheeting, Shoring and Bracing. Payment for all necessary sheeting, shoring and bracing is included in the prices for the various items in the Bid Form and no separate payment shall be made thereof.
- G. Pumping, Draining and Bailing. Payment for all necessary pumping, draining, bailing, etc., including the use of underdrains or well points, is included in the prices for the various items in the Bid Form and no separate payment will be made thereof.

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- H. Preparation of Site. Payment for preparation of site is included in the Lump Sum Price for Bid Item 1 – Mobilization and Demobilization in the Bid Form and no separate payment will be made thereof. Preparation of site includes setting up construction plant(s), offices, shops, storage areas, sanitary and other facilities required by the specifications or Federal, State, and Local law or regulations; grading (including furnishing and installing fill material and removal and disposal of excess material) and rock removal at the site for all temporary facilities required as part of construction; obtaining necessary permits and licenses; and payment of fees; general protection, temporary heat and utilities; providing shop and working drawings, certificates and schedules; sampling and testing materials; providing required insurance; cleaning up, and all other work regardless of its nature which may not be specifically referred to in the Bid Form but is necessary for the complete construction of the project set forth by the contract.
- I. Bonds. Payment for bonds required by the contract is included in the prices bid for the various items of work in the Bid Form and no separate payment will be made thereof.
- J. Environmental Protection. Payment for work under this Section is included in the prices for the various Items in the Bid Form and no separate payment will be made thereof.
- J. Signage. Payment for all signage required for this project is included in the prices for the various Items in the Bid Form and no separate payment will be made thereof.
- K. Pavement Removal. Payment for bituminous concrete pavement excavation and disposal is included in the prices for the various Items in the Bid Form and no separate payment will be made thereof.
- L. No separate payments will be made for cleaning up. Such clean-up shall be considered incidental to the item to which it applies and shall be included in the price for that item.
- M. All existing work removed or damaged by the Contractor's operations shall be replaced to the satisfaction of the Owner at no additional expense to the Owner.
- N. No separate payment will be made for work or items associated with Division 1 - General Requirements. Contractor shall incorporate the cost for these items into the Bid Items listed in the Bid Form.
- O. No separate payment will be made for gravel base course under pavements in roads, parking lots, sidewalks and walkways. Furnishing and installing gravel subbase to the depths requires is included in the various pavement and sidewalk restoration bid items listed on the Bid Form.
- P. No separate payment shall be made for costs associated with Professional Engineer(s), licensed in the State of Rhode Island, performing all design calculations, which shall be sealed and signed by said Professional Engineer(s). The Contractor is called to the attention that individual sections of these contract documents indicate when design calculations are required. Design calculations performed, sealed and stamped by a Professional Engineer licensed in the State of Rhode Island is included in the prices for the various Items in the Bid Form and no separate payment will be made thereof

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- Q. Hydrostatic/Bacteriological/VOC Testing. Payment for work under this Section is included in the prices for the various Items in the Bid Form and no separate payment will be made thereof. This shall include, but is not limited to, furnishing and installing required corporations, valves, tubing, piping, fittings and any other incidentals required to successfully perform all required testing. It also includes labor and laboratory costs associated with analytical testing of samples collected. The Owner makes no guarantee as to the availability of adequate pressures to perform required testing, it shall be the contractor's responsibility to provide and operate all necessary pumping equipment for all testing purposes. Any other incidentals required to perform testing, including laboratory fees, shall not be paid for separately.
- R. Compaction and costs associated with 3<sup>rd</sup> party compaction testing are incidental to the items described. No separate payment shall be made for labor, materials, or equipment necessary to adequately compact backfilled excavations and to conduct compaction testing in accordance with the specifications.

**1.3 BID ITEMS**

- A. Appurtenant items of work shown on the drawings or specified which are required to complete the work but are not listed separately under the various applicable bid items of work, shall have no separate payment for such items. It shall be the responsibility of the Contractor to verify any missing or incomplete items.
- B. The Owner reserves the right to remove select bid items and to increase or decrease the unit quantity of bid items. The successful bidder is made aware that the unit price so stated on the bid form constitutes full compensation for that item, regardless of any increase or decrease in the unit quantity of that bid item. There is no guarantee of any minimum or maximum quantity for any bid item. Standards of the industry (e.g. renegotiation of the bid price due to a 25% increase in the unit quantity of the bid item) shall not be enforceable under this contract. Renegotiation of bid prices is solely at the discretion of the Owner.

**1.4 MEASUREMENT**

- A. The measurement of all quantities of items listed in the Bid Form shall be done by the Contractor. The measurement will include proper and complete documentation of all items to the satisfaction of the Owner and Engineer prior to the submission for payment. The measurement submitted shall be in the same unit description listed in the Bid Form.

**1.5 PAYMENT**

- A. Payments shall be made to the Contractor only after proper documentation of the unit quantity provided or percentage of work completed, and in accordance with the contract terms and conditions regarding payment.
- B. Payment for bid items shall include full compensation for all incidentals required for the complete installation of the completed product.
- C. Payment shall be made only for that work which is performed within the pay limits shown on the drawings or detailed in the specifications. No payment shall be made for work

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beyond these limits unless the work has been authorized by the Engineer in writing.

**1.6 PARTIAL PAYMENT FOR PRODUCTS**

- A. Contractor may request partial payment for Products (supplies, material and/or equipment) as defined in Section 01600 - Materials and Equipment, which will be incorporated into the Work and which are delivered and stored off-site. The request may only be made when submitting Contractor's proposal for a Schedule of Values. In order for this request to be considered, the Contractor must comply with the requirements of this sub-section and the Agreement. Any payments approved pursuant to this sub-section shall not exceed sixty-five percent (65%) of the Product's invoiced value and shall be subject to retainage as set forth in the Agreement. Contractor shall obtain prior approval since the Owner reserves the right to refuse approval for payment for any equipment or materials suitably stored off-site in its sole discretion, regardless of whether all conditions contained herein have been met.
- B. Partial payment may be made for Products eligible for off-site delivery and storage only upon presentation by the Contractor of a Bill of Sale, an invoice or an Affidavit certifying that the material is received by the Owner free and clear of all liens, encumbrances and security interests of any kind and including for off-site delivery evidence acceptable to the Owner that "all risks" property insurance in an amount sufficient to protect the interests of the Owner is in effect at the approved site and that the Owner is a loss payee equal to or greater than its percentage of ownership.
- C. Partial payment for Products delivered and stored off-site shall be contingent upon Contractor's compliance with the storage and protective maintenance requirements set forth in Section 01600 and all other requirements necessary to preserve equipment warranties for the benefit of the Owner.
- D. All costs associated with delivery to and storage of equipment or material at an off-site facility shall be assumed by the Contractor notwithstanding the Contractor's request for, and obtaining approval of the Owner to so deliver and store the materials.
- E. Contractor shall provide written evidence to the Owner of having made arrangements for unrestricted access by the Owner and its authorized representatives to the materials wherever stored, including provision for the Owner to take control and possession of such materials at any time and without restriction.
- F. Contractor must provide the Owner, upon request and prior to any partial payment, documentation that transfers absolute legal title to such material to the Owner conditional only upon receipt of final payment. Neither such transfer of this nor any partial payment shall constitute acceptance by the Owner of the materials nor void the right to reject materials subsequently found to be unsatisfactory, or in any way relieve the Contractor of any obligation arising under the contract Documents.

**PART 2 PRODUCTS**

**2.01 MOBILIZATION AND DEMOBILIZATION**

- A. Measurement

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1. The Work of this section shall be measured as specified at the Lump Sum price provided on the Bid Form. The payable quantity will be for the preparatory work and operations which must be performed or for costs which must be incurred prior to beginning work, final clean-up and demobilization of temporary facilities and equipment, restoration of impacted areas disturbed due to construction of all temporary facilities, preparation of as-built drawings, and the cost of payment and performance bonds as well as fees for all permits and Federal, State, and local approvals. Mobilization shall include, but is not limited to, movement of personnel, equipment, supplies, and incidentals to the project site for the establishment of all Contractor's field office(s), utilities, temporary fencing, installation, maintenance, and removal of tracking pads, and other facilities necessary for work on the project. Demobilization shall include, but is not limited to, moving out of personnel and equipment, cleaning entire site, and removing debris and rubbish.
2. The Lump Sum price provided on the Bid Form for Bid Item No. 1 - Site Mobilization and Demobilization shall not exceed 10% of the total amount of this bid.
3. There shall be no separate payment associated with furnishing, installing, and removing a temporary field office for use by the Contractor, should the Contractor determine that one is required.

**B. Payment**

1. Payment for this item shall be made as a percentage of the Lump Sum price listed on the Bid Form for Bid Item No. 1.

**2.02 EROSION AND SEDIMENTATION CONTROLS**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Lump Sum Price for installation, maintenance, removal and disposal of erosion and sedimentation controls where shown on the drawings and as required by the Engineer. Work shall include all necessary equipment, materials, workmen, and all incidental work required for completion of the work specified herein and included on the contract drawings and in these specifications.
2. This work shall include installation, maintenance, removal and disposal of all tree protection where shown on the drawings and as required by the Engineer.

**B. Payment**

1. Payment for this item shall be made as a percentage of the Lump Sum Price listed on the Bid Form for Bid Item No. 2.

**2.03 TEST PITS**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price for the performance of each test pit, up to a maximum of 12 cubic yards in volume, where requested by Contractor and approved by Owner or as required by the Engineer.

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Work shall include, but is not necessarily limited to, saw cutting, removal and disposal of concrete/bituminous pavement and excess soil, excavation to depths required by the Engineer, de-watering, shoring, providing means of egress for the Engineer to safely access the test pit, furnishing and installing bedding material for utilities or structures encountered in the test pit, furnishing, installing, and properly compacting backfill, and installing and maintaining temporary trench patch.

**B. Payment**

1. Payment for this item shall be made at the Unit Price for Each test pit performed as provided on the Bid Form for Bid Item No. 3.

**2.04 UNSUITABLE MATERIAL REMOVAL**

**A. Measurement**

1. The Work of this section shall be measured by the cubic yard quantity of unsuitable material excavated, removed, disposed of, and replaced with processed gravel, as determined in the field by the Engineer. Unsuitable material shall be as defined in these specifications.
2. Measurement shall be in cubic yards to the depth and widths of the excavation, to 1/10 of a cubic yard in accuracy. Material that Contractor deems to be unsuitable shall be presented to Engineer for verification and approval prior to measurement and payment as unsuitable.
3. Measurement shall be the in-place compacted quantity. No allowance will be made for shrinkage or compaction of processed gravel in place. Measurement by truck count will not be allowed.
4. Removal and replacement of material deemed unsuitable by Contractor but without concurrence or specific direction by the Engineer shall not be considered for payment.
5. Unsuitable material shall be properly disposed of offsite at a located approved by Owner.

**B. Payment**

1. Payment for this item shall be made at the Unit Price per Cubic Yard provided on the Bid Form for Bid Item No. 4.

**2.05 ROCK REMOVAL**

**A. Measurement**

1. The Work of this section shall be measured by the cubic yard quantity of in-place rock or boulders that are larger than 1 cubic yard in size and require removal.
2. When rock is encountered, the material shall be uncovered and the Engineer notified. The Engineer shall determine quantities by volumetric computation determined from measurements performed before rock excavation begins and measurements performed after completion of rock excavation. If the Contractor fails to uncover the rock and notify the Engineer to allow ample time for cross

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sectioning the undisturbed material, the Contractor shall have no right-of-claim to any classification other than that allowed by the Engineer.

3. Measurements of rock excavation within a trench shall be as indicated on the trench limits shown on the project drawing details. The depth of rock removal will be limited to 12" below the bottom of the pipe or structure. No compensation will be made for rock excavated beyond the limits shown on the drawings and in these specifications, unless specifically authorized in writing by the Owner. The contractor should include in this bid item any and all costs associated with over excavation of rock beyond pay limits that they deem necessary for construction purposes.
4. This work shall include excavation, breaking (mechanical removal), hauling off site and legal disposal of rock in accordance with the requirements of Section 02210, backfilling and providing screened gravel for any deficiency of trench backfill and all work incidental thereto, for which payment is not provided under other items.

**B. Payment**

1. Payment for this item shall be made at the Unit Price per Cubic Yard as provided on the Bid Form for Bid Item No. 5.

**2.06 FURNISH AND INSTALL 12-INCH WATER MAIN**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price per Linear Foot provided on the Bid Form to furnish and install new 12-inch Class 52 double cement lined ductile iron water main pipe where shown on the drawings and as required. The work shall include all necessary trench excavation, dewatering, support of excavations, furnishing and installing water pipe, furnishing and installing required bedding material, backfilling with suitable common borrow, furnishing and installing backfill material where adequate common borrow does not exist, furnishing and installing insulation material as required by the Engineer or as shown on the drawings, furnishing and installing restrained joints as required by the Engineer or as shown on the drawings, making connections between new and existing water mains where shown on the drawings including furnishing and installing transitional couplings, removing and disposing of existing water piping and appurtenances as necessary and where called for on the drawings, providing temporary traffic control, pavement/concrete saw cutting, removing and disposing of pavement/concrete, and removing excess soil. Required disinfection and testing of the water main shall also be included for payment under this item.
2. New Pipe that is furnished but not installed shall not be considered for payment.

**B. Payment**

1. Payment for this item shall be at the Unit Price per Linear Foot provided on the Bid Form for Bid Item No. 6.

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**2.07 FURNISH AND INSTALL 12-INCH GATE VALVE**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price provided on the Bid Form for each 12-inch gate valve and valve box, furnished and installed where shown on the drawings and as required. The work shall include all necessary trench work, dewatering, support of excavations, furnishing and installing of the gate valve and valve box with aligner, furnishing and installing required bedding material, backfilling with suitable common borrow, furnishing and installing backfill material where adequate common borrow does not exist, furnishing and installing required leveling blocks, furnish and installing insulation material as required by the Engineer, making connections between new and existing water mains where shown on the drawings and as necessary, furnishing and installing thrust blocks where required by the Engineer, furnishing and installing tie rods where required by the Engineer, providing temporary traffic control, pavement/concrete saw cutting, removing and disposing of pavement/concrete and removing excess soil.
2. Required testing of the water main shall be paid for under other bid items.
3. Gate valves and valve boxes associated with hydrant laterals shall be paid for separately.

**B. Payment**

1. Payment for this item shall be at the appropriate Unit Price provided on the Bid Form under Bid Item No. 7.

**2.08 FURNISH AND INSTALL 8-INCH GATE VALVE**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price provided on the Bid Form for each 8-inch gate valve and valve box, furnished and installed where shown on the drawings and as required. The work shall include all necessary trench work, dewatering, support of excavations, furnishing and installing of the gate valve and valve box with aligner, furnishing and installing required bedding material, backfilling with suitable common borrow, furnishing and installing backfill material where adequate common borrow does not exist, furnishing and installing required leveling blocks, furnish and installing insulation material as required by the Engineer, making connections between new and existing water mains where shown on the drawings and as necessary, furnishing and installing thrust blocks where required by the Engineer, furnishing and installing tie rods where required by the Engineer, providing temporary traffic control, pavement/concrete saw cutting, removing and disposing of pavement/concrete and removing excess soil.
2. Required testing of the water main shall be paid for under other bid items.
3. Gate valves and valve boxes associated with hydrant laterals shall be paid for separately.

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**B. Payment**

1. Payment for this item shall be at the appropriate Unit Price provided on the Bid Form under Bid Item No. 8.

**2.09 FURNISH AND INSTALL 6-INCH GATE VALVE**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price provided on the Bid Form for each 6-inch gate valve and valve box, furnished and installed where shown on the drawings and as required. The work shall include all necessary trench work, dewatering, support of excavations, furnishing and installing of the gate valve and valve box with aligner, furnishing and installing required bedding material, backfilling with suitable common borrow, furnishing and installing backfill material where adequate common borrow does not exist, furnishing and installing required leveling blocks, furnish and installing insulation material as required by the Engineer, making connections between new and existing water mains where shown on the drawings and as necessary, furnishing and installing thrust blocks where required by the Engineer, furnishing and installing tie rods where required by the Engineer, providing temporary traffic control, pavement/concrete saw cutting, removing and disposing of pavement/concrete and removing excess soil.
2. Required testing of the water main shall be paid for under other bid items.
3. Gate valves and valve boxes associated with hydrant laterals shall be paid for separately.

**B. Payment**

1. Payment for this item shall be at the appropriate Unit Price provided on the Bid Form under Bid Item No. 9.

**2.10 FURNISH AND INSTALL 8-INCH WATER SERVICE**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price per Linear Foot provided on the Bid Form to furnish and install 8-inch ductile iron water main to connect existing service to new water main where shown on the drawings and as required. The work shall include all necessary trench work, dewatering, support of excavations, furnishing and installing pipe, furnishing and installing all necessary couplings or fittings to connect new pipe to the existing service pipe, furnishing and installing required bedding material, backfilling with crushed stone in roadway or suitable common borrow beyond pavement limits, furnishing and installing backfill material where adequate material does not exist, compaction and third-party compaction testing, furnishing and installing insulation material as required by the Engineer, providing traffic control, pavement/concrete saw cutting, removing and disposing of pavement/concrete, removal and disposal of cobbles unsuitable for use as trench backfill but less than one cubic yard in volume and not eligible for payment as rock removal, and removing excess soil.

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2. Measurement for this bid item shall be made along the centerline of the installation.
3. The Work of this item includes furnishing and installing temporary service to maintain uninterrupted water supply to the Shaw's shopping plaza. No separate payment will be made for temporary bypass piping for this purpose.
4. New pipe that is furnished but not installed shall not be considered for payment.

**B. Payment**

1. Payment for this item shall be at the Unit Price per Linear Foot provided on the Bid Form for Bid Item No. 10.

**2.11 FURNISH AND INSTALL 6-INCH WATER SERVICE**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price per Linear Foot provided on the Bid Form to furnish and install 6-inch ductile iron water main to connect existing service to new water main where shown on the drawings and as required. The work shall include all necessary trench work, dewatering, support of excavations, furnishing and installing pipe, furnishing and installing all necessary couplings or fittings to connect new pipe to the existing service pipe, furnishing and installing required bedding material, backfilling with crushed stone in roadway or suitable common borrow beyond pavement limits, furnishing and installing backfill material where adequate material does not exist, compaction and third-party compaction testing, furnishing and installing insulation material as required by the Engineer, providing traffic control, pavement/concrete saw cutting, removing and disposing of pavement/concrete, removal and disposal of cobbles unsuitable for use as trench backfill but less than one cubic yard in volume and not eligible for payment as rock removal, and removing excess soil.
2. Measurement for this bid item shall be made along the centerline of the installation.
3. The Work of this item includes furnishing and installing temporary service to maintain uninterrupted water supply to the Shaw's shopping plaza. No separate payment will be made for temporary bypass piping for this purpose.
4. New pipe that is furnished but not installed shall not be considered for payment.

**B. Payment**

1. Payment for this item shall be at the Unit Price per Linear Foot provided on the Bid Form for Bid Item No. 11.

**2.12 FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY**

**A. Measurement**

1. Payment for this work shall be measured as specified at the Unit Price for Each new hydrant assembly installed in accordance with the Drawings. The payable quantity will be for the materials and labor necessary to install the hydrant assembly, including hydrant, valve, valve box and cover, tee, up to 30 linear feet of 6-inch branch piping,  $\frac{3}{4}$ " crushed stone, geotextile fabric, anchor tee, and

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thrust restraint as specified herein and included in the Contract Drawings.

**B. Payment**

1. Payment for this item shall be made at the appropriate Unit Price for Each hydrant assembly furnished and installed as provided on the bid form under Bid Item No. 12.

**2.13 FURNISH AND INSTALL DUCTILE IRON FITTINGS**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price per Pound provided on the Bid Form to furnish and install C153 Ductile Iron compact fittings where shown on the drawings and as required by the Engineer to install the proposed water main along the proposed water main alignment. The work shall include all necessary trench work, dewatering, support of excavations, furnishing and installing the fitting, furnishing and installing thrust blocks, furnishing and installing mechanical joint restraining systems, furnishing and installing required bedding material, backfilling with suitable common borrow, furnishing and installing backfill material where adequate common borrow does not exist, furnishing and installing insulation material as required by the Engineer, making connections between new and existing water mains where shown on the drawings, removing and disposing existing water piping and appurtenances as necessary and where called for on the drawings, traffic control, pavement/concrete saw cutting, removing and disposing of pavement/concrete and excess soil. Required testing of the water main shall be included under other bid items.
2. For purposes of measurement, the weights of the C153 Ductile Iron Compact Fittings shall be those that are published in AWWA C153, latest edition.
3. Hydrant anchor tees are not included in this item and are to be paid for separately.
4. Fittings that are furnished and installed without the approval of the Engineer shall not be considered for payment. Fittings that are furnished but not installed shall not be considered for payment.

**B. Payment**

1. Payment for this item shall be at the Unit Price per Pound provided on the Bid Form for Bid Item No. 13.

**2.14 CONTROLLED DENSITY FILL**

**A. Measurement**

1. The Work of this section shall be measured on a Cubic Yard basis of controlled density fill material furnished and installed within trench work for the new water main. Controlled density fill shall be installed where conventional backfilling is not possible or where proper support under utilities is necessary and where required by the Engineer. There will be no separate payment for temporary

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- plating of the area to allow for setting of the controlled density fill.
2. The total cubic yardage quantity shall be verified by the Engineer prior to payment.
3. Controlled density fill placed without the approval of the Engineer shall not be considered for payment.

**B. Payment**

1. Payment for this item shall be at the appropriate Unit Price per Cubic Yard provided on the Bid Form for Bid Item No. 14.

**2.15 TEMPORARY TRENCH MAINTANENCE**

**A. Measurement**

1. The Work of this section shall be measured per ton as specified at the Unit Price provided on the Bid Form to furnish and install hot-mix bituminous material for temporary trench patching where shown on the drawings and as required. Only bituminous material installed to its specified thickness as indicated in Section 02513 shall be considered for payment. Cold patch will not be considered for payment unless authorized in writing by Owner.
2. This item shall include installing a 3" temporary trench patch at the end of every work week to cover all backfilled trench surfaces. This work shall also include plating open excavations and trenches with plates of appropriate size to completely cover all openings at the end of every workday.
3. This work shall include Mechanical Street Sweeping between 7 am and 5 pm, with a street sweeper approved by the Engineer, at the end of each work week to sweep all disturbed roadways and at the entrance and exit of the contractor's staging/stockpile area(s). Mechanical street sweeping shall be paid for as part of this bid item when used for temporary trench patching and maintenance.
4. This item includes maintaining temporary patches and replacing patch with hot mix bituminous pavement where required, at no additional cost to Owner, until permanent patch is placed.
5. This item shall include all necessary dust control measures to prevent dust from becoming a nuisance to residents and businesses. This shall include the application of water and calcium chloride to inhibit dust from trenches, stockpiles or any other exposed surfaces that may produce dust. Calcium chloride and water application shall be performed as necessary to prevent a dust nuisance and as required by the Engineer. The contractor shall at a minimum budget in this bid item the cost associated with daily application of calcium chloride and water to exposed trenches prior to application of temporary pavement.
6. The total quantity of the temporary pavement placed shall be verified by the Engineer prior to payment.

**B. Payment**

1. Payment for this item shall be at the appropriate Unit Price per Ton provided on the Bid Form for Bid Item No. 15.

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**2.16 PERMANENT TRENCH PATCH INSTALLATION**

**A. Measurement**

1. The Work of this section shall be measured per ton as specified at the Unit Price provided on the Bid Form to furnish and install a permanent trench patch in disturbed roadways and parking lots. Only bituminous material installed to its specified thickness as indicated in Section 02513 and as detailed on the drawings shall be considered for payment.
2. For purposes of measurement only the Base Course shall be measured for payment. The 1-1/2" HMA Class 9.5 Surface course shall be paid for under Bid Item 16 "Micro Mill and 1-1/2" Overlay".
3. Work associated with Concrete Road Base Restoration shall not be included for payment under this Bid Item.
4. This work shall include Mechanical Street Sweeping between 7 am and 5 pm, with a street sweeper approved by the Engineer, to sweep all disturbed roadways as part of permanent pavement restoration.
5. This work shall also include raising or lowering of all castings, whether existing or installed as part of this project, to finish grade with either courses of brick and mortar or raising or lowering of valve boxes and covers. Installation of extensions on valve boxes shall not be allowed.
6. The total quantity of the permanent pavement placed shall be verified by the Engineer prior to payment.

**B. Payment**

1. Payment for this item shall be at the appropriate Unit Price per Ton provided on the Bid Form for Bid Item No. 16.

**2.17 CONCRETE ROAD BASE RESTORATION**

**A. Measurement**

1. The Work of this section shall be measured on a Cubic Yard basis of concrete road base installed in Pawtucket Avenue. Only concrete base that has been installed to its required thickness and cross-section depth as indicated on the drawings and in the specifications shall be considered for payment.
2. Work under this item shall also include doweling into existing concrete base as called for in the specifications and as indicated on the drawings.
3. The total quantity of the concrete road base restored shall be verified by the Engineer prior to payment.
4. The Work of this section includes saw cutting, removing and disposing temporary pavement patch and existing pavements, preparing subgrade as indicated on the drawing and in the specifications.
5. Traffic protection, including but not limited to signage, barrels, cones, trench plates, and barriers, required as part of this work to adequately protect the work area for the duration of preparation, concrete pouring and setting, shall be included in the cost for this work.
6. Micro Milling and overlay work shall not be considered for payment under this bid item, but shall be included for payment under Bid Item 16 "Micro Mill and

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1-1/2" Overlay".

**B. Payment**

1. Payment for this item shall be at the appropriate Unit Price per Cubic Yard provided on the Bid Form for Bid Item No. 17.

**2.18 MICRO MILL AND 1 1/2" OVERLAY**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price provided on the Bid Form per square yard of micro milling and 1 1/2" overlay performed to limits indicated on the drawings and as required by the Engineer. Only overlays that are installed to their specified thickness and meet the minimum cross-section depth indicated in Section 02513 shall be considered for payment.
2. This work shall also include raising or lowering of all castings, whether existing or installed as part of this project, to finish grade with either courses of brick and mortar or raising or lowering of valve boxes and covers. Installation of extensions on valve boxes shall not be allowed.
3. This work shall include the costs associated with having a mechanical street sweeper working between 7 am and 5 pm on streets that have been micro milled. This shall continue until the overlay has been accepted by the Engineer as complete.
4. This work shall include costs associated with furnishing and installing new pavement markings to replace existing pavement markings removed during construction, whether or not pavement markings are depicted on the drawings. Contractor shall verify where pavement markings are present prior to preparing their bid.

**B. Payment**

1. Payment for this item shall be at the appropriate Unit Price per Square Yard provided on the Bid Form for Bid Item No. 18.

**2.19 PARKING LOT RESTORATION**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price provided on the Bid Form per Square Yard of permanent parking lot restoration performed, matching the minimum thickness of surrounding pavement or as directed by Engineer.
2. This work shall include raising or lowering of all castings, whether existing or installed as part of this project, to finish grade with either courses of brick and mortar or raising or lowering of valve boxes and covers. Installation of extensions on valve boxes shall not be allowed.

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3. This work shall include costs associated with furnishing and installing new pavement markings to replace existing pavement markings removed during construction, whether or not pavement markings are depicted on the drawings. Contractor shall verify where pavement markings are present prior to preparing their bid.

**B. Payment**

1. Payment for this item shall be at the appropriate Unit Price per Square Yard provided on the Bid Form for Bid Item No. 19.

**2.20 CONCRETE SIDEWALK RESTORATION**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price provided on the Bid Form per square yard of concrete sidewalk installed including rebar, welded wire fabric and other incidentals necessary for the restoration of sidewalks. The work shall include restoration of sidewalks disturbed to a minimum depth to match the existing side walk or as called for in the contract documents (whichever is greater), and furnishing and installing gravel borrow sub-base to match a depth called for in contract documents.

**B. Payment**

1. Payment for this item shall be at the Unit Price per Square Yard provided on the Bid Form for Bid Item No. 20.

**2.21 WHEELCHAIR RAMP RESTORATION**

**A. Measurement**

1. The Work of this section shall include furnishing and installing ADA compliant wheelchair ramps if directed by Owner. This work shall include, but is not limited to, all necessary excavation, removal and disposal of existing wheelchair ramp, furnishing and installing detectable warning pad, and furnishing and installing all necessary materials to properly construct the ADA compliant wheelchair ramp.

**B. Payment**

1. Payment for this item shall be at the Unit Price for Each wheelchair ramp installed as provided on the Bid Form for Bid Item No. 21.

**2.22 REMOVE AND RESET GRANITE CURBING**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price provided on the Bid Form per Linear Foot of granite curbing removed and reset, as required

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by the Engineer, to proper depths and elevations as required. This item shall include excavation, pavement/concrete saw cutting, removing and disposing of pavement/concrete, removing excess soil, furnishing and installing required bedding material, and furnishing and installing concrete as called for in the contract documents.

2. Cutting of existing granite curbing shall not be allowed; granite curbing shall be removed as whole pieces and reset as whole pieces.

**B. Payment**

1. Payment for this item shall be at the appropriate Unit Price per Linear Foot provided on the Bid Form for Bid Item No. 22.

**2.23 NON-PAVEMENT RESTORATION**

**A. Measurement**

1. The Work of this section shall be measured as specified at the Unit Price provided on the Bid Form per Square Yard of non-pavement restoration completed. This work shall include restoration of grassed areas with 6" of loam and seed, restoring mulched planting beds, and restoring landscape plantings disturbed as a result of the project.
2. Work under this section shall include restoring non-pavement areas to a better or equal condition than prior to disturbance from this project. Raising castings to grade in areas that are filled shall also be included in this item.
3. For purposes of measurement, only grassed areas that receive 6" of loam and are seeded shall be measured for payment. Areas that are disturbed outside of the pay limits defined in the contract documents shall not be measured for payment.

**B. Payment**

1. Payment for this item shall be made as a percentage of the Square Yard price provided on the Bid Form for Bid Item No. 23.

**2.24 FURNISH AND INSTALL TRAFFIC LOOPS**

**A. Measurement**

1. Payment for this work shall be measured as specified at the Unit Price for Each traffic loop furnished and installed where disturbed as part of the Work. This work shall include all necessary incidentals to construct traffic loops as called for in these specifications and as required by the RIDOT or City of East Providence.

**B. Payment**

1. Payment for this item shall be made at the appropriate Unit Price provided on the Bid Form under Bid Item No. 24.

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**2.25 TRAFFIC CONTROL DETAILS**

**A. Measurement**

1. The Work of this section shall be measured based on the total number of manhours of uniformed traffic control as furnished by the East Providence Police Department for the purposes of directing traffic.
2. The quantity to be paid shall be full compensation for the expense involved in furnishing the required services including all administrative costs. Abnormal and unreasonable expenses incurred by the Owner may be charged against the amount owed to the Contractor under this contract and are detailed as follows:
  - a. Contractor caused delays in the prosecution of work that result in hiring traffic police for more hours than would have been required during normal prosecution of work.
  - b. Reconstruction and/or reinstallation of any portions of the work, as a result of improper initial installation, for which traffic police is required.
  - c. Traffic police required at a site where the Contractor is not working or outside of the Contractor's standard workday as a result of obstructions to traffic that remain in the traveled way.
  - d. All other incidents resulting from the Contractor's operations requiring traffic police that would not normally be encountered during the progress of a well-organized project employing proper construction methods.

**B. Payment**

1. Payment for this item shall be made based on submitted invoices from the East Providence Police Department at the Unit Price provided on the Bid Form under Bid Item No. 25.

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**PART 3 EXECUTION**

**3.1 BID ITEMS**

- A. Appurtenant items of work shown on the drawings or described in the specifications are required to complete the work, but are not listed separately under the various applicable bid items of work, and no separate payment will be made for such items. It shall be the responsibility of the Contractor to verify any missing or incomplete items.

**3.2 MEASUREMENT**

- A. The measurement of all quantities of items listed in the Bid Form shall be done by the Contractor and verified by the Engineer. The measurement will include proper and complete documentation of all items to the satisfaction of the Owner and Engineer prior to the submission for payment. The measurement submitted shall be in the same unit description listed in the Bid Form.

**3.3 PAYMENT**

- A. Payments shall be made to the Contractor only after proper documentation of the unit quantity provided and in accordance with the contract terms and conditions regarding payment.
- B. Payment for bid items shall include full compensation for the complete installation of the complete product.

END OF SECTION

**PART 1 GENERAL**

**1.1 REQUIREMENTS INCLUDED**

- A. Submit Applications for Payment to the Owner in accord with the schedule established by Conditions of the Contract and Agreement between Owner and Contractor.

**1.2 RELATED REQUIREMENTS**

- A. Agreement between Owner and Contractor: Lump Sum or Unit Prices.
- B. Conditions of the Contract: Progress payment, Retainages, and Final Payment.
- C. Section 01650 - Contract Closeout.

**1.3 FORMAT AND DATA REQUIRED**

- A. Submit itemized applications typed on forms approved by the Owner.

**1.4 PREPARATION OF APPLICATION FOR EACH PROGRESS PAYMENT**

**A. Application Form:**

1. Fill in required information, including that for Change Orders executed prior to the date of submittal of the application.
2. Fill in summary of dollar values to agree with respective totals indicated on continuation sheets.
3. Execute certification with signature of a responsible officer of Contract firm.

**B. Continuation Sheets:**

1. Fill in total list of all scheduled component items of Work, with item number and scheduled dollar value for each item.
2. Fill in dollar value in each column for each scheduled line item when work has been performed.
3. List each Change Order executed prior to the date of submission, at the end of the continuation sheets.
  - a. List by Change Order number, and description, as for an original component item of work.

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**1.5 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS**

- A. When the Owner or the Engineer requires substantiating data, Contractor shall submit suitable information, with a cover letter identifying:
  - 1. Project
  - 2. Application number and date
  - 3. Detailed list of enclosures.
- B. Submit one copy of data and cover letter for each copy of application.

**1.6 PREPARATION OF APPLICATION FOR FINAL PAYMENT**

- A. Fill in Application form as specified for progress payments.
- B. Use continuation sheet for presenting the final statement of accounting as specified in Section 01650 – Contract Closeout.

**1.7 SUBMITTAL PROCEDURE**

- A. Submit Applications for Payment to the Owner at the times stipulated in the Agreement on a monthly basis.
- B. Number: Three copies of each Application as required by the Owner.
- C. When the Owner finds Application properly completed and correct, he will process certificate for payment to Contractor.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01153

CHANGE ORDER PROCEDURES

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PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Promptly implement the change order procedures.
  - 1. Provide full written data required to evaluate changes.
  - 2. Maintain detailed records of work done on a time-and-materials/force account basis.
  - 3. Provide full documentation to the Owner on request.
- B. Designate in writing the member of Contractor's organization:
  - 1. Who is authorized to accept changes in the Work.
  - 2. Who is responsible for informing others in the Contractor's employ of the authorization of changes in the Work.
- C. Owner will designate in writing the person who is authorized to execute Change Orders.

1.2 RELATED REQUIREMENTS

- A. Agreement: The amount of established unit prices.
- B. Conditions of the Contract:
  - 1. Methods of determining cost or credit to Owner resulting from changes in Work made on a time and material basis.
  - 2. Contractor's claims for additional costs.
- C. Section 01152: Applications for Payment.
- D. Section 01600: Materials and Equipment.

1.3 DEFINITIONS

- A. Change Order: See General Conditions.
- B. Work Change Directive, EJCDC Document C-940: A written order to the Contractor, signed by the Owner and Engineer, which amends the Contract Documents as described, and authorizes Contractor to proceed with a change which affects the Contract Sum or the Contract Time, for inclusion in a subsequent Change Order.
- C. Field Order, EJCDC document C-942. A written order, instructions or interpretations, signed by the Engineer making minor changes in the Work not involving a change in the Contract Sum or Contract Time.

**1.4 PRELIMINARY PROCEDURES**

- A. Owner or Engineer may initiate changes by submitting a Proposal Request to Contractor. Request will include:
  - 1. Detailed description of the Change, Products, and location of the change in the Project.
  - 2. Supplementary or revised Drawings and Specifications.
  - 3. The Projected time span for making the change, and a specific statement as to whether overtime work is or is not, authorized.
  - 4. A specific period of time during which the requested price will be considered valid
  - 5. Such request is for information only, and is not an instruction to execute the changes, nor to stop work in progress.
- B. Contractor may initiate changes by submitting a written notice to Owner, containing:
  - 1. Description of proposed changes.
  - 2. Statement of the reason for making the changes.
  - 3. Statement of the effect on the Contract sum and the Contract Time.
  - 4. Statement of the effect on the work of separate Contractors.
  - 5. Documentation supporting any changes in Contract Sum or Contract Time as appropriate.

**1.5 CONSTRUCTION CHANGE AUTHORIZATION**

- A. In lieu of Proposal Request, the Owner may issue a construction change authorization for Contractor to proceed with a change for subsequent inclusion in a change order.
- B. Authorization will describe changes in the work, both additions and deletions, with attachments of revised Contract Documents to define details of the change, and will designate the method of determining any change in Contract Time.
- C. Owner and Engineer will sign and date the Construction Change Authorization as authorization for the Contractor to proceed with the changes.
- D. Contractor may sign and date the Construction the Construction Change Authorization to indicate agreement with the terms therein.

**1.6 DOCUMENTATION OF PROPOSALS AND CLAIMS**

- A. Support each quotation for a lump-sum proposal, and for each unit price which has not previously been established, with sufficient substantiating data to allow Engineer to evaluate the quotation.
- B. On request provide additional data to support time and cost computations:
  - 1. Labor required.
  - 2. Equipment required.
  - 3. Products required.
    - a. Recommend source of purchase and unit costs.
    - b. quantities required.

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4. Taxes, insurance, and bonds.
  5. Credit for work deleted from Contract, similarly documented.
  6. Overhead and profit.
  7. Justification for any change in Contract Time.
- C. Support each claim for additional costs, and for work done on a time-and-material/force account basis, with documentation as required for a lump-sum proposal, plus additional information:
1. Name of the Owner authorized agent who ordered the work, and the date of the order.
  2. Dates and times work was performed, and by whom.
  3. Time record, plus summary of hours worked, and hourly rates paid.
  4. Receipts and invoices for:
    - a. Equipment used, listing dates and times of use.
    - b. Products used, listing of quantities.
    - c. Subcontracts.
- D. Document requests for substitutions as specified in Section 01600.

**1.7 PREPARATION OF CHANGE ORDERS**

- A. Owner or Engineer will prepare each change order.
- B. Form: Change Order: EJCDC document C-941
- C. Change Order will describe changes in the Work, both additions and deletions, with attachments of revised contract documents to define details of the change.
- D. Change order will provide an accounting of the adjustment in the Contract Sum and the Contract Time.

**1.8 LUMP-SUM/FIXED PRICE CHANGE ORDER**

- A. Content of Change Orders will be based on, either:
  1. Owner's or Engineer's Proposal Request and Contractor's responsive Proposal as mutually agreed between Owner and Contractor.
  2. Contractor's Proposal for a change, as recommended by the Engineer.
- B. Owner and Engineer will sign and date the Change Order as authorization for the Contractor to proceed with the changes.
- C. Contractor may sign and date the Change Order to indicate agreement with the terms therein.

**1.9 UNIT PRICE CHANGE ORDER**

- A. Content of Change Orders will be based on, either:
  1. Owner's or Engineer's definition of the scope of the required changes.
  2. Contractor's Proposal for a change, as recommended by the Owner or Engineer.

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3. Survey of completed work.
  - B. The amounts of the unit prices to be:
    1. Those stated in the Agreement.
    2. Those mutually agreed upon between Owner and Contractor.
  - C. When quantities of each of the items affected by the Change Order can be determined prior to start of the work:
    1. Owner and Engineer will sign and date the Change Order as authorized for the Contractor to proceed with the changes.
    2. Contractor may sign and date the change order to indicate agreement with the terms therein.
  - D. When quantities of the items cannot be determined prior to start of the work:
    1. Engineer or Owner will issue a construction change authorization directing Contractor to proceed with the change on the basis of unit prices, and will cite the applicable unit price.
    2. At completion of the change, Owner or Engineer will determine the cost of such work based on the unit prices and quantities used.
      - a. Contractor shall submit documentation to establish the number of units of each item and any claims for a change in Contract Time.
    3. Engineer or Owner will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
    4. Owner and Contractor will sign and date the Change Order to indicate their agreement with the terms therein.
- 1.10 TIME AND MATERIAL/FORCE ACCOUNT CHANGE ORDER/CONSTRUCTION CHANGE AUTHORIZATION
- A. Engineer and Owner will issue a Construction Change Authorization directing Contractor to proceed with the changes.
  - B. At completion of the change, Contractor shall submit itemized accounting and supporting data as provided in the Article “Documentation of Proposals and Claims” of this Section.
  - C. Engineer will determine the allowable cost of such work, as provided in General Conditions and Supplementary Conditions.
  - D. Engineer or Owner will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
  - E. Owner and Contractor will sign and date the Change Order to indicate their agreement therewith.

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**1.11 CORRELATION WITH CONTRACTOR'S SUBMITTALS**

- A. Periodically revise Request for Payment forms to record each change as a separate item of Work, and to record the adjusted Contract Sum.
- B. Periodically revise the Construction Schedule to reflect each change in Contract Time.
  - 1. Revise subsidies to show changes for other items of work affected by the changes.
- C. Upon completion of work under a Change Order, enter pertinent changes in Record Documents.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

**PART 1      GENERAL**

**1.1      DESCRIPTION OF REQUIREMENTS**

- A.    This Section specifies the general methods and requirements of submissions applicable to the following work-related submittals: Shop Drawings, Product Data, and other information as specified herein. Detailed submittal requirements will be specified in the technical specification sections.
- B.    All submittals shall be clearly identified by reference to Specification Section, Paragraph, Drawing No. or Detail as applicable. Submittals shall be clear and legible and of sufficient size for sufficient presentation of data.

**1.2      SCOPE OF WORK**

- A.    The Contractor shall submit shop drawings on all equipment and materials, structural details, piping layouts and all miscellaneous items to be incorporated into the Work. All shop drawings shall be submitted using the transmittal form furnished by the Engineer.
- B.    Such drawings shall be project-specific and shall show the principal dimensions, weight, structural and operating features, space required, clearances, type and/or brand of finish or shop coat, etc., depending on the subject of the drawing. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the drawings shall be certified by the manufacturer or fabricator as correct for the Contract.
- C.    When so specified or if considered, in advance, by the Engineer to be acceptable, manufacturer's specifications, catalog data, descriptive matter, illustrations, etc., may be submitted in place of shop and working drawings.
- D.    The Contractor shall be responsible for the prompt and timely submittal of all shop and working drawings so that there shall be no delay to the Work due to the absence of such drawings. Prior to the submittal of any shop drawings, the Contractor shall submit a schedule of proposed shop drawing transmittals. The schedule shall identify the subject matter of each transmittal, the corresponding specification section number and the proposed date of submission. During the progress of the Work the schedule shall be revised and resubmitted as necessary.
- E.    The Contractor shall review shop drawings and product data, including those by subcontractors, prior to submission to determine and verify the following:
  - 1.    Field measurements
  - 2.    Field construction criteria
  - 3.    Catalog numbers and similar data
  - 4.    Conformance with the Specifications
- F.    No material or equipment shall be purchased or fabricated especially for the Contract until the required shop and working drawings have been submitted as hereinabove provided and approved for conformance to the Contract requirements. All such materials and equipment and

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the work involved in their installation or incorporation into the Work shall then be as shown in and represented by said drawings.

- G. Until the necessary approvals have been made, the Contractor shall not proceed with any portion of the Work (such as the construction of foundations), the design or details of which are dependent upon the design or details of work, materials, equipment or other features for which review is required.
- H. All shop and working drawings shall be submitted to the Engineer by and/or through the Contractor, who shall be responsible for obtaining shop and working drawings from his subcontractors and returning reviewed drawings to them.
- I. If a shop drawing shows any deviation from the Contract requirements, the Contractor shall make specific mention of the deviations in the Transmittal Form furnished by the Engineer and provide a description of the deviations in a letter attached to the submittal.
- J. The review of shop and working drawings hereunder will be general only, and shall not relieve, diminish or alter in any respect the responsibilities of the Contractor under the Contract Documents and in particular, the specific responsibility of the Contractor for details of design and dimensions necessary for proper fitting and construction of the work as required by the Contract and for achieving the result and performance specified thereunder.
- K. Should the Contractor submit equipment that requires modifications to the structures, piping, electrical conduit, wires and appurtenances, layout, etc., detailed on the Drawings, he shall also submit details of the proposed modifications. If such equipment and modifications are accepted, the Contractor, at no additional cost to the Owner, shall do all work necessary to make such modifications.

**1.3 SHOP DRAWINGS AND PRODUCT DATA**

- A. Shop drawings as specified in individual work Sections include, but are not necessarily limited to, custom-prepared data such as fabrication and erection/installation (working) drawings, scheduled information, setting diagrams, actual shopwork manufacturing instructions, custom templates, special wiring diagrams, coordination drawings, individual system or equipment inspection and test reports including performance curves and certifications, as applicable to the Work.
- B. Product data as specified in individual Sections, include, but are not necessarily limited to, standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns (submitted as physical units or color chips, painted coupons, etc. – photocopies of colors shall not be accepted), manufacturer's printed statements of compliances and applicability, roughing-in diagrams and templates, catalog cuts, product photographs, production or quality control inspection and test reports and certifications, and mill reports as applicable to the Work.
- C. The Contractor shall provide a written letter with the shop drawing from an executive with the manufacturer certifying the product meets the American Iron and Steel requirement.

**1.4 SUBMITTAL PROCEDURES**

- A. Transmit all submittals with form provided by the Engineer. Make submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in the Work or in the work of any other contractor.
- B. Sequentially number the transmittal forms. Resubmittals shall have original number with an alphabetic suffix.
- C. Identify Contract, Contractor, Subcontractor and/or Supplier; pertinent drawing sheet and detail number(s), and specification section number, as appropriate. Clearly indicate model and options being proposed and strike out all non-relevant data. Identify the building, equipment or structure to which the drawing applies.
- D. All submittals must be cross-referenced to the Tag ID numbers indicated on the contract drawings and specifications.
- E. Only drawings that have been checked and corrected by the fabricator should be submitted to the Contractor by his subcontractors and vendors. Prior to submitting drawings to the Engineer, the Contractor shall stamp and sign them certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- F. All technical submittals or calculations shall bear the stamp and signature of a Professional Engineer registered in the State of Rhode Island.
- G. Schedule submittals in accordance with the Progress Schedule and deliver to the Engineer at job site. Coordinate submission of related items.
- H. Identify variations from Contract Documents and product which may be detrimental to successful performance of the completed Work.
- I. Revise and resubmit submittals within 14 days. Identify all changes made since previous submittal.
- J. All shop drawings submitted by subcontractors for approval shall be sent directly to the Contractor for checking. The Contractor shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.
- K. The Contractor shall check all subcontractors' shop drawings to verify measurements, size of members, materials, and details to satisfy himself that they conform to the intent of the Drawings and Specifications. Shop drawings found to be inaccurate or otherwise in error shall be returned to the subcontractors for correction before submission to the Engineer for approval.
- L. All details on shop drawings submitted for approval shall show clearly the relation of the various parts to the main members and lines of the structure, and where correct fabrication of the work depends upon field measurements, such measurements shall be made and noted on the drawings before submitted for approval.
- M. Project work, materials, fabrication, and installation shall conform with approved shop drawings and product data.

**1.5 SUBMITTALS REQUIRED**

- A. Submit a list of Shop Drawings indicating specification section number, contents, proposed numbering system, and time schedule for preparation and submission for all Shop Drawings for the Contract. This list should be provided within 30 days after the Notice to Proceed.
- B. Shop Drawings as defined in Paragraph 1.3.A: 1 electronic copy, Product Data as defined in Paragraph 1.3.B: 1 electronic copy, Certificates as defined in Paragraph 1.4: 1 electronic copy.
- C. Submittals should include:
  - 1. The date of submission and the dates of any previous submissions.
  - 2. The Project title and number
  - 3. Contractor identification.
  - 4. The names of:
    - a. Contractor
    - b. Supplier
    - c. Manufacturer
  - 5. Identification of the product, with the specification section number, page and paragraph(s).
  - 6. Field dimensions, clearly identified as such.
  - 7. Relation to adjacent or critical features of the Work or materials.
  - 8. Applicable standards, such as ASTM or Federal Specification numbers.
  - 9. Identification of deviations from Contract Documents.
  - 10. Identification of revisions on resubmittals.
  - 11. A blank space suitably sized for the Contractor and the Engineer stamps.

**1.6 REVIEW OF SHOP DRAWINGS, PRODUCT DATA AND WORKING DRAWINGS**

- A. The review of shop drawings and data will be for general conformance with the design concept and Contract Documents. They shall not be construed:
  - 1. as permitting any departure from the Contract requirements;
  - 2. as relieving the Contractor of responsibility for any errors, including details, dimensions, and materials;
  - 3. as approving departures from details furnished by the Engineer, except as otherwise provided herein.
- B. The Contractor remains responsible for details and accuracy, for coordinating the work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner.
- C. If the shop drawings or data as submitted describe variations and show a departure from the Contract requirements which the Engineer finds to be in the interest of the Owner and to be so minor as not to involve a change in Contract Price or time for performance, the Engineer may return the reviewed drawings without noting an exception.
- D. Submittals will be returned to the Contractor with a code indicating whether or not the submittal was approved and whether or not it has to be resubmitted.

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- E. Resubmittals will be handled in the same manner as first submittals. On resubmittals, the Contractor shall direct the Engineer's attention, by use of revision triangles or other clear, written notation, to revisions other than the corrections requested by the Engineer on previous submissions. Such revisions shall be so noted on the letter of transmittal and on the resubmitted shop drawings. All such revisions which are not clearly identified shall be made at the risk of the Contractor. The Contractor shall make corrections as may be required by the Engineer to all work done because of this type revision that is not in accordance with the Contract Documents.
- F. Partial submittals may not be reviewed. The Engineer will be the only judge as to the completeness of a submittal. Submittals not complete will be returned to the Contractor, and will be considered "Not Approved" until resubmitted. The Engineer may at his option provide a list or mark the submittal directing the Contractor to the areas that are incomplete.
- G. Repetitive Review
  - 1. Shop drawings and other submittals will be reviewed no more than twice at the Owner's expense. All subsequent reviews will be performed at times convenient to the Engineer and at the Contractor's expense, based on the Engineer's then prevailing rates. The Contractor shall reimburse the Owner for all such fees invoiced to the Owner by the Engineer. Submittals are required until approved.
  - 2. Any need for more than one resubmission, or any other delay in obtaining Engineer's review of submittals, will not entitle Contractor to extension of the Contract Time.
- H. If the Contractor considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, the Contractor shall give written notice thereof to the Engineer at least seven working days prior to release for manufacture.
- I. When the shop drawings have been completed to the satisfaction of the Engineer, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the Engineer.

**1.7 DISTRIBUTION**

- A. Distribute reproductions of approved shop drawings and copies of approved product data, where required, to the job site file and elsewhere as directed by the Engineer. Number of copies shall be as directed by the Engineer but shall not exceed six.

**1.8 GENERAL PROCEDURES FOR SUBMITTALS**

- A. Coordination of Submittal Times: Prepare and transmit each submittal sufficiently in advance of performing the related work or other applicable activities, or within the time specified in the individual work sections of the Specifications, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals sufficiently in advance of the Work.

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**1.9 PROFESSIONAL ENGINEER (P.E.) CERTIFICATION FORM**

- A. If specifically required in other related Sections, submit a P.E. Certification for each item required, in the form attached to this Section, completely filled in and stamped.

**PART 2 PRODUCTS (Not Used)**

**PART 3 EXECUTION (Not Used)**

**END OF SECTION**

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**P.E. CERTIFICATION FORM**

The undersigned hereby certifies that he/she is a professional engineer registered in the State of Rhode Island and that he/she has been employed by

\_\_\_\_\_ to design  
(Name of Contractor)

\_\_\_\_\_  
(Insert P.E. Responsibilities)

in accordance with Section \_\_\_\_\_ for the

\_\_\_\_\_  
(Name of Project)

The undersigned further certifies that he/she has performed the design of the \_\_\_\_\_

\_\_\_\_\_, that said design is in conformance  
(Name of Project)

with all applicable local, state and federal codes, rules, and regulations, and that his/her signature and P.E. stamp have been affixed to all calculations and drawings used in, and resulting from, the design.

The undersigned hereby agrees to make all original design drawings and calculations available to the

\_\_\_\_\_  
(Insert Name of Owner)

or Owner's representative within seven days following written request therefor by the Owner.

\_\_\_\_\_  
P.E. Name

\_\_\_\_\_  
Contractor's Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
Title

\_\_\_\_\_  
Address

**SECTION 01311  
SCHEDULING**

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**CONSTRUCTION**

**PART 1      GENERAL**

**1.1      PROGRAM DESCRIPTION**

- A.    A Bar Chart construction schedule shall be used to control the work of this Contract and to provide a definitive basis for determining job progress. The construction schedule and updates shall be prepared by the Contractor. All work shall be done in accordance with the established schedule and the Contractor and his subcontractors shall be responsible for cooperating fully with the Engineer and the Owner in effectively utilizing the schedule.
- B.    Within 14 days following the receipt of the Notice to Proceed, the Contractor shall submit two prints of the proposed schedule to the Engineer. Following review by the Engineer, the Contractor shall incorporate the Engineer's comments into the network and submit five prints of the revised schedule.
- C.    Approval of the schedule by the Engineer is advisory only and shall not relieve the Contractor of responsibility for accomplishing the work within the contract completion date. Omissions and errors in the approved schedule shall not excuse performance less than that required by the Contract. Approval by the Engineer in no way makes the Engineer an insurer of the schedule's success or liable for time or cost overruns flowing from its shortcomings.
- D.    Progress under the approved schedule shall be evaluated monthly by the Contractor, updated as appropriate and forwarded to the Engineer for review and comment

**PART 2 PRODUCTS (Not Used)**

**PART 3 EXECUTION (Not Used)**

**END OF SECTION**

**PART 1 - GENERAL****1.1 SECTION INCLUDES**

- A. Quality Assurance and Control of Installation
- B. References
- C. Field samples
- D. Inspection and testing laboratory services
- E. Manufacturers' field services and reports

**1.2 RELATED SECTIONS**

- A. Section 01300 - Submittals
- B. Section 01600 - Material and Equipment

**1.3 QUALITY ASSURANCE AND CONTROL OF INSTALLATION**

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

**1.4 REFERENCES**

- A. Conform to reference standard by date of issue current on date of Contract Documents.
- B. Obtain copies of standards when required by Contract Documents.
- C. Should specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.

- D. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention of inference otherwise in any reference document.

#### 1.5 FIELD SAMPLES

- A. Install field samples at the site for review, as required by individual specification sections.
- B. Acceptable samples represent a quality level for the work.
- C. Where field sample is specified in individual sections to be removed, clear area after field sample has been accepted by Engineer.

#### 1.6 INSPECTION AND TESTING LABORATORY SERVICES

- A. The Contractor shall submit names of all the firms to be utilized for testing and analytical services for approval by the Engineer. No results or observations will be accepted unless performed by an approved testing firm.
- B. The testing firm will perform inspections, tests and other services specified in individual specification sections and as required by the Engineer.
- C. Reports will be submitted by the testing firm to the Engineer, in duplicate, indicating observations and results of tests, and compliance or non-compliance with Contract Documents.
- D. Cooperate with testing firm, furnish samples of materials, design mix, equipment, tools, storage, access, and assistance as requested.
  - 1. Notify Engineer and testing firm seven (7) days prior to expected time for operations requiring services.
  - 2. All costs associated with testing will be paid by the Contractor.
- E. Re-testing required due to non-conformance to specified requirements shall be performed by the same testing firm per instructions by the Engineer. Payment for re-testing will be paid by the Contractor with no additional cost to the Owner.

#### 1.7 MANUFACTURER'S FIELD SERVICES AND REPORTS

- A. Submit qualifications of observer to Engineer 30 days in advance of required observations. Observer used shall be subject to approval of Engineer.
- B. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, testing, adjusting and balance of equipment as applicable, and to initiate instructions when necessary.
- C. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Submit report in duplicate to Engineer for review, within 30 days of observation.

PART 2        PRODUCTS (Not Used)

PART 3        EXECUTION (Not Used)

END OF SECTION

**SECTION 01500**

**TEMPORARY FACILITIES**

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**PART 1      GENERAL**

**1.1      DESCRIPTION**

- A.    The Contractor shall provide all temporary facilities necessary for the proper completion of the work, as necessary and as specified.

**1.2      CONTRACTOR'S FIELD OFFICE**

- A.    The Contractor shall maintain a temporary field office near the work for his use during the period of construction at which readily accessible copies of all contract documents shall be kept. The office shall be located where it will not interfere with the progress of the work as approved by the Engineer. In charge of this office there shall be a competent superintendent of the Contract as specified in the Agreement, under Article CA 5.

**1.3      WATER FOR CONSTRUCTION PURPOSES**

- A.    The Contractor shall make arrangements with the Owner of the Utility to use available water supplies for construction purposes.
- B.    The express approval of the Owner shall be obtained before water is used. Waste of water by the Contractor shall be sufficient cause for withdrawing the privilege of unrestricted use. Hydrants shall only be operated under supervision of the Owner's personnel.
- C.    The Contractor is required to meter all water use and the Contractor will be charged for this use.
- D.    If a water ban is instituted, the Owner reserves the right to discontinue the Contractor's use of City water.

**1.4      TEMPORARY HEAT**

- A.    If temporary heat is required for the protection of the Work, the Contractor shall provide and install suitable heating apparatus, shall provide adequate and proper fuel, and shall maintain heat as required.

**1.5      TEMPORARY ELECTRICAL**

- A.    The Contractor shall make all necessary applications and arrangements and pay all fees and charges for electrical energy for power and light necessary for the proper completion of the Work and during its entire progress. The Contractor shall provide and pay for all temporary wiring, switches, connections, and meters.
- B.    The Contractor shall provide sufficient electric lighting so that all work may be done in a workmanlike manner when there is not sufficient daylight.

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1.6 TEMPORARY FENCING

- A. Provide commercial grade chain link fence to prevent trespass by workmen and suppliers onto private property and the public from the construction site or staging areas, as required.

1.7 FIRE EXTINGUISHERS

- A. Provide portable UL-rated, Class A fire extinguishers for all temporary offices and similar spaces. In other locations, provide portable UL-rated Class ABC dry chemical extinguishers a combination of NEPA recommended Classes for the exposure. Comply with NEPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01570

TRAFFIC REGULATION

PART 1 GENERAL

1.1 SCOPE

- A. This Section specifies the general requirements for traffic regulation, minimum performance criteria for maintenance and protection of traffic, road closures, and coordination with other parties for the duration of the Work.
- B. The Contractor shall be responsible for the maintenance and protection of traffic on public roadways impacted by its operations for the duration of the Work. The Contractor shall bear all costs for designing, furnishing, and maintaining traffic control facilities for the duration of the work.
- C. The Contractor shall comply with Traffic Management Plans that have been approved by the Rhode Island Department of Transportation (RIDOT) which depict allowable temporary closure of lanes and for other temporary traffic control measures required in performing the Work. Variations to the Traffic Management Plans must be approved by RIDOT and the City of East Providence.
- D. The Contractor shall provide a sufficient number of travel lanes and pedestrian passageways to move all traffic ordinarily using the project area. **At least one lane in both the northbound and southbound directions shall remain open at all times.**
- E. The Contractor shall coordinate its traffic control facilities with the schedule restrictions and construction operations of other parties as specified herein and specified by Section 01010.
- F. Related work described elsewhere:
  - a. Summary of Work, Section 01010
  - b. Permits and Regulatory Requirements, Section 01060
  - c. Temporary Facilities, 01500
  - d. Policing, Section 01576
  - e. Erosion Control, Section 02273

1.2 REFERENCE STANDARDS

- A. Federal Highway Administration, Manual on Uniform Traffic Control Devices (MUTCD), 2009 Edition.
- B. Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction.

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**PART 2        PRODUCTS**

**2.1        TRAFFIC DEVICES AND MARKINGS**

- A.        Traffic devices and markings shall conform to Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction Divisions I & III and the FHWA Manual on Uniform Traffic Control Devices (MUTCD), latest edition.

**2.2        TRAFFIC CONTROL FACILITIES**

- A.        Temporary traffic control equipment shall be furnished by the Contractor at the start of construction, adjusted as needed throughout the course of the Work and removed or restored at the completion of the Work and shall include, but shall not be limited to traffic barriers, channelizing devices, signage, re-striping, work zone warnings and flashing arrow boards.
- B.        The Contractor shall restore all public highways and traffic control devices to a condition equal to, or better than that that existed prior to the Work.

**PART 3        EXECUTION**

**3.1        MAINTENANCE OF TRAFFIC AND TRAFFIC CONTROL DEVICES**

- A.        The Contractor shall not close any State or City streets or rights-of-way without prior permission from the Rhode Island Department of Transportation and/or the City of East Providence. The Contractor shall maintain existing traffic flows to all areas adjacent to the work areas. The Contractor shall not close or obstruct any portion of a street, road, or private way that shall be rendered unsafe by the Contractor's operations. Instead, the Contractor shall make such repairs or provide such temporary ways or guards as shall be acceptable to the proper authorities.
- B.        Streets, roads, private ways, and walks not closed, shall be maintained passable and safe by the Contractor, who shall assume and have full responsibility for adequacy and safety of provisions made therefore.
- C.        The Contractor shall, as least seven (7) days in advance, notify the City and Engineer in writing if the closure of a street or road is necessary and at least two (2) days in advance, notify the Police, Fire, and Public Works Departments in writing, with a copy to the Engineer. The Contractor shall cooperate with the Police Department in the establishment of alternate routes and shall provide adequate detour signs, plainly marked and well lighted, in order to minimize confusion.
- D.        Throughout the duration of the Work, the Contractor shall maintain all temporary and permanent traffic control facilities, signs, barricades and other protective devices in a sturdy, clean, legible condition and at the locations designated by the Traffic Management Plans. The Contractor shall cover or remove signs not in use. Maintenance of devices will include repairing; adjusting; washing; repainting, and the re-application of reflective sheeting.
- E.        Care shall be exercised such that weeds, shrubbery, and construction materials, equipment, and spoils do not obscure the message of any sign, light, or barricade.

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- F. No defective and/or damaged devices shall be installed. Devices showing defects or damage shall be either repaired or removed and replaced at no additional cost to the Owner.
- G. Any and all costs, including Owner and Engineers costs, of fines levied for violation of any permit requirements which are a direct result of Contractor's performance or non-compliance with issued permits or applicable regulations shall be paid by Contractor at no cost to the Owner.
- H. Travel lanes and pedestrian passageways shall be drained and kept neat and reasonably smooth and in suitable condition at all times in order to provide minimum interference to vehicular and pedestrian traffic consistent with the proper prosecution of the work.
- I. Suitable ingress and egress shall be provided at all times where required, for all intersecting roads and driveways, and for all abutting properties having legal access.
- J. The Contractor shall keep all signs in proper position, clean and legible at all times. Care shall be taken so that weeds, shrubbery, construction materials or equipment, and spoil, are not allowed to obscure any sign, light or barricade. Signs that do not apply to existing conditions shall be removed or adjusted so that the legend is not visible to approaching traffic.
- K. Should the Contractor fail to perform any of the work required under this Section, the Owner may perform or arrange for others to perform such work. In such cases, the Owner will deduct from money due or to become due to the Contractor all expenses connected therewith which are found to be greater than the cost to the Owner had the Contractor performed the specified work.
- L. At no time shall the Contractor leave equipment or materials in the travel lanes or pedestrian walkways overnight without permission from the Engineer and without proper signs and lighted barricades.

**3.2 TRAFFIC MANAGEMENT PLANS**

- A. Traffic Management Plans submitted to RIDOT for Transportation Management Plan (TMP) approval are provided as part of the Drawings. The TMP is provided in the appendix of these Contract Documents.
- B. Approved Traffic Management Plans shall be implemented so that the duration and physical extent of any temporary lane closure is minimized. Traffic Management Plans and the Contractor's use of laydown shall also be designed to minimize the need for Police details to be provided in accordance with Section 01576.

**3.3 PARKING**

- A. The Contractor shall be responsible for managing employee parking throughout the duration of the Contract. The Contractor shall secure and establish parking at work site in a legal and safe manner that does not adversely affect traffic flows on public roads.
- B. The Contractor is responsible for all cost associated with no parking postings.

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**3.4 ROAD MAINTENANCE AND SITE ACCESS**

- A. Contractor shall establish entrances and exits to the site that conform to the Traffic Management Plans and are approved by the Engineer.
- B. The Contractor shall retain the services of a street sweeper to remove all muck and dust tracked onto Public roadways due to its operations.

END OF SECTION

PART 1      GENERAL

1.1      SCOPE OF WORK

- A.    When, in the opinion of the Owner or the Engineer, public safety or convenience requires the services of police, the Engineer may direct the Contractor to provide manpower to direct traffic within the location of work under this Contract.
- B.    When so directed, the Contractor shall make all arrangements for obtaining the necessary manpower. All costs for policing will be paid by the Owner. The Contractor shall pay all incidental costs related to the coordination for these services.
- C.    The intent is to insure public safety by police direction of traffic. Police are not to serve as watchmen to protect the Contractor's equipment and materials, or to warn pedestrians of such hazards as open trenches.
- D.    Nothing contained herein shall be construed as relieving the Contractor of any of his responsibilities for protection of persons and property under the terms of the Contract.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

**SECTION 01600**

**MATERIAL AND EQUIPMENT**

**PART 1 GENERAL**

**1.1 DESCRIPTION**

- A. Install equipment and materials as specified and as indicated in accordance with the requirements of the specification sections in Divisions 2 through 16, and in accordance with the general installation requirements specified herein.
- B. Provide transportation, handling, storage, and protection of all materials and equipment as specified herein.
- C. Material and equipment incorporated into the Work:
  - 1. Material incorporated into the work shall be American-made where indicated in the Specifications.
  - 2. Conform to applicable specifications and standards.
  - 3. Comply with size, make, type and quality specified, or as specifically approved in writing by the Engineer.
  - 4. Manufactured and Fabricated Products:
    - a. Design, fabricate and assemble in accord with the best engineering and shop practices.
    - b. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.
    - c. Two or more items of the same kind shall be identical, by the same manufacturer.
    - d. Products shall be suitable for service conditions.
    - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
  - 5. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

**1.2 RELATED REQUIREMENTS**

- A. Conditions of the Contract.
- B. Section 01710 - Cleaning.

**1.3 REUSE OF EXISTING MATERIAL**

- A. Except as specifically indicated or specified, materials and equipment removed from existing structures or utilities shall not be used in the completed Work.
- B. For material and equipment specifically indicated or specified to be reused in the Work:
  - 1. Use special care in removal, handling, storage and reinstallation, to assure proper function in completed Work.
  - 2. Arrange for transportation, storage and handling of products which require off-site storage, restoration or renovation. Pay all costs for such work.

**1.4 MANUFACTURER’S INSTRUCTIONS**

- A. When Contract Documents require that installation of work shall comply with manufacturer’s printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including two copies to Engineer.
  - 1. Maintain one set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, condition and adjust products in strict accord with such instructions and in conformity with specified requirements:
  - 1. Should job conditions or specified requirements conflict with manufacturer’s instructions, consult with Engineer for further instructions.
  - 2. Do not proceed with work without clear instructions.
- C. Perform work in accord with manufacturer’s instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

**1.5 TRANSPORTATION AND HANDLING**

- A. Arrange deliveries of Products in accord with construction schedules, coordinate to avoid conflict with work and conditions at the site.
  - 1. Deliver Products in undamaged condition, in manufacturer’s original containers or packaging, with identifying labels intact and legible.
  - 2. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that Products are properly protected and undamaged.
- B. Provide equipment and personnel to handle Products by methods to prevent soiling or damage to Products or packaging.

**1.6 STORAGE AND PROTECTION**

- A. Store Products in accord with manufacturer’s instructions, with seals and labels intact and legible.
  - 1. Store products subject to damage by the elements in weather tight enclosures.
  - 2. Maintain temperature and humidity within the ranges required by manufacturer’s instructions.
- B. Exterior Storage.
  - 1. Store fabricated products above ground, on blocking or skids, prevent soiling or staining. Cover products which are subject to deterioration with impervious coverings, provide adequate ventilation to avoid condensation.
  - 2. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter. At no time is material to be stored in the travel lanes or pedestrian

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walkways overnight without the permission of the Engineer and without proper signing and barricades.

- C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored Products to assure that Products are maintained under specified conditions, and free from damage or deterioration.
- D. Protection After Installation:
  - 1. Provide substantial coverings as necessary to protect installed Products from damage from traffic and subsequent construction operations. Remove when no longer needed.

**1.7 SUBSTITUTION AND PRODUCT OPTIONS**

- A. Products List.
  - 1. Submit to the Engineer a complete list of major products proposed to be used, with the name of the manufacturer and the installing subcontractor.
- B. Contractor's options
  - 1. For Products specified only by reference standard, select any product meeting that standard.
  - 2. For Products specified by naming several products or manufacturers, select any one of the products or manufacturers named, which complies with the specifications.
  - 3. For Products specified by naming one or more Products or manufacturers and "or equal", Contractor must submit a request as for substitutions for any Product or manufacturer not specifically named.
  - 4. For Products specified by naming only one product and manufacturer, there is no option.
- C. Substitutions.
  - 1. For a period of 15 days after the Notice of Award, Engineer will consider written requests from Contractor for substitution of Products.
  - 2. Submit a separate request for each Product, supported with complete data, with drawings and samples as appropriate, including:
    - a. Comparison of the qualities of the proposed substitution with that specified.
    - b. Changes required in other elements of the work because of the substitution.
    - c. Effect on the construction schedule.
    - d. Any required license fee or royalties.
    - e. Availability of maintenance service, and source of replacement materials.
  - 3. Engineer shall be the judge of the acceptability of the proposed substitution.
- D. Contractor's Representation
  - 1. A request for a substitution constitutes a representation that Contractor:
    - a. Has investigated the proposed Product and determined that it is equal to or superior in all respects to that specified.

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- b. Will provide the same warranties or bonds for the substitution as for the Product specified.
  - c. Will coordinate the installation of an accepted substitution completely in all respects.
  - d. Waives all claims for additional costs, under their responsibility, which may subsequently become apparent.
- E. Engineer will review requests for substitutions with reasonable promptness, and notify Contractor, in writing, of the decision to accept or reject the requested substitution.

**PART 2 PRODUCTS**

**2.1 PRODUCTS**

- A. Do not use materials and equipment removed from existing premises, except as specifically required by the Contract Documents.
- B. Where similar Products (such as grease fittings, flexible couplings, etc.) are used on different pieces of equipment or in different areas within the Work, standardize the Products by providing all Products from the same supplier.

**2.2 GENERAL MATERIAL AND EQUIPMENT REQUIREMENTS**

- A. These requirements shall constitute the acceptable minimum standards for the equipment specified herein. Should these requirements conflict with the Supplier's recommendations or the requirements in Divisions 2 through 16, or in any way be less stringent than Supplier's requirements or the requirements in Divisions 2 through 16, they shall be superseded by the more stringent of the Supplier's requirements or the requirements in Divisions 2 through 16.
- B. Bolts, Anchor Bolts and Nuts:
  - 1. Furnish bolts, anchor bolts nuts, washers, plates and bolt sleeves. Anchor bolts shall have washers and hexagonal nuts.
  - 2. Provide stainless steel anchor bolts, nuts, washers, plates, and bolt sleeves unless otherwise indicated or specified.
  - 3. Furnish expansion bolts with malleable iron and lead composition elements.
  - 4. Unless otherwise specified, stud, tap, and machine bolts and nuts shall conform to the requirements of ASTM Standard Specification for Carbon Steel Externally and Internally Threaded Standard Fasteners, Designation A307-80. Use Hexagonal nuts of the same quality of metal as the bolts. All threads shall be clean cut and shall conform to ANSI Standard B1.1-1974 for Unified Inch Screw Threads (UN and UNR Thread Form).
  - 5. Bolts, anchor bolts, nuts, and washers specified to be galvanized shall be zinc coated, after being threaded, by the hot-dip process in conformity with the ASTM Standard Specifications for Zinc (Hot Galvanized) Coatings on Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars and Strip, Designation A123-78, or the ASTM Standard Specifications for Zinc Coating (Hot Dip) on Iron and Steel Hardware, Designation A153-80.
  - 6. Bolts, anchor bolts, nuts, and washers specified to be stainless steel shall be certified SAE Type 316 stainless steel.

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**C. Grease Fittings**

1. Provide extension fittings and tubing on all grease fittings that are installed so that equipment can be lubricated from the operating level without the use of ladders, staging, or shutting down the equipment. Tubing shall be of corrosion resistant materials compatible with the material to which it is attached.

**D. Concrete Inserts**

1. Use concrete inserts for hangers to completely support the maximum load that can be imposed by the hangers used in the inserts. Provide inserts for hangers of a type which will permit adjustment of the hangers both horizontally (in one plane), and vertically, and locking of the hanger head or nut. Galvanize all inserts by the hot-dip process in conformity with the ASTM Standard Specification for Zinc (Hot-Galvanized) Coatings on Products Fabricated from Rolled, Pressed, and Forged Steel Shape, Plates, Bars and Strip, Designation A123-78, or the ASTM Standard Specifications for Zinc Coating (Hot Dip) on Iron and Steel hardware, Designation A153-80.
2. Inserts cast in concrete shall be furnished by the Subcontractor for the trade whose work requires them and delivered to the Contractor for installation.

**E. Sleeves**

1. Unless otherwise indicated or specified, form openings for the passage of pipes, conduits, and circular ducts through floors and walls using sleeves of standard weight, galvanized-steel pipe conforming to ASTM A53. Provided sleeves shall be of ample diameter to pass the pipe and its insulation, if any, and to permit expansion. Provide sleeves that are flush at the walls and at the bottom of slabs. Sleeves must project one inch above the finished floor surface. Threaded nipples shall not be used as sleeves.
2. Sleeves in exterior walls below ground or in walls that have liquids on one or both sides shall have a 2-inch annular fin of 1/8 in. plate welded with a continuous weld completely around the sleeve at mid-length. Sleeves shall be hot-dipped galvanized after the fins are attached.
3. Sleeves cast in concrete shall be furnished by the Subcontractor for the trade whose work requires them and delivered to the Contractor for installation.
4. Sleeves in masonry walls shall be furnished by the Subcontractor for the trade whose work requires them and delivered to the Masonry subcontractor for installation.
5. Sleeves to be sealed with mechanical seals shall comply with the requirements of Section 01172.
6. Submit plan drawing on sleeves.

**F. Equipment Drive Guards**

1. Provide all equipment driven by open shafts, belts, chains, or gears with all-metal guards enclosing the drive mechanism. Construct guards of galvanized sheet steel, galvanized woven wire, or expanded metal set in a frame of galvanized steel members. Secure guards in position by steel braces or straps which will permit easy removal for servicing the equipment. The guards shall conform to all safety codes and regulations.

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G. Protection Against Electrolysis

1. Where dissimilar metals are used in conjunction with each other, provide insulation between adjoining surfaces to eliminate direct contact and any resultant electrolysis. Provide bituminous insulation, heavy bituminous coatings, nonmetallic separators or washers, impregnated felt, or similar arrangement.

H. Equipment Foundations

1. The Contractor shall furnish the necessary materials and construct suitable concrete foundations for all equipment installed by him, even though such foundations may not be indicated on the Drawings. The tops of foundations shall be at such elevations as will permit grouting as specified below.
2. All such equipment shall be installed by skilled mechanics and in accordance with the instructions of the manufacturer.

**PART 3 EXECUTION**

**3.1 TRANSPORTATION, DELIVERY, AND HANDLING**

- A. Transport and handle items in accordance with manufacturer's instructions.
- B. Schedule delivery to reduce long term on-site storage prior to installation and/or operation. Under no circumstances shall equipment be delivered to the site more than one month prior to installation without written authorization from the Engineer.
- C. Coordinate delivery with installation to ensure minimum holding time for items that are hazardous, flammable, easily damaged or sensitive to deterioration.
- D. Deliver products to the site in manufacturer's original sealed containers or other packing systems, complete with instructions for handling, storage, unpacking, protecting and installing.
- E. All items delivered to the site shall be unloaded and placed in a manner which will not hamper the Contractor's normal construction operation or those of subcontractors and other contractors and will not interfere with the flow of necessary traffic.
- F. Provide necessary equipment and personnel to unload all items delivered to the site.
- G. Promptly inspect shipment to assure that products comply with requirements, quantities are correct, and items are undamaged. Notify Engineer verbally, and in writing, of any problems.

**3.2 STORAGE AND PROTECTION**

- A. Store and protect products in accordance with the manufacturer's instructions, with seals and labels intact and legible.
- B. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- C. Cement and lime shall be stored under a roof and off the ground and shall be kept completely dry at all times. All structural, miscellaneous, and reinforcing steel shall be stored off the

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ground or otherwise to prevent accumulations of dirt and grease, and in a position to prevent accumulations of standing water and to minimize rusting. Beams shall be stored with the webs vertical. Precast concrete shall be handled and stored in a manner to prevent accumulations of dirt, standing water, staining, chipping or cracking. Brick, block and similar masonry products shall be handled and stored in a manner to reduce breakage, cracking and spalling to a minimum.

- D. All mechanical and electrical equipment and instruments subject to corrosive damage by the atmosphere if stored outdoors (even though covered by canvas) shall be stored in a weathertight building to prevent injury. The building may be a temporary structure on the site or elsewhere, but it must be satisfactory to the Engineer. Building shall be provided with adequate ventilation to prevent condensation. Maintain temperature and humidity within range required by manufacturer.
1. All equipment shall be stored fully lubricated with oil, grease and other lubricants unless otherwise instructed by the manufacturer.
  2. Moving parts shall be rotated a minimum of once weekly to insure proper lubrication and to avoid metal-to-metal "welding". Upon installation of the equipment, the Contractor shall start the equipment, at least half load, once weekly for an adequate period of time to ensure that the equipment does not deteriorate from lack of use.
  3. Lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants shall be put into the equipment at the time of acceptance.
- E. Prior to installation of the equipment, the Contractor shall have the manufacturer inspect the equipment and certify that its condition has not been detrimentally affected by the long storage period. Such certifications by the manufacturer shall be deemed to mean that the equipment is judged by the manufacturer to be in a condition equal to that of equipment that has been shipped, installed, tested and accepted in a minimum time period. As such, the manufacturer will guaranty the equipment equally in both instances. If such a certification is not given, the equipment shall be judged to be defective. It shall be removed and replaced at the Contractor's expense.
- F. All materials which, in the opinion of the Engineer, have become so damaged as to be unfit for the use intended or specified shall be promptly removed from the site of the work and the Contractor shall receive no compensation for the damaged material or its removal.
- G. Storage locations must be approved by the Engineer.

**3.3 GENERAL MATERIAL AND EQUIPMENT INSTALLATION REQUIREMENTS**

- A. These requirements shall constitute the acceptable minimum standards for installing the equipment specified herein. Should these requirements conflict with the Supplier's recommendations or in any way be less stringent than the Supplier's requirements, they shall be superseded by the Supplier's requirements.
- B. Bolts, Anchor Bolts, and Nuts
1. Set anchor bolts and expansion bolts as indicated and as specified. If anchor bolts are set before the concrete has been placed, use templates. Where indicated, or specified, provide anchor bolts with square plates at least 4 in. by 4 in. by 3/8 in., or with square heads and

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washers set in the concrete forms with pipe sleeves, or both. If anchor or expansion bolts are set after the concrete has been placed, do all drilling and grouting or caulking without damaging the structure or finish by cracking, chipping, or spalling.

**C. Equipment Foundations and Grouting**

1. In setting pumps, motors, and other grouted equipment, make an allowance of at least one inch for grout under the equipment bases. Use steel shims to level and adjust the bases. Shims may be left embedded in the grout, in which case they shall be installed neatly and inconspicuous in the completed work. Use nonshrinking grout.
2. Mix and place grout in accordance with the recommendations of the Supplier and as specified. Place grout through the grout holes in the base, work outward and under the edges of the base, and across the rough top of the concrete foundation to a peripheral form to provide a chamfer around the top edge of the finished foundation.
3. After the grout has hardened, remove all forms, hoppers, and excess grout. Patch all exposed grout surfaces, give a burlap-rubbed finish, and paint with at least two coats of an acceptable paint in accordance with specifications.

**D. Sleeves and Openings**

1. Provide all chases or openings for the installation of the Work, or cut the same in existing Work. Provide all sleeves or forms at the Work, and set them as indicated and as specified, and in ample time to prevent delays. Locate all chases, openings, and sleeves as specified and indicated. If the location is not specified or indicated locate all openings to avoid interference with equipment and piping.
2. If these openings and/or sleeves were not provided prior to concrete placements, the Contractor shall provide and set them afterwards at no additional cost to the Owner. Confine the cutting to smallest extent possible. In no case shall piers or structural members be cut without the written consent of the Engineer.
3. Fit around, close up, repair, patch, and point around the work specified herein to the satisfaction of the Engineer.
4. Perform all of this work by workman using small hand tools. Do not use power tools except where, in the opinion of the Engineer, the type of tool proposed can be used without damage to any work or structures and without interference with the operation of any facilities. The Engineer's concurrence with the type of tools shall not in any way relieve or diminish the responsibility of the Contractor for such damage, or interference resulting from the use of such tools.
5. Do not cut or alter the work of any subcontractor or any other contractor, nor permit any subcontractor to cut or alter the work of any other contractor or subcontractor, except with the written consent of the contractor or subcontractor whose work is to be cut or altered, and with the written consent of the Engineer. All cutting and patching or repairing made necessary by the Contractor or any subcontractors shall be done at no additional cost to the Owner.

END OF SECTION

PART 1        GENERAL

1.1       SCOPE OF WORK

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
  - 1. Contract Closeout Procedures
  - 2. Final Cleaning
  - 3. Adjusting
  - 4. Project Record Documents
  - 5. Warranties
  - 6. Waiver & Release of Liens
  - 7. Consent of Surety to Final Payment
  - 8. Spare Parts and Maintenance Materials
- B. Contract closeout shall verify that construction work is complete and in conformance with the Contract Plans and Specifications, and shall permit the formal contract documentation to be completed.

1.2       RELATED SECTIONS

- A. Section 01400 – Quality Control

1.3       CONTRACT CLOSEOUT PROCEDURES

- A. Contract Closeout is a planned series of activities that shall verify the completed construction and installation work for the Contract.
- B. The Contract Closeout will be comprised of the following components:
  - 1. Checkout and Certifications: whether or not stated in subsequent sections, prior to checkout and certification the following tasks must be completed:
    - a. The construction must be complete. For this purpose, completion of construction shall be defined in accordance with the following guidelines:
      - i. The Contractor has completed the construction and erection of the Work in conformance to the Contract Drawings and Specifications.
      - ii. The Contractor has installed and adjusted operating products, equipment, systems of facilities, as applicable, and as specified by the erection, installation, or operations and maintenance of the manufacturer.
    - b. All shop drawings have been submitted and have been given final approval by the Engineer or other authorities.
    - c. All shop tests must be complete and the approved test results submitted to the Engineer.
    - d. The Engineer and Owner have accompanied the Contractor for inspection to verify conformance with the Contract Documents. The Engineer and Owner will keep a punch list of items that will include work items that are missing, incomplete, damages, incorrect items, or improperly installed or constructed. The Contractor

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shall correct the punch list items by re-work, modification, or replacement, as appropriate, until all items conform with the Contract Documents.

- e. The Contractor has submitted the final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due. The Contractor shall submit the following documents with or prior to Final Application or Payment: Contract Completion and Acceptance Certificate, Consent of Surety to Final Payment, Release and Waiver of Liens and Claims, Affidavit of Payment of Debts and Claims, and remaining releases, waivers, guarantees, and all data required by the Contract Documents.
2. Start-up: whether or not stated in subsequent sections, prior to start-up the following tasks must be complete:
    - a. All new water main shall be disinfected and tested in accordance with project specifications and City of East Providence requirements, with satisfactory test results furnished to Owner.
  3. Substantial Completion: date of substantial completion will be certified by the Engineer. This date will not be certified by the Engineer until the minimum conditions needed to meet Substantial Completion, as defined in the Contract Documents, have been satisfied.
  4. Final Completion
    - a. Whether or not stated in subsequent sections, prior to completion the following tasks must be completed:
      - i. All items in the punch list, which is held by the Engineer, must be completed.
      - ii. The Contract closeout documentation must be submitted and approved by the Engineer.
      - iii. A response plan to address warranty issue must be submitted and approved by the Engineer.
  5. Guarantee Period
    - a. During the Guarantee Period, as defined by the General Conditions, the Contractor shall correct all deficiencies.
    - b. Corrective work will be identified by the Engineer. The Contractor will be notified of the item(s) requiring corrective work.
    - c. The Contractor shall begin corrective work within 72 hours of being notified of the deficiency by the Engineer and work shall be conducted continuously until the deficiency is corrected. Upon completion of the corrective work, the Contractor shall submit a letter report to the Engineer detailing a description of the deficiency and the correction action that was performed. If the Contractor does not begin work with 72 hours of notification, or does not work continuously to correct the work, the Owner may have the work completed by others and have all costs deducted from the money that would otherwise be due to the Contractor.
    - d. The Contractor will coordinate all corrective work with the Engineer and the Owner.

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**1.4 FINAL CLEANING**

- A. The Contractor shall complete the following cleaning operations prior to requesting inspection for Certification of Substantial Completion:
1. Clean the project and storage and staging areas, including landscape development areas of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.
  2. Remove waste and surplus materials, rubbish, fencing, equipment, temporary utilities and construction facilities from the site, unless otherwise directed by the Engineer.
  3. Remove erosion control material upon complete surface stabilization as determined by the Engineer.
  4. Grade site to provide drainage flow to an approved catch basin or closed drainage system.

**1.5 ADJUSTING**

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

**1.6 PROJECT RECORD DOCUMENTS**

- A. Throughout the Contract Time, the Contractor shall maintain on site one set of the following Project Record Documents. Actual revisions to the Work shall be recorded in these documents:
1. Contract Drawings
  2. Specifications
  3. Addenda
  4. Change Orders and other Modifications to the Contract Documents
  5. Reviewed shop drawings, product data, and samples, including all sketches, drawings, diagrams, details and tables prepared or used by Contractor to construct or illustrate any portion of the Work.
  6. Written interpretations and clarifications
  7. Field Orders
  8. Field test reports properly verified
  9. Photographs
- B. Store As-Built Documents separate from documents used for construction and protect from fire, vandalism and theft.
- C. Record information concurrent with construction progress. Establish survey control onsite and conduct site survey of existing conditions and as-built conditions. Final survey data will be stamped by a Land Surveyor registered in the State of Rhode Island.
- D. Record Documents and Shop Drawings: Upon commencement of work and request by the Contractor, one set of reproducible Contract Drawings will be provided to the Contractor for use and reference. If any Drawings are reissued during construction due to approved changes in the Work, a revised copy of affected drawings in the same reproducible form will also be provided to the Contractor. If Contractor requests an electronic CAD version of the Drawings, a copy of CAD files in version 2020 of

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AutoCAD software format will be provided for the Contractor's convenience in establishing a CAD system. CAD files will be provided as a courtesy only and are not part of the contract documents nor are they guaranteed or warranted for accuracy or completeness in any manner. The Contractor shall be fully responsible for any costs associated with use of the CAD files. Contractor solely assumes all risk in using the provided CAD files. If any Drawings are reissued during construction by the Engineer due to approved changes in the Work, an updated CAD file will also be provided to the Contractor in AutoCAD format to which all of the aforementioned provisions will also apply. For record documentation, the Contractor is required to legibly mark the reproducible Contract Drawings, and all shop drawings and construction drawings to record actual construction including:

1. Measured depths of excavations in relation to ground surface.
  2. Measured horizontal and vertical locations of excavation limits, underground tunnels, pipelines, utilities, and appurtenances, referenced to permanent surface features.
  3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  4. Field changes of dimension and detail.
  5. Details not on original Contract Drawings.
  6. Make the complete set of Record Documents available to Engineer for review prior to each Application for Payment. For each review, highlight changes made since the previous review by boldly encircling the change and by describing the change and change number in the revision block at the bottom of the Drawings. Updating the Record Documents by the Contractor is a condition precedent to acceptance of the Application for Payment by Engineer.
  7. Prior to submittal of the Contractor's Final Application for Payment, submit two prints of all marked documents.
  8. Field changes to manufacturer's shop drawings.
  9. Referencing Request For Information (RFI) of field change notice numbers on as-built drawings.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
1. Manufacturer's name, address and telephone number and product model and serial number.
  2. Product substitutions or alternates utilized.
  3. Changes made by Addenda and Modifications.
- F. Submit Record Documents to Engineer with claim for final Application or Payment.

**1.7 WARRANTIES**

- A. Provide duplicate copies.
- B. Execute and assemble documents from subcontractors, suppliers and manufacturers.
- C. Provide Table of Contents and assemble in order of specification and section numbers.
- D. Submit prior to final Application of Payment.

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- E. For items of work delayed beyond date of Substantial Completion, provide updated submittal within ten (10) days after acceptance, listing date of acceptance as start of warranty period.

**1.8 WAIVER AND RELEASE OF LIENS**

- A. Contractor shall furnish to the Owner a Final Waiver and Release of Liens statement for the contract upon payment of the amount due for the Final Payment Application. The Final Waiver and Release of Liens shall accompany the final payment application upon submittal to the Owner.

**1.9 CONSENT OF SURETY TO FINAL PAYMENT**

- A. The Contractor's surety shall provide a completed and executed "Consent of Surety to Final Payment" form as part of the contract close-out documents.
- B. Deliver to the Owner with the Final Payment Application.

**1.10 SPARE PARTS AND MAINTENANCE MATERIALS**

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification sections.
- B. Deliver to the Owner; obtain receipt prior to Final Payment.

**PART 2 – PRODUCTS (Not Used)**

**PART 3 - EXECUTION (Not Used)**

**END OF SECTION**

SECTION 01710

CLEANING

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Execute cleaning during progress of construction and at completion of the project as required by General Conditions.

1.2 RELATED REQUIREMENTS

- A. Conditions of the Contract.
- B. Each Specification Section: Cleaning of specific products or work.
- C. Section 01650: Contract Closeout.

1.3 DISPOSAL REQUIREMENTS

- A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations and antipollution laws.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.

PART 3 EXECUTION

3.1 DURING CONSTRUCTION

- A. Execute daily cleaning to keep the work areas, the site and adjacent properties free from accumulations of waste materials, dust, rubbish, windblown debris, and any other nuisance debris resulting from construction operations.
- B. Provide on-site waste container for the collection of waste materials, debris and rubbish.
- C. Remove waste materials, debris and rubbish from the site daily and dispose of at legal disposal areas at offsite locations.
- D. Provide daily sweeping of the road surface with adequate 'street' brooms. The entire construction site is to be swept free of gravel, dust and dirt and returned to the trench area for the duration of the construction and until permanent pavement restoration is complete. Calcium chloride is to be applied daily as conditions warrant or as directed by the Engineer. Costs associated with daily sweeping of the road surface and application of

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calcium chloride shall be included in the appropriate bid item(s); no separate payment shall be made.

- E. At the discretion and direction of the Engineer, the Contractor shall employ the use of a “full size” mechanical type street sweeper at a minimum of one time during the work week and for a full workday (7 am to 4 pm). The street sweeper shall be used on all disturbed roadways and in the vicinity of the Contractor’s staging area(s) and yard(s). The Engineer will have the authority to direct the Contractor to employ the street sweeper in other areas in certain situations. The sweeper shall be a self propelled and driveable three or four wheel “Pelican” municipal type that employs the use of a built-in water dust control system. The Contractor shall inform the Engineer of the location and time that the sweeper will be in use before any street sweeping work is conducted. It shall be the City of East Providence’s discretion whether or not City water will be used for street sweeping. If the City grants City water use for street sweeping, the Contractor is required to implement a testable back flow prevention device between the City water source (i.e. hydrant) and the mechanical street sweeper. There will be no additional charge to the Contractor for water used for dust control. The Contractor is responsible for all hauling and proper disposal of debris collected by all sweeping operations under this contract. This sweeping operation shall be conducted to the satisfaction and approval of the Engineer. Please note that this item does **not** take the place of standard daily site cleaning. Costs associated with full size mechanical type street sweeper shall be included in the appropriate bid item(s); no separate payment shall be made.

3.2 FINAL CLEANING

- A. Employ skilled workmen for final cleaning.
- B. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.
- C. Prior to final completion, the Owner, Engineer, and Contractor shall conduct an inspection of all effected work areas for final cleaning approval.

END OF SECTION

**DIVISION 2**

**SITE WORK**

SECTION 02140

DEWATERING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Requirements for designing, furnishing, installing, maintaining, operating and removing of temporary dewatering systems required to lower and control water levels and hydrostatic pressures during construction.
2. Requirements for disposing of pumped water.

1.2 DEFINITIONS

- A. Dewatering: Lowering the zone of saturation and intercepting groundwater seepage, which would otherwise emerge from the slopes or bottom of the excavations. The purposes of dewatering are to increase the stability of excavated slopes; prevent loss of material from beneath the slopes or bottom of the excavation; improve the excavating and hauling characteristics of on-site soil; prevent rupture or heaving of the bottom of an excavation; and dispose of pumped water. In addition, dewatering may be required to place and compact structural fill.

1.3 DESIGN REQUIREMENTS

- A. The Contractor is responsible for the adequacy of the dewatering system.
- B. Design dewatering systems to:
1. Effectively reduce the hydrostatic pressure and lower the groundwater levels to a minimum of 2 feet below the bottom of excavation in soil;
  2. Develop a substantially dry and stable subgrade for the protection of subsequent operations;
  3. Result in no damage to adjacent buildings, structures, utilities, and other work included in this contract.
  4. Depressurize stratified layers of sand that may be confined by silt layers so that a stable excavation bottom is maintained.
- C. Methods may include sump pumping, single or multiple stage well point or jet eductor well point systems, deep wells, or combinations thereof.
- D. Locate dewatering facilities where they will not interfere with existing utilities, facilities, and/or work to be done under this Contract.
- E. Contractor is responsible to obtain all necessary permits from state and local authorities regarding the operation and discharge of the dewatering system, and to conduct all necessary sampling and testing that may be required by those authorities.

**1.4 SUBMITTALS**

**A. Shop Drawings**

1. In accordance with Section 01300 submit the following prior to dewatering system installation:
  - a. Proposed system components.
  - b. Operational plan to include locations and depth of components.
  - c. Method of disposal of pumped water, including method of insuring proper sediment removal should an upset in the dewatering system occur.

**B. Quality Assurance/Control Submittals – Dewatering Operation Plan**

1. In accordance with Section 01300 submit the following:
  - a. Dewatering systems to be designed under the direct supervision of a professional Civil Engineer registered in the State of Rhode Island.
  - b. Complete the Certificate of Design at the end of this section.
  - c. Provide documentation demonstrating ability and experience of contractor installing and operating the system for the type of conditions under this contract.
  - d. Names, addresses, and telephone numbers of supervisory personnel actively involved in at least five successful projects requiring dewatering that are similar to this project.

**1.5 PROJECT/SITE CONDITIONS**

**A. Environmental Requirements**

1. Dispose of all pumped water in accordance with local agencies having jurisdiction.

**PART 2 PRODUCTS (Not Used)**

**PART 3 EXECUTION**

**3.1 SITE PREPARATION**

**A. Surface Drainage**

1. Construct dikes, ditches, pipe lines, sumps or other means to intercept and divert precipitation and surface water away from excavations.

**B. Drainage of Excavated Areas**

1. Construct dikes, ditches, pipe lines, sumps or other means to collect surface and seepage water which may enter the excavation.
2. Discharge water through settling basins or method approved by Engineer when water is to be deposited into an existing watercourse.

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**3.2 INSTALLATION**

- A. Advise Engineer of changes made to Operation Plan as submitted under Article 1.4 of this section, made to accommodate field conditions.

**3.3 MONITORING**

- A. Observe and record the elevation of the groundwater on a daily basis during the length of the dewatering operation and provide data to Engineer each day.

**3.4 OPERATION**

- A. Operate dewatering systems to lower the groundwater level in excavations allowing all subsequent work to be done on a stable dry subgrade.
- B. Modify dewatering procedures which cause, or threaten to cause, damage to new or existing facilities to prevent further damage. Modifications are to be made at no additional expense to the Owner.
- C. Maintain the water level a minimum of two (2) feet below subgrade or at lower elevation to eliminate hydrostatic pressure on structures.
- D. Prevent disturbance of foundation soils and loss of ground as water is removed.
- E. Notify the Engineer of disturbance to the foundation soils caused by an interruption or inadequacy of the dewatering system.
- F. Maintain auxiliary equipment on-site to operate the dewatering system continuously while excavations are opened below elevation of final grade.

**3.5 DISPOSAL OF WATER**

- A. Discharge water in a manner that will not cause erosion, flooding, damage to existing facilities, completed Work or adjacent property, improved or otherwise.

**3.6 REMOVAL**

- A. Remove all material and equipment from the site upon completion of dewatering operations.
- B. Seal all dewatering wells upon completion of dewatering by pressure injecting a grout capable of sealing and preventing leakage.

END OF SECTION

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**CERTIFICATE OF DESIGN**

Re: Contract Between

OWNER: \_\_\_\_\_  
(Name)

and  
CONTRACTOR: \_\_\_\_\_  
(Name)

on  
CONTRACT: \_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Number) Dated: \_\_\_\_\_

Contractor hereby certifies that \_\_\_\_\_  
(Designer)

1. Is licensed or registered to perform professional engineering work in the state of \_\_\_\_\_  
(Location of Project)
2. Is qualified to design the \_\_\_\_\_  
(Item)  
specified in Section \_\_\_\_\_ of the subject contract;
3. Has designed \_\_\_\_\_ before;
4. Has prepared the design in full compliance with the applications and requirements of  
Section \_\_\_\_\_ of subject contract including all applicable laws, regulations, rules and  
codes; and
5. The work has been signed and sealed pursuant to the applicable state law.

FOR: \_\_\_\_\_  
(Contractor)

BY: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Name and Title) Dated: \_\_\_\_\_

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SECTION 02160

EXCAVATION SUPPORT

**PART 1      GENERAL**

**1.1      DESCRIPTION**

- A. The Contractor shall properly design and furnish all labor and materials necessary and shall construct all sheeting, bracing supports, and appurtenances complete and as required to perform the Work including sheet piling for construction of structures and buildings, trench support and cofferdams (permanent and temporary alike) as indicated on the Drawings and specified or as otherwise directed by the Engineer or required by agencies having jurisdiction over the work.
- B. Wood timber or steel sheeting shall be used except where otherwise indicated, specified or directed by the Engineer and agencies having jurisdiction over the work.

**1.2      DESIGN RESPONSIBILITY**

- A. The Contractor shall be fully responsible for providing complete and adequately designed sheeting as required and/or directed by the Engineer in accordance with the provisions set forth herein. The sheeting shall be designed to resist hydrostatic pressures in accordance with the Contractor's dewatering design.
- B. The Contractor shall engage, at his own expense, the services of a fully competent and qualified Professional Engineer, hereinafter referred to as the "Contractor's Engineer", registered in the State of Rhode Island for the design of all sheeting requirements to accomplish the work specified, and for supervising the proper on-site installation associated therewith. The Contractor's Engineer shall be acceptable to the Engineer and demonstrate a minimum of ten (10) years documented experience in the field of sheeting design and implementation. Prior to the actual employment of the Contractor's Engineer, the Contractor shall submit to the Engineer, to the full extent deemed necessary, a detailed resume stating the Contractor's Engineer's professional qualifications, related experience and references, and if requested, examples of work similar to that required for the Work specified, for a general review by the Engineer and a means of documenting the requisite experience hereinbefore specified. Only after a satisfactory review of the Contractor's Engineer's overall qualifications by the Engineer in fulfillment of the requisite experience hereinbefore specified shall the Contractor finalize such employment and begin the design aspects of the Work.
- C. The Contractor's attention is directed to the fact that acceptance of the Contractor's Engineer and/or his/her qualifications by the Owner and/or Engineer shall not be an overall approval of the Contractor's Engineer nor the sheeting designs and methods of installation employed during the Work. It is to be understood that all sheeting requirements necessary to accomplish the Work specified and/or indicated on the Drawings shall be designed by and installed under the direct supervision of the Contractor's Engineer who shall ultimately and fully bear the responsibility for that Work.

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**1.3 QUALITY ASSURANCE**

- A. The Contractor's Engineer shall provide, and maintain throughout the sheeting installation and/or work, sufficient supervision and technical guidance to the Contractor for proper sheeting materials, equipment, operations and methods to the extent necessary to assure strict compliance with the Contractor's Engineer's design, all safety procedures and standard requirements for such Work, and the successful completion of the Work. Failure to provide and/or maintain such supervision and/or technical guidance during the Work shall in no way relieve the Contractor's Engineer and/or the Contractor from their overall responsibilities and obligations under the Contract, nor shall it be a basis for any claim by either against the Owner and/or Engineer.
- B. The Contractor and Contractor's Engineer shall fully indemnify and save harmless the Owner and Engineer and their agents, employees and representatives, from and against any and all claims as stipulated under the Agreement, whether directly or indirectly arising out of, relating to or in connection with the Work.
- C. Quality assurances and proper safety procedures must be maintained at all times and be in strict accordance with the Contractor's Engineer's requirements and consistent with all Federal, State and local regulatory agencies having jurisdiction over the Work. Should any conflict in requirements, regulations, restrictions or codes exist between that which is specified by the Contractor's Engineer and any Federal, State or local agency, the more stringent application shall prevail.

**1.4 PRODUCTS AND DESIGN CRITERIA**

- A. The overall sheeting design, quality of materials and methods of installation for all sheeting applications necessary to accomplish the Work specified shall be consistent with the established standards of the construction industry and must, as a minimum, comply with the requirements for earth support systems for excavations as defined by current US Department of Labor, Occupational Safety and Health Act (OSHA) regulation applicable thereto, and any other federal, state and local agencies having jurisdiction and/or requirements pertaining thereto including Building Code requirements for the State in which the work is being performed. The design and implementation thereof shall be in accordance with sound engineering practice and modern accepted principles of soil mechanics and shall include the effects of hydrostatic forces and all surcharge loads which may reasonably be anticipated. The methods employed shall be to the extent necessary to permit the proper and satisfactory installation and construction of the Work specified; to withstand all loads and forces encountered; to provide soil restraint and control of water as required; to insure the safety of the workers and all other personnel on or near the site; to prevent injurious caving or erosion, or loss of ground; to maintain at all times proper and safe pedestrian, vehicular traffic on public and private streets, property and rights-of-way; and to stabilize unforeseen areas of work encountered during the execution of the Work as deemed necessary by the Owner and/or Engineer.
- B. The Contractor and Contractor's Engineer's attention is directed to the fact that should any additional investigations, subsurface explorations and/or other appurtenant information be required to fulfill the needs of this design, as determined by the Contractor's Engineer above

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and beyond that which is already provided under these Contract Documents, the Contractor shall obtain all such information and data required at his own expense.

**1.5 SHOP DRAWINGS AND/OR DESCRIPTIVE LITERATURE**

- A. Prior to the installation of any sheeting, the Contractor shall submit to the Engineer for documentation ONLY, complete sheeting layout and detail drawings and sheeting descriptions bearing the Contractor's Engineer's State of Rhode Island Professional Seal and signature. Said submission shall be for informational purposes only as a means of documenting the work to be performed and will not be considered an approval or disapproval of the design and/or the implementation thereof. This submission will not relieve the Contractor of the sole responsibility for the adequacy of the system nor shall it be construed as an approval or guarantee that the Contractor's proposed equipment, materials and methods for the sheeting, bracing or appurtenances will be adequate for the work required at the locations of and for the Work required by this Contract.
- B. Included as part of this submission, the Contractor's Engineer must provide a complete listing of all references, codes and specifications used by the Contractor's Engineer and required by any federal, state or local agency having jurisdiction, and to which the sheeting design conforms.
- C. Specific design calculations are not to be submitted to the Engineer. In the event design calculations are submitted to the Engineer, they shall be returned to the Contractor without review nor checking by the Engineer.

**1.6 CERTIFICATE OF DESIGN**

- A. The Contractor's special attention is directed to the required "Certificate of Design", the form of which is provided at the end of this Section. The Contractor and Contractor's Engineer shall complete this "Certificate" in its entirety for each location of work to be done, and any revisions associated there with, and submit it simultaneously with, as an integral part thereof, the sheeting submission. Any submission made without the completed "Certificate", appropriately signed and sealed, shall be returned to the Contractor. The Owner and/or Engineer hereby reserves the right to delay sheeting work and/or any work associated with, or dependent upon, the proper implementation of sheeting, without cause for claim against the Owner or Engineer, until a complete and appropriate submission is rendered. This Certification shall indicate that the sheeting, bracing and all appurtenances related thereto are designed to withstand the required loads, forces to be encountered, and to provide soil and water control, and are in compliance with these specifications and all federal, state or local agencies having jurisdiction over the Work to be performed.

**PART 2 PRODUCTS**

**2.1 MATERIALS**

- A. Timber Sheeting and Bracing:

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1. Timber sheeting and bracing may be of any species of wood which will satisfactorily withstand all driving and construction stresses and the loads to which the members will be subjected. Sheeting shall not be less than 3 inches nominal thickness and shall be provided with continuous interlocks. All timber sheeting and bracing shall be free from worm-holes, windshakes, loose knots, decayed or unsound portions or other defects which might impair its strength or tightness.

**B. Steel Sheeting:**

1. The shapes, sizes, and lengths of steel sheeting to be utilized are optional with the Contractor, providing they are satisfactory to withstand all driving and construction stresses and are provided with continuous interlocks.

**C. Bracing, Hardware and Fastenings:**

1. Bracing and other supports, whether of steel or timber, shall be of the strength and dimensions necessary to satisfactorily withstand the loads to which they will be subjected. All bracing and other supports shall be free from any defects which might impair this strength. The Contractor shall provide all necessary hardware and fastenings necessary in connections with satisfactory installation of all sheeting and bracing.

**PART 3 EXECUTION**

**3.1 INSTALLATION**

- A. The Contractor shall be fully responsible for ensuring adequate safety measures are provided at all times and shall comply with all safety requirements of Federal, State and local agencies having jurisdiction over the Work. Installation of the sheeting including all bracing, supports, and appurtenances, shall be adequate to permit the performance of the Work and be in accordance with the requirements of the Contractor's Engineer and the sheeting design associated therewith.
- B. Any movements of sheeting and/or appurtenances which prevent the proper completion of the work shall be corrected at the expense of the Contractor.
- C. Sheeting shall be installed in a manner which will prevent the disturbance of the surrounding surface, subsurface conditions and/or structures. Any such disturbances shall be corrected at the Contractor's expense and to the satisfaction of the Engineer.

**3.2 REMOVAL**

- A. No sheeting shall be removed except with specific written approval by the Engineer.
- B. Sheeting shall be cut-off as directed by the Engineer.
- C. All sheeting approved for removal by the Engineer shall become the property of the Contractor.

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**CERTIFICATE OF DESIGN**

\_\_\_\_\_  
(Owner)

Contract Reference: \_\_\_\_\_

\_\_\_\_\_, dated \_\_\_\_\_.

In accordance with the provisions of the above referenced Contract, as the designated Contractor,

\_\_\_\_\_

\_\_\_\_\_  
(Contractor's Name and Address)

hereby certifies that \_\_\_\_\_

\_\_\_\_\_  
(Contractor's Engineer's Name and Address)

(1) Is properly licensed and currently registered as a Professional Engineer in the State (or Commonwealth) of \_\_\_\_\_;

(2) Is fully qualified to design and supervise the \_\_\_\_\_

\_\_\_\_\_  
(Item of work and location)

In accordance with the provision specified under the appropriate Section and/or Subsections of the Contract Documents:

(3) Has successfully designed and supervised \_\_\_\_\_

\_\_\_\_\_  
(Item of work)

before and demonstrates a minimum of ten (10) documented years of proven experience in such field;

(4) Has personally examined the type(s) and locations(s) of the Work required under this Contract, and the overall conditions associated therewith, to the extent necessary to fully satisfy his or her professional responsibilities for designing and supervising the above referenced work;

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- (5) Has prepared the attached design in full compliance with the applications and requirements of the Contract Documents, sound engineering practice, modern accepted principles of construction, and all applicable federal, state and local laws, regulations, rules and codes having jurisdiction over the Work;
- (6) Will provide sufficient supervision and technical guidance to the Contractor throughout the Work to ensure compliance with the design and all quality assurances necessary to successfully complete the Work;
- (7) Hereby indemnifies and holds harmless the \_\_\_\_\_  
\_\_\_\_\_ and PARE Corporation.,  
(name of owner)  
and their agents, employees and representatives, from and against any and all claims, whether directly or indirectly, arising out of, relating to or in connection with the Work; and
- (8) This "Certificate of Design" together with all applicable designs, drawings, details, specifications on other related documents necessary to complete the Work as specified, have been signed and sealed pursuant to applicable state law.

In recognition and observance of the above referenced statements, the undersigned parties hereby acknowledge and accept the responsibilities and obligations associated therewith.

CONTRACTOR:

CONTRACTOR'S ENGINEER:

\_\_\_\_\_  
(Contractor's Name)  
\_\_\_\_\_

\_\_\_\_\_  
(Engineer's Name)  
\_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_  
(Name and Title)

\_\_\_\_\_  
(Name and Title)

Date: \_\_\_\_\_

Date: \_\_\_\_\_

(SEAL)

(P.E. STAMP)

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(Note: Contractor to fully reference all attachments below)

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END OF SECTION

**SECTION 02200**

**EARTHWORK**

**PART 1 GENERAL**

**1.1 WORK INCLUDED**

- A. This section covers the work necessary for the earthwork inclusive of excavation, backfill, compaction, grading, water main piping installations, tank construction, and other earthwork involved with the East Providence Pawtucket Avenue Water Main Relocation Project as indicated on the drawings.
- B. This work also includes the furnishing of all labor, equipment and materials, and performing all operations in connection with the removal of bedrock that is capable of being excavated as defined herein and the excavation of boulders less than 1 c.y. in volume.

**1.2 REFERENCES**

- A. Within this section, the State of Rhode Island Department of Transportation "Standard Specifications for Road and Bridge Construction", latest edition, shall be referred to as the State Standards. All references to measurement and payment shall be deleted.
- B. Within this section, the American Society for Testing and Materials publications, latest edition, shall be referred to as ASTM:

**1.3 RELATED WORK SPECIFIED ELSEWHERE**

Section 02211 – Rock Removal  
Section 02616 – Ductile Iron Pipe and Fittings  
Section 02640 – Valves, Tapping Sleeves, and Appurtenances  
Section 03300 – Cast-in-Place Concrete

**1.4 LAWS AND REGULATIONS**

- A. All work under this Contract shall be accomplished in accordance with regulations of local, county and State and Federal agencies, and national or utility company standards as they apply.

**1.5 QUALITY ASSURANCE**

- A. Qualification of Workmen

Provide at least one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described in this section, and who shall be present at all times during progress of the work of this section, and who shall direct all work performed under this section.

**1.6 JOB CONDITIONS**

- A. All excavated earth materials approved by the Owner or the Engineer as suitable for reuse shall be used for backfilling excavations and for rough grading as necessary for the

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completion of the contract work. All surplus or unsuitable materials, rock from rock excavation, boulders, and pavement materials shall be removed and legally disposed of off-site by the Contractor.

**B. Unsuitable Materials:**

1. Unsuitable materials are herein defined as organic material, peat, organic silt or combinations thereof; and any existing materials of such gradation that more than 40% of its total weight passes the No. 200 sieve in a standard gradation analysis (ASTM D422). All materials of whatever description, which are in the opinion of the Engineer are too loose or saturated for use as backfill to provide satisfactory bearing, shall be considered as unsuitable. Tests required to evaluate such conditions shall be made at the Contractor's expense. If unsuitable material is encountered at the depths indicated on the drawings for bottom limit of excavation, the Contractor shall immediately notify the Owner or the Engineer and shall not proceed further until instructions are given.
2. The Contractor shall satisfactorily excavate and remove all unsuitable material to lines, grades and limits indicated on the drawings or as directed in writing by the Owner or the Engineer, and shall legally dispose of such material off-site.

**C. Disposition of Existing Utilities:**

1. Call Dig Safe seventy-two (72) hours before commencing with any excavation, in order that all pertinent utility companies become informed of such work.
2. Active utilities encountered during the Work shall be carefully protected from damage. When a previously unknown, active utility line is exposed during construction, its location and elevation shall be documented and both the Engineer and the utility Owner notified in writing.
3. Active utility lines damaged in the course of construction operations shall be repaired or replaced as determined by the Engineer, without additional cost to the Owner.

**1.8 SUBMITTALS**

**A. Provide the following submittals:**

1. Certified Laboratory Test Reports: Before delivery of imported materials or intended reuse of onsite materials, five (5) certified copies of the reports of all tests required herein, under materials and in referenced publications, shall be submitted to the Owner. These reports shall be submitted a minimum of five (5) working days prior to the intended use of the materials on-site. The testing shall have been performed in an independent laboratory approved by the Owner or the Engineer. Additional testing shall be submitted when the source of materials is changed.
2. Submit bag samples (40lbs minimum) of each type of imported or onsite fill material to be used for backfilling to the Engineer at least 10 working days in advance of its required use.
3. Catalog and manufacturer's data sheets for compaction equipment.
4. Copies of permits obtained for excavations that are required by state and local governing authorities.
5. Manufacturer's certificate of compliance attesting that geotextiles meet the requirements of these specifications. Provide mill certificates stating the length and width of fabric contained on each roll.

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- B. Refer to Section 01300 - Submittals.

**PART 2 PRODUCTS**

**2.1 MATERIALS**

- A. The Contractor shall reuse excavated onsite materials for backfilling conforming to the requirements and conditions stated herein. When sufficient quantities of satisfactory materials are not available from onsite sources, the Contractor shall provide imported materials with satisfactory properties conforming to the requirements and conditions stated herein.
- B. Common Borrow shall be a well-graded granular material of which shall contain no more than 20 percent by weight of silt and clay. It shall contain no stones larger than 8 inches and shall be substantially free of organic loam, wood, trash, or other objectionable materials which may be decomposable, compressible, or which cannot be properly compacted. No Common Borrow shall be imported until all available onsite Common Borrow has been utilized.
- C. Gravel Base course in accordance with State of Rhode Island Standard Specification, Subsection M.01.09, meeting the gradation requirements of Table 1, Column 1, with 100% Passing 3-inch Square Mesh Sieves.
- D. Structural Fill shall be imported material conforming to Item M.01.02.1 of the State Standards.
- E. Sand Gravel Fill placed directly under structure base slabs and foundations to indicated thicknesses be imported material conforming to Item M.01.02.1 of the Standard Specifications, modified such that the maximum particle size does not exceed 3 inches.
- F. Pipe Bedding material shall conform to the following requirements:
1. *Gravel Borrow Bedding* shall be imported material conforming to Item M.01.04 of the State Standards.
  2. *Crushed Stone Bedding* shall be imported material conforming to Item M.01.04 of the State Standards. Use of Crushed Stone Bedding shall be approved by the Engineer.
- G. Filter Stone shall be imported material conforming to Item M.01.07 of the State Standards.
- H. Sand shall be imported material conforming to ASTM C33, Section 6; fine aggregate.
- I. Select Gravel Borrow for gravel or asphalt access way sub-base, utility backfill, and pipe backfill shall be imported material conforming to Item M.01.02.1 of the State Standards.
- J. Initial backfill over pipes shall consist of a well-graded granular material of up to 1 inch in size. All material is to be devoid of stones (greater than 1 in.), sharp stones and crushed rock (larger than  $\frac{3}{4}$  in.), lumps or frozen ground, and clayey materials that can be sensitive to water. Initial backfill material is to be placed to a minimum depth of 12 inches over the top of the pipe.

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- K. Final backfill over pipes shall be of good quality and be free of cinders, frozen materials, ashes, refuse, boulders, rocks, or organic material. Excavated native granular material free from perishable and objectionable objects and containing no stones larger than 6 inches in diameter shall be used for backfilling the trench as required.
- L. Geotextiles shall be nonwoven and needle punched pervious sheets of polyester, polyethylene, nylon, or polypropylene filaments formed into a uniform pattern. The geotextiles shall have the following minimum properties when measured in accordance with the referenced standards.

Test	Method	
Mass per Unit Area (oz/ft <sup>2</sup> )	ASTM D-3776	12
Grab Tensile Strength (lbs)	ASTM D-4632	300
Puncture Strength (lbs)	Modified ASTM D-3787 Using 5/16-inch flat tipped rod	150
Mullen Burst (lbs/in <sup>2</sup> )	ASTM D-3786	450
Elongation at Required Strength (%)	ASTM D-4642	20
UV Resistance	ASTM D-4355	70% at 500 hr.
Equivalent Opening (US Standard Sieve)	ASTM D-4751	30-140
Permittivity (sec-1)	ASTM D-4491 with 60 mm Falling Head	1.0
Water Flow Rate (gal/min/ft <sup>2</sup> ) at 50 mm Constant Head	(2)	70

- (1) All numerical values represent minimum/maximum average roll values (i.e., the average of minimum test results on any roll in a lot should meet or exceed the minimum specified values).
- (2) Water flow rate in gal/min/ft<sup>2</sup> shall be determined by multiplying permittivity in sec<sup>-1</sup> as determined by ASTM D-4491 by a conversion factor of 74.
- M. Except as otherwise specified, all fills, refills, and backfills within the project area, and for utilities and appurtenances, shall be made with Gravel Borrow or Structural Fill as hereinafter specified.
- N. All refills and fills not supporting or influencing structures, pavement, or utilities shall be made with approved Common Borrow.
- O. Water for compaction shall be furnished by the Contractor. Water for compaction from sources other than potable sources shall be as approved by the Engineer.
- P. Cost for sampling, transporting and making all laboratory tests required to obtain characteristics of materials proposed to be used for fills, refills, backfills, including gradation tests and determination of moisture density relationships, will be borne by the Contractor.

**PART 3 EXECUTION**

**3.1 GENERAL**

- A. All unsuitable or excess materials shall be stripped from areas as indicated on the plans. Materials suitable for reuse shall be stored in approved locations that will not interfere with construction operations.
- B. All excess and unsuitable materials shall be legally disposed of off-site by the Contractor. Contractor is made aware that existing subsurface soils have not been characterized. Contractor is responsible for collecting and analyzing samples for disposal characterization at a frequency of no less than 1 composite sample for every 500 cubic yards of excess soil. Samples shall be analyzed by a analytical laboratory registered in the State of Rhode Island. Contractor shall identify the disposal outlet, which is subject to Owner's approval. Actual sampling requirements (frequency and list of analytes) shall be as determined by the Contractor's disposal outlet.
- C. Earth excavation shall include the excavation, removal and satisfactory disposal of all materials of whatever nature encountered from within the limits indicated or specified or as directed in writing. It shall include, but not be limited to, earth materials such as peats, organic or inorganic silts, clay, sand and gravel, cobbles and boulders less than 1 cubic yard in volume, soft or disintegrated rock which, in the opinion of the Owner or the Engineer, can be removed without blasting or drilling, pavement, and all obstructions not specifically included in another section.
- D. "Rock Excavation" shall be performed in accordance with Section 02211; Rock Removal consists of removal and disposal of materials encountered that cannot be excavated without continuous and systematic drilling and blasting or continuous use of a ripper or other special equipment, except such materials that are classified as earth excavation. Typical of materials classified as rock excavation are as follows:
  - 1. Rock or stone in original ledge.
  - 2. Hard shale in original ledge.
  - 3. Boulders within trench limits, exceeding one (1) cubic yard in volume.
  - 4. Should highly fractured or weathered bedrock be encountered during excavation, the following shall apply:
    - a. When the material is encountered in trenching operations or under footings, it shall be excavated or ripped with a hydraulic backhoe equal to or larger than Caterpillar 225 backhoe, and will be classified as Earth Excavation. When it is demonstrated that this material can no longer be removed with a hydraulic backhoe and requires drilling and blasting, this material shall be classified as Rock Excavation. For excavation procedures when this material is encountered under footings, refer to paragraph below.
    - b. When this material is encountered in open excavation, it shall be classified as earth excavation until drilling and blasting or continuous ripping is necessary as defined hereinabove.
- E. Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace, if required, to ensure the safety of workers and the general public.

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Dewater as needed for construction. Barricade all open excavations when not actively working in them.

- F. All excavation operations shall be accomplished to prevent the undermining or disturbance of existing pipelines, utilities, and structures of any completed construction.
- G. All excavations shall be backfilled as specified.

**3.2 EXCAVATION FOR STRUCTURES**

- A. Excavation under slabs shall be to the exact elevations required except as otherwise indicated on the drawings.
- B. Subgrade Inspection, Compaction, and Proof Rolling:
  - 1. Notify the Engineer when excavations have reached the required subgrade.
  - 2. Proof-roll subgrade below the pavement with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades:
    - a. Completely proof-roll subgrade in one direction repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph (5 km/h).
    - b. Revise minimum weight or type of vehicle in first subparagraph below if required.
    - c. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, and replace with compacted fill as directed.
    - d. Proof-rolling shall be completed utilizing a 10-Ton vibratory drum roller for granular soils. Should clay or other cohesive soils be encountered, sheep's foot roller shall be utilized. A total of 6 passes shall be considered complete.
  - 3. Removal of unsuitable material and its replacement as directed will be paid on the basis of contract conditions relative to changes in work.
- C. Excavation for Structures - Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10 feet, and extending a sufficient distance from footings to permit placing and removal of concrete formwork, other construction, and for inspection:
  - 1. In excavating for footings, take care not to disturb the bottom of excavations. The final 12 inches of excavation shall be completed with a smooth-edged bucket. Trim bottoms to required lines and grades to leave solid base to receive other work.
- D. Frost Protection/Work in Freezing Weather:
  - 1. Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees Fahrenheit.
  - 2. In freezing weather, a layer of fill shall not be left in an uncompacted state at the close of a day's operation.
  - 3. The Contractor shall not place a layer of compacted fill on snow, ice, frozen soil, or soil that was permitted to freeze prior to compaction. Removal of these unsatisfactory materials will be at the Contractor's expense.
  - 4. Do not excavate to full indicated depth when freezing temperatures may be expected, unless work can be completed to subgrade or piping can be installed and backfilled the

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- same day. Protect the excavation from frost if placing of concrete or piping is delayed.
5. The Contractor shall keep the operations under this Contract clear and free of accumulation of snow within the limits of Contract Lines as required to carry out the work.
  6. No Work shall be installed on frozen ground.

**3.3 EXCAVATION FOR UTILITIES**

- A. Excavation shall be made to the alignment, invert, and/or subgrade as shown on the drawings, or as modified by the Owner or the Engineer. Excavations shall be graded to allow satisfactory construction of the contract work.
- B. Bell holes and depressions for joints shall be dug after the trench bottom has been graded and compacted, and after gravel bedding has been placed and compacted. The bottom quadrant of each pipe barrel shall have complete and uniform bearing for the full length of each pipe. The trench bottom shall again be thoroughly compacted just prior to final shaping for bedding and installation of pipe.
- C. Excavation operations adjacent to and below existing structures and utilities shall be done manually and in a manner to prevent disturbance of, or damage to, the existing structures and utilities.
- D. The Contractor shall be responsible for keeping all excavated and construction material a safe distance back from the edge of excavations to avoid overloading the sides of excavations and to prevent slides or cave-ins.
- E. If an excavation is made deeper or wider than that shown on the drawings, there will be no extra payment for such unauthorized excavation, unless directed in writing by the Owner or the Engineer. Backfill of all unauthorized excavations shall be made by the Contractor with either selected materials from excavations or from imported material, as directed by the Owner or the Engineer, and at no expense to the Owner.
- F. If a pipe is to be placed in fill, or the top of the pipe is within 2 feet of existing ground surface, the fill shall first be placed as specified herein to a height of not less than 2 feet over the top of the pipe and for a width of 5 feet beyond each side of the pipeline. Following placement of such fill, excavation and backfill shall proceed as specified herein.
- G. Grading shall be done as necessary to prevent surface water from flowing into excavations and, any water accumulating therein shall be removed by pumping or other approved method. The pipelines shall not, at any time, be used for trench drainage.
- H. Excavations shall be adequately sheeted, shored and braced, as necessary, to permit proper excavation of the work and to protect all slopes and earth banks. Sheet piling shall be installed as required to prevent cave-ins or settlement and to protect workmen, adjacent structures and utilities. Shoring and sheet piling may be removed as the backfilling progresses in such a manner so as to avoid any damage to the permanent structure or to other members of the shoring, sheet piling, and bracing. In removing sheet piling or bracing, care shall be taken to prevent voids. Voids, if formed, shall immediately be filled with Sand. The installation of sheet piling, shoring and bracing shall comply with the safety precautions as outlined in the Associated General Contractors of America, Manual of Accident Prevention in Construction, and all local, county, state and federal regulations. Dewatering shall be

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performed, as required, for all excavations below groundwater level.

- I. Where existing subsurface utilities or other facilities adjacent to or crossing through the excavation require temporary support or protection, such temporary support or protection shall be satisfactorily provided by the Contractor at no additional expense to the owner. All necessary measures shall be taken by the Contractor to prevent lateral movement or settlement of existing facilities or of work in progress.
- J. No excessive trench widths will be allowed to avoid the use of sheeting or shoring and bracing. The trench width for unbraced excavations at, and below, a level 1-foot above the top of the pipe, shall not exceed the maximum trench width indicated on the drawings for the size pipe being installed.

**3.4 DRAINAGE AND DEWATERING**

- A. The Contractor shall control the grading in areas under construction on the site so that the surface of the ground will properly slope to prevent accumulation of water in excavated areas and adjacent properties.
- B. Should surface, rain or ground water be encountered during the operations, the Contractor shall furnish and operate pumps or other equipment, and provide all necessary piping to keep all excavations clear of water at all times and shall be responsible for any damage to work or adjacent properties for such water. All piping exposed above ground surface for this use, shall be properly covered to allow foot traffic and vehicles to pass without obstruction.
- C. Presence of ground water in soil will not constitute a condition for which an increase in the contract price may be made. Under no circumstances place concrete fill, lay piping or install appurtenances in excavation containing free water. Keep utility trenches free of water until pipe joint material has hardened and backfilled to prevent flotation.

**3.5 BACKFILLING AND COMPACTION**

- A. Compaction shall be accomplished by vibratory rollers, multiple wheel pneumatic tired rollers or other types of approved compacting equipment. Loaded trucks, low beds, water wagons and the like shall not be considered as acceptable compaction equipment unless specifically approved by the Engineer for a particular location. Equipment shall be of any such design that it will be able to compact the fill to the specified density in a reasonable length of time. Contractor shall use means and methods to protect the integrity of the installed pipe during compaction.
- B. The Contractor shall compact all fills made during the day of work prior to leaving the project for the evening.
- C. All backfill shall be of approved materials placed in 12-inch maximum loose lifts and compacted to not less than the herein specified maximum dry density. The Engineer reserves the right to lower the maximum lift thickness based upon type of compaction equipment used and material being placed.
- D. The minimum percentage of compaction in all paved areas shall be 95% of the maximum dry density as established by Method D, ASTM D1557-70, and verified in the field by

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ASTM D1556-68, D2167-66 or an approved nuclear density testing device. The minimum percentage of compaction in landscape areas shall be to 90% of the maximum dry density. These compaction rates relate to each lift. Compaction of each lift shall be completed before placement and compaction of the next lift is started. The compaction equipment shall make an equal number of transverse and longitudinal coverages of each lift.

- E. Field density tests to determine the actual in-place densities being attained will be made by the Contractor's Inspection Agency approved by the Engineer, at the Contractor's Expense, and in sufficient quantity to determine that the required compaction is being attained, but in no case less than the following frequency:
  - 1. Two (2) per lift per location, and
  - 2. No less than 1 every 50 linear feet of utility trench.
- F. Deficiencies:
  - 1. If a defect is discovered, the Contractor shall immediately determine the extent and nature of the defect.
    - a. If the defect is indicated by unsatisfactory test results, the Contractor shall determine the extent of the deficient area by additional tests, observations, a review of records, or other means that the Contractor deems appropriate. Costs for additional testing shall be borne by the Contractor and not applied to any unit price items.
    - b. If the defect is related to adverse site conditions, such as overly wet soils or surface desiccation, the Contractor shall define the limits and nature of the defect.
  - 2. After determining the extent and nature of a defect, the Contractor shall notify the Engineer and schedule for defect repair and retesting.
  - 3. The Contractor shall correct the deficiency to the satisfaction of the Engineer. If the project specification criteria cannot be met, or if unusual weather conditions hinder work, then the Contractor shall develop and present to the Engineer suggested solutions for his approval.
  - 4. All retests by the Contractor must verify that the defect has been corrected before any additional work is performed by the Contractor in the area of the deficiency. The Contractor shall also verify that all installation requirements are met and that all required submittals are provided.
- G. Surfaces to be compacted, unless otherwise specified, shall be compacted by not less than six (6) complete passes of the approved vibratory compactors in order to obtain the required percentage of compaction. A complete pass shall consist of the entire coverage of the surface area to be compacted with one trip of the equipment. Each trip of the equipment shall overlap the previous trip by at least one (1) foot.
- H. No rolling equipment shall be used to compact fill, refill or backfill material within four (4) feet of the vertical faces of any concrete walls or utility pipes. Plate vibratory tampers shall be used in these restricted areas and in other areas too confined to satisfactorily use rolling equipment.

**3.6 PROTECTION OF EXISTING UTILITIES AND STRUCTURES**

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- A. Excavation and backfill operations shall be done in such a manner to prevent cave-ins of excavations or the undermining, damage or disturbing of existing utilities and structures or of new work. Backfill shall be placed and compacted so as to prevent future settlement or damage to existing utilities and structures and new work.
- B. Any excavations improperly backfilled or where settlement occurs shall be reopened to the depth required then refilled with approved materials and compacted, and the surface restored to the required grade and condition, at no additional expense to the Owner.
- C. Any damage due to excavation, backfilling or settlement of the backfill, or injury to persons or damage to property occurring as a result of such damage shall be the responsibility of the Contractor. All costs to repair such damage, in a manner satisfactory to the Owner and the Engineer, shall be borne by the Contractor at no additional expense to the Owner.

**3.7 BACKFILLING OF UTILITY TRENCHES**

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Place and compact initial backfill material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the utility pipe or conduit:
  - 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- D. Backfill voids with satisfactory soil while installing and removing shoring and bracing.
- E. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- F. Install warning tape directly above utilities, 24 inches above top of pipe, except 6 inches below subgrade under pavements and slabs.
- G. During filling and backfilling operations, pipelines will be checked by the Engineer to determine whether any displacement of the pipe has occurred. If the observation of the pipelines shows poor alignment, displaced pipe or any other defects as defined in Section 02616, Ductile Iron Pipe and Fittings, the defects designated by the Engineer shall be remedied in a satisfactory manner by the Contractor at no additional expense to the Owner.
- H. After backfilling trenches the Contractor shall maintain the filled surfaces in good condition, with a smooth surface level with adjacent undisturbed surfaces. Any subsequent settling shall be immediately repaired by the Contractor in a manner satisfactory to the Owner and the Engineer, and such maintenance shall be provided by the Contractor for the remainder of this contract at no additional expense to the Owner.

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- I. The finished surfaces of filled excavations shall be compacted and reasonably smooth, and free from surface irregularities. Finished subgrade upon which either topsoil is to be placed, or pavements are to be constructed, shall be maintained in a satisfactory condition until the finish courses are placed. The storage or stockpiling of materials on finished subgrade will not be permitted.

3.8 TEST PITS

- A. Test pits shall be dug by the Contractor at the locations selected, and to the dimensions directed by the Engineer, for compaction testing or to establish locations of existing pipelines or any other buried item for which the exact location is to be determined. The excavation, protection and backfilling of test pits shall be in accordance with the provisions of this section. Test pits shall be backfilled with approved materials and compacted to the densities specified.

END OF SECTION

**SECTION 02211**

**ROCK REMOVAL**

**PART 1 GENERAL**

**1.1 WORK INCLUDED**

- A. Removal and disposal of identified rock, ledge and boulders previously identified and discovered during excavation for utilities and structures.
- B. Mechanical trench rock removal. Use of explosives are not allowed without the express written consent of the Owner.

**1.2 RELATED WORK**

- A. Section 01400 – Quality Control
- B. Section 02200 – Earthwork

**1.3 SHOP DRAWINGS**

- A. Submit shop drawings under provisions of Section 01300 – Submittals.

**1.4 UNIT PRICES**

- A. Rock Measurement: Volume of rock actually removed, measured in original position, but not to exceed the following:
  - 1. 24 inches outside of concrete forms other than at footings.
  - 2. 12 inches outside of concrete forms at footings.
  - 3. 12 inches outside of minimum required dimensions of concrete cast against grade.
  - 4. 6 inches beneath bottom of concrete slabs on grade.
  - 5. 12 inches beneath utility pipes and conduits and to the width specified on the Drawings.
- B. Rock removal performed beyond the limits specified above will not be measured for payment.
- C. Unit prices for rock excavation include replacement with approved materials.

**PART 2 PRODUCTS**

**2.1 MATERIALS**

- A. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material exceeding 1 c.y. for bulk excavation and footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping or blasting:
  - 1. Excavation of Footings, Trenches, and Pits: Late-model, track-mounted hydraulic excavator; equipped with a 42-inch wide, short-tip-radius rock bucket; rated at not

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less than 120-hp flywheel power with bucket-curling force of not less than 25,000 lbf and stick-crowd force of not less than 18,700 lbf; measured according to SAE J-1179.

2. Bulk Excavation: Late-model, track-mounted loader; rated at not less than 210-hp flywheel power and developing a minimum of 45,000-lbf breakout force; measured according to SAE J-732.

**PART 3 EXECUTION**

**3.1 INSPECTION**

- A. Verify site conditions and note irregularities affecting work of this section.
- B. Beginning work of this section means acceptance of existing conditions.

**3.2 ROCK AND BOULDER REMOVAL**

- A. Where rock or boulders are exposed on the sides, or in the bottom, of excavations, they shall be wholly or partially removed as specified or directed. Rock and boulders shall be removed to not less than the trench width payment lines indicated on the contract drawings, and to not less than two (2) feet outside structure walls, and to not less than twelve (12) inches below the underside of pipes or structure foundation slabs.
- B. Depressions resulting from the removal of boulders shall be refilled with approved compacted gravel bedding, earth borrow or other excavated material as directed. Unauthorized excavations in rock or excavations made beyond the indicated or directed limits, shall be refilled with approved compacted gravel bedding or earth borrow as directed by, and at no expense to the Owner.

**3.3 ROCK REMOVAL – MECHANICAL METHOD**

- A. Excavate for and remove rock by the mechanical method.
- B. Cut away rock at excavation bottom to form level bearing.
- C. Remove shaled layers to provide sound and unshattered base for footings and base slabs.
- D. In utility trenches, excavate at least to 12 inches below invert elevation of pipe and at least 24 inches wider than pipe diameter. Contractor shall over-excavate as necessary based on their means and methods of construction and to prepare the trench for sheeting and/or shoring to make the trench OSHA compliant. The Contractor shall include in their various bid prices all costs associated with necessary over excavation beyond trench pay limits. Trench pay limits shall be as stipulated on the contract drawings. In no event shall over excavation be measured and paid for.
- E. Remove excavated material from site and stockpile at location determined by Owner.
- F. Correct unauthorized rock removal in accordance with backfilling and compaction requirements of Section 02200.

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- G. Contractor shall be required to provide adequate manpower and equipment to remove all rock provided for in the bid form in a timely manner. Failure to remove the quantity of rock as outlined in the bid form within the allowed contract time, shall not be considered as a reason for an extension in the contract time or contract price.

**3.5 FIELD QUALITY CONTROL**

- A. Provide for visual inspection of bearing surfaces and cavities formed by removed rock.
- B. The Contractor is to notify the Engineer prior to construction of any structures within the rock excavation for approval.

END OF SECTION

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**SECTION 02273**

**EROSION CONTROL**

**PART 1 GENERAL**

**1.1 WORK INCLUDED**

- A. The work included for erosion control shall include but not necessarily be limited to:
  - 1. Furnishing and installing compost filter socks, straw bales, silt fence, swales, soil berms, mulches, grasses, channels, crushed stone, rip-rap, grading to control runoff and all other devices required to control erosion from the limits of the contract areas onto adjacent downgradient areas.
  - 2. Continual maintenance of all installed devices to control erosion.
  - 3. Removal and clean-up.

**1.2 RELATED WORK**

- A. Section 02200 – Earthwork

**1.3 APPLICABLE REGULATIONS**

- A. In order to prevent erosion and sedimentation from construction activities related to the performance of this project, the Contractor and his subcontractors shall comply with all applicable Federal, State and local laws and regulations concerning erosion and sediment control, as well as the specific requirements stated in this Section and elsewhere in the Specifications.

**1.4 DESIGN CRITERIA**

- A. Conduct all construction in a manner and sequence that causes the least practical disturbance of the physical environment.
- B. Stabilize disturbed earth surfaces in the shortest practical time and employ any and all such temporary erosion control devices as may be necessary until such time as adequate soil stabilization has been achieved or permanent erosion control devices are operational.
- C. The erosion control devices specified herein represent the minimum required work for erosion control. The Contractor shall add to these minimum devices any and all measures to effectively prevent migration of sediment from the limits of the work area.
- D. Within this section, the Rhode Island Soil Erosion and Sediment Control Handbook prepared by the U.S. Department of Agriculture Soil Conservation Service and the R.I. Department of Environmental Management shall be the guideline of analysis and the standard source for control measures.

**1.5 SUBMITTALS**

- A. Implementation Plan

Prior to commencement of the work, the Contractor shall:

- 1. Meet with the Engineer to develop mutual understandings relative to compliance

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with the provisions of this Section and administration of the erosion and sediment control program.

**PART 2        PRODUCTS**

**2.1        COMPOST FILTER SOCKS**

- A.        A compost-filled filter sock for filtering suspended sediments from storm water flow. Material for the filter socks shall be compost per the manufacturer's recommendations, except no manure or bio-solids shall be used. In addition, no kiln-dried wood or construction debris shall be allowed. Tubes shall be a minimum of 12" and a maximum of 18" in diameter. Tube material shall be a knitted mesh with 1/8" – 3/8" openings and shall be made of biodegradable materials. Photodegradable (HDPE or polypropylene) fabric may be used. All material must be removed and disposed of by the contractor, at his expense, at the end of the contract. Additional filter socks shall be used at the direction of the Engineer. Filter socks shall be Filtrex Siltsoxx or approved equivalent.

**2.2        SILT SACKS**

- A.        Silt Sacks shall be Silt Sack® with curb deflector as manufactured by ACF Environmental.

**2.3        STRAW BALES**

- A.        Bales shall be made of straw or hay with forty pounds minimum weight and one hundred and twenty pounds maximum weight. They should be either wire bound or string tied. Wood stakes shall be a minimum of 2 inches by 2 inches nominal size by a minimum of 3 feet long. As an alternate, 1-inch diameter steel rods or steel reinforcing bars may be used.

**2.4        SILT FENCE**

- A.        Silt fences or sedimentation barriers shall consist of wood posts with industrial support netting and sediment control filter fabric attached. It shall be placed as shown on the contract drawings. The cost of this work shall include the periodic maintenance of these materials and the ultimate removal upon completion of the project.
- B.        The filter fabric material shall be type #3401, as manufactured by R.I. Dupont de Nemours & Co., Mirafi #100, as manufactured by Celanese Fibers Marketing Co. Inc. or Bidim C-28 or C-34 as manufactured by Monsanto Co., or an approved equal. The posts shall be at least 4.5 feet long and control fabric shall be at least 3 feet wide.

**PART 3        EXECUTION**

**3.1        GENERAL EROSION CONTROL REQUIREMENTS**

- A.        All materials and installation shall be in accordance with the contract drawings.
- B.        The Owner and the Engineer have the authority to control the surface area of each material exposed by construction operations and to direct the Contractor to immediately provide permanent or temporary erosion control measures to prevent contamination of

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adjacent streams, watercourses, lakes, ponds or other areas of water impoundment. Every effort shall be made by the Contractor to prevent erosion on the site and abutting properties.

- C. All slopes shall be stabilized by mulching, seeding or otherwise protected as the work progresses to comply with the intent of this specification. All damaged slopes shall be repaired as soon as possible. The Owner and Engineer shall limit the surface area of earth material exposed if the Contractor fails to sufficiently protect the slopes to prevent pollution.
- D. The Contractor shall at all times have on hand the necessary materials and equipment to provide for early slope stabilization and corrective measures to damaged slopes.
- E. The erosion control features installed by the Contractor shall be maintained by the Contractor, and he shall remove such installations upon completion of the Work or if ordered by the Owner or the Engineer.
- F. The Contractor shall operate all equipment and perform all construction operations so as to minimize pollution. The Contractor shall cease any of his operations which will increase pollution during rainstorms.
- G. The Contractor shall place additional erosion and sedimentation controls as required by laws and regulations.

**3.2 COMPOST FILTER SOCK INSTALLATION**

- A. Compost filter socks shall be installed and filled in accordance with project details and manufacturer's recommendations. Filter socks shall be anchored with 2" x 2" x 3'-0" (min.) wooden stakes driven through the center of the sock at regular intervals up to 10' apart. The ends of filter socks shall be directed upslope to prevent stormwater from bypassing the erosion control barrier.

**3.3 SILT SACK INSTALLATION**

- A. To install Silt Sack® in the catch basin, remove the grate and place the sack in the opening. Hold approximately six inches of the sack outside the frame. This is the area of the lifting straps. Replace the grate to hold the sack in place.
- B. When the restraint cord is no longer visible, Silt Sack® is full and should be emptied.
- C. To remove Silt Sack®, take two pieces of 1" diameter rebar and place through the lifting loops on each side of the sack to facilitate the lifting of the Silt Sack®.
- D. To empty Silt Sack®, place unit where the contents will be collected. Place the rebar through the lift straps (connected to the bottom of the sack) and lift. This will lift Silt Sack® from the bottom and empty the contents. Clean out and rinse. Return Silt Sack® to its original shape and place back in the basin.

**3.4 STRAW BALE INSTALLATION**

- A. Bales shall be set lengthwise on the contour for sheet flow applications. They shall be

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held in place by two wooden stakes in each bale as detailed on the contract drawings. Bales shall be maintained or replaced until they are no longer necessary for the purpose intended or are ordered removed by the Owner or the Engineer.

- B. Bales shall be set with bindings parallel to grade and entrenched to a minimum depth of 4 inches. Stakes shall be driven a minimum of 12 inches into the ground and cut off flush with the top of the bale.
- C. After the bale lines are staked, the end joints shall be chinked with loose straw to close any gaps. Excavated soil shall then be backfilled against the uphill side of the barrier to a depth of 4 inches above the downhill grade.
- D. Following compaction of the backfill, loose straw shall be scattered over the surface directly behind the barrier.
- E. Straw bale checks should be placed in diversions generally at 50-foot intervals and in accordance with the detail on the contract drawings. Sediment shall be removed from behind the checks when it has accumulated to one-half the original height of the dam measured at the low point.

**3.4 SILT FENCE INSTALLATION**

- A. Silt fence shall be installed utilizing posts 4.5 feet long minimum staked at least 8 feet on center. Prior to installation, a 6 inch by 6 inch anchor trench shall be installed at the base of the fence and the final height will be at minimum 2 feet.

**3.5 DIVERSIONS**

- A. Diversions for directing surface runoff away from and/or around trenching and other construction operations shall be installed and stabilized in advance of new work. The Contractor shall select the cross-section shape (parabolic, vee-shaped or trapezoidal) such that the equipment he has on-site will be available for as needed maintenance.
- B. Minimum capacity of the diversion shall be sized to accommodate a 2-year design storm.
- C. Periodic cleaning shall be done to maintain capacity.

**3.6 REMOVAL AND CLEAN-UP**

- A. All temporary erosion control facilities and accumulated sediments shall be removed in a neat and workmanlike manner when all disturbed areas have been satisfactorily stabilized.
- B. All debris removed, sediments, and other earth materials shall not leave the project site, but shall be hauled to and stockpiled at the location designated by the Owner or the Engineer. All loading, hauling and stockpiling shall be performed by the Contractor at no additional expense.

**3.7 DEWATERING DISCHARGES**

- A. All pumped discharges and surface water flow from work areas shall be passed through a

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filter barrier of straw bales before being discharged into gutters, ditches, drainage swales, storm sewer systems, wetlands, natural water bodies, streams or rivers. The method of all such discharges shall be subject to the approval of the Owner or the Engineer. The sizing of sedimentation basins, if required, shall provide for a maximum velocity of 1 ft/sec.

END OF SECTION

SECTION 02500

PAVING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Requirements for construction of all temporary and permanent pavements on paved areas affected or damaged by Contractor's operations, whether inside or outside the normal trench limits, as indicated on the drawings and as herein specified.

B. Related Sections

1. Section 01300 – Submittals
2. Section 01400 – Quality Control
3. Section 01570 – Traffic Regulation
4. Section 02200 – Earthwork

1.2 REFERENCES

- A. This specification makes reference to the requirements of additional specifications as listed. The Contractor shall obtain and familiarize himself with all requirements referenced by this specification prior to preparation and installation of any pavements.

1. Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, including all addenda, issued by the State of Rhode Island Department of Public Works, (referred to as the Standard Specifications). All references to measurement and payment are deleted.

1.3 PAVEMENT SCHEDULE

- A. The Contractor's attention is directed to the various pavements required under this contract, and their locations as detailed below.

- B. All permanent pavement specified herein shall be of the thickness required after compaction.

1. Location: City Streets/Parking Lots  
Type: Flexible  
Requirements: 12" Gravel Borrow sub-base Course  
2" HMA Class 12.5 Bituminous Base  
2" HMA Class 12.5 Bituminous Surface

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2. Location: State Roadways (Pawtucket Avenue)
- Type: Rigid
- Requirements: 12" Gravel sub-base Course  
8" Reinforced Concrete Base  
2" HMA Class 12.5 Base Course  
2" HMA Class 12.5 Bituminous Surface Course

**PART 2 PRODUCTS**

**2.1 MATERIALS**

**A. Asphalt Tack**

1. Tack coat shall conform to the requirements of the Rhode Island Standard Specification Section 403.02 and Section M.03.04.

**B. Bituminous Base**

1. Bituminous Base shall conform to the requirements of the Rhode Island Standard Specification Section 401.02 and M.03.01 for Base Course.

**C. Bituminous Surface, (Trench)**

1. Bituminous Surface Course shall conform to the requirements of the Rhode Island Standard Specification Section 401.02 and M.03.01 for surface course HMA Class 12.5.

**D. Bituminous Surface, (Curb to Curb)**

1. Bituminous Surface Course shall conform to the requirements of the Rhode Island Standard Specification Section 401.02 and M.03.01 for surface course HMA Class 12.5.

**E. Reinforced Concrete Base**

1. Concrete Base shall conform to the requirements of the State of Rhode Island Standard Specification, Section 501.

**F. Temporary Pavement**

1. Temporary Pavement shall be Binder Course conforming to the requirements of the State of Rhode Island Standard Specification, Subsection 401.02 and M.03.01.1. for Binder Course.

**G. Gravel Base Course**

1. Gravel base course shall be in accordance with Specification 02200 – Earthwork.

**2.2 SOURCE QUALITY CONTROL**

- A. The paving plant used by the Contractor for preparation of bituminous paving materials shall be acceptable to the Engineer who shall have the right to inspect the plant and the making of the material.

**PART 3 EXECUTION**

**3.1 PREPARATION**

- A. Maintain Traffic Control in accordance with Section 01570.
- B. Prior to placing pavement, all backfill shall be compacted in accordance with Section 02200 - Earthwork. No pavement shall be placed over inadequately compacted backfill. Backfill and gravel base course shall be compacted, brought to the proper elevation, and dressed so that new pavement construction shall be at the required grade. The Contractor shall maintain the surfaces of all areas until the pavement is placed. If there is a time lapse of more than 24 hours between completion of preparation of subgrade or placing of gravel base course and placing of paving, or if subgrade or gravel base course has been eroded or disturbed by traffic, the subgrade or gravel base course shall be restored before placing pavement.
- C. When installing permanent pavement on bituminous concrete roadway, the edges of existing pavement shall be cut back at least 12-inches from the trench excavation wall or damaged area to sound undamaged material, straightened, cleaned, and painted with an accepted asphalt emulsion to ensure a satisfactory bond between it and the newly placed surface courses. Existing surface courses shall be stripped from the bituminous concrete base course for at least a 6-inch width and trimmed square and straight so that new permanent surfacing shall be placed on the undisturbed bituminous concrete base course. Existing pavement shall be swept clean prior to placing any asphalt emulsion over it. Existing pavement that will be under new pavement shall be painted with asphalt emulsion to ensure a satisfactory bond.
- D. The Contractor shall, at all times, prior to acceptance of the work by Engineer, maintain the completed work in a safe and satisfactory condition. All maintenance and repairs to the completed work shall be subject to the approval of the Engineer, Owner, and/or RIDOT. All maintenance and repairs of the completed work shall be provided by the Contractor at no additional cost to the Owner.
- E. Equipment used in the work will be subject to approval by Engineer and shall be maintained in a satisfactory condition at all times. Unless otherwise permitted, compaction shall be performed by use of suitable power rollers. Finished surfaces of new asphaltic surface courses shall finish even with adjacent existing pavement surfaces and be free from surface irregularities.
- F. It shall be the responsibility of the Contractor to obtain from the controlling municipal and/or State authorities all required permits for cutting roadway pavements and to perform the work in accordance with all customs and requirements of the controlling authorities, in addition to those specified herein, and at no additional expense to Owner.

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- G. Existing pavements outside of the indicated work limits which are damaged as a result of the Contractor's operations, including base courses, bituminous tack coats, and surface courses, shall be replaced by the Contractor in accordance with the requirements specified herein for the respective type of pavement; in a satisfactory manner and at no additional cost to Owner.
- H. Before permanent pavement is installed, the base shall be brought to the proper grade, and temporary pavement and excess gravel base shall be removed.
- I. All manhole covers, catch basin grates, valve and meter boxes, curbs, walks, walls and fences shall be adequately protected and left in a clean condition. Where required, the grades of manhole covers, catch basin grates, valve boxes, and other similar items shall be adjusted to conform to the finished pavement grade.
- J. The Contractor shall remove and dispose of all surplus and unsuitable material in accordance to local, State, and Federal regulations.

### 3.2 INSTALLATION

#### A. General

- 1. All construction methods and materials shall be submitted to the Engineer for review prior to the start of construction.
- 2. Unless indicated otherwise, all permanent bituminous pavement shall be installed in two courses or more. Bituminous base courses shall be carefully spread and raked to a uniform surface and thoroughly rolled before application of the top course.
- 3. All top courses of permanent paving shall be applied with acceptable mechanical spreaders in widths of at least 9 feet.
- 4. The rolling for all bituminous and gravel base courses shall conform to the standards listed in the appropriate Subsection of the Standard Specification.
- 5. Pavement shall be placed so that the entire roadway or paved area shall have a true and uniform surface, and the pavement shall conform to the proper grade and cross section with a smooth transition to existing pavement.

#### B. Gravel Base Course

- 1. The gravel base shall be placed to such depth that the furnished compacted gravel base course is the depth as indicated on the drawings and specified herein.
- 2. The top of the compacted gravel base shall be below the furnish grade a distance required to accommodate the compacted pavement material as indicated on the drawings and specified herein.
- 3. The gravel base compacted thicknesses shall conform to the minimum required thicknesses specified on the Drawings.

#### C. Temporary Pavement

- 1. Temporary pavement shall be placed over all trenches in paved areas where directed by the Engineer.

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2. The Contractor, upon completing the backfilling and compaction of the trenches in the streets and the placing of the gravel base course, shall be required to construct temporary pavement unless otherwise directed by the Engineer.
3. Temporary pavement in all roads shall be placed in one course and shall consist of 3-inch compacted thickness of hot bituminous mix, on a 18-inch compacted thickness gravel base as directed by the Engineer.
4. The Contractor shall maintain temporary pavement in good repair and flush with the existing pavement at all times until the permanent pavement is placed.
5. The temporary pavement shall not be removed until such time that the Engineer authorizes the placement of permanent pavement. In general, Contractor should be prepared for temporary pavement to remain in place for a minimum of 90 days prior to replacement with permanent pavement.

**D. Bituminous Base**

1. Bituminous base shall be used in city and state roadways as listed in Article 1.3 of this specification.
2. Bituminous base shall be placed to the thickness as indicated in Article 1.3 of this Specification and installed in accordance with the requirements of the Standard Specifications and as detailed in the Contract Drawings.
3. Prior to placing bituminous base, all temporary pavement and sufficient gravel base course shall be removed to proper depths as detailed in the Contract Drawings.

**E. Reinforced Concrete Base**

1. Reinforced Concrete Base shall be used in the streets as listed in Article 1.3 of this specification.
2. Reinforced Concrete Base shall be 8-inches thick and installed in accordance with the requirements of the Standard Specifications and as detailed in the Contract Drawings.
3. Prior to placing reinforced concrete base, all temporary pavement and sufficient gravel base course shall be removed to proper depths as detailed in the Contract Drawings.
4. All new Concrete Base shall be reinforced into the existing Concrete Base in accordance with Section 505 of the Standard Specifications.
5. Traffic controls shall be in accordance with Section 01570 and as indicated on the drawings.

**F. Bituminous Binder**

1. Bituminous Binder shall be used in the streets as listed in Article 1.3 of this specification.
2. Bituminous Binder shall be placed to the thickness as indicated in Article 1.3 of this Specification and installed in accordance with the requirements of the Standard Specifications and as detailed in the Contract Drawings.

**G. Micro Mill**

1. In accordance with Specification Section 02502.

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**H. Bituminous Surface**

1. Bituminous Surface shall be used in the streets as listed in Article 1.3 of this specification.
2. Bituminous Surface shall be placed to the thickness as indicated in Article 1.3 of this Specification and installed in accordance with the requirements of the Standard Specifications and as detailed in the Contract Drawings.

**I. Sidewalks, Driveways, Parking Lots and Curbing**

1. Sidewalks, driveways, parking lots and curbing that are damaged by the Contractor's operations shall be restored to a condition at least equal to that in which they are found immediately prior to the start of operations. Materials and methods used for such restoration shall be in conformance with the requirements of the Standard Specifications.
2. Where the trench locations are in a sidewalk, the entire width of the sidewalk shall be replaced with new material. Side forms shall be set so as to obtain and preserve a straight edge along both sides of the walk.
3. Where trenches are in a driveway, the driveway shall be repaved across its entire width with even edges.
4. Parking lots shall be repaved in accordance with Article 3.01 of this Specification.
5. Gravel base course under sidewalks and driveways shall not be less than 12 inches thick.

**J. Pavement Markings**

1. Pavement markings shall be in accordance with Section 02745 – Pavement Markings.

**K. Surface Maintenance**

1. During the guarantee period, the Contractor shall maintain the bituminous surface and shall promptly make good all defects such as cracks, depressions, and holes that may occur. At all times, the surfacing shall be kept in a safe and satisfactory condition for traffic. If defects occur in surfacing constructed by the Contractor, the Contractor shall remove all bituminous concrete and base courses as is necessary to properly correct the defect. After removing bituminous concrete and base course, the Contractor shall correct the cause of the defect and replace the base course and bituminous concrete in accordance with these specifications.
2. In case of settlement or other defects in new or replaced pavement the Contractor shall cut out, replace, restore or repair the damaged pavements at no additional expense to the Owner. This requirement shall remain in effect for 2 years after the acceptance of the Work by the Engineer. The pavement area to be replaced, repaired, or restored shall extend from edge of pavement to edge of pavement, a minimum of 20 feet on either side of the defect; final pavement course shall be keyed or feathered as directed by the Engineer, to provide a smooth finish detail.
  - a. The Contractor shall furnish a maintenance bond for the 2-year duration to the Engineer insuring that the corrective repairs will be performed if necessary.

**3.3 COMPACTION**

- A. The Contractor shall conform to all State Standards for operations, including compaction (401.03.10), as well as compaction requirements specified in Section 02200 – Earthwork.
- B. Immediately after the bituminous mixture has been spread, struck off, and surface irregularities adjusted, it shall be thoroughly and uniformly compacted by rolling. The surface shall be rolled when the mixture is in the proper condition and when rolling does not cause undue displacement, cracking, and shoving.
- C. The number, weight, and type of rollers furnished shall be sufficient to obtain the required compaction while the mixture is in a workable condition. The sequence of rolling operations and the selection of measurements shall be performed by a nuclear density gauge. Rolling shall be continued until all roller marks are eliminated and the minimum densities have been obtained based upon 95 percent of laboratory Marshall Densities made in the proportions of the job-mix formula, AASHTO T-245.
- D. Steel-Tired, Static Weight Rollers: The maximum roller speeds for steel-tired static-weight rollers for various operations shall not exceed three miles per hour. The wheels of steel-wheel rollers shall be kept moist and clean to prevent adhesion of the fresh material, but an excess of water will not be permitted.
- E. Vibratory Rollers: The maximum roller speed for vibratory rollers shall be that to provide impact spacing less than the compacted lift thickness. When vibratory rollers are used in the static mode, roller speed shall not exceed three miles per hour.
  - 1. When an approved vibratory roller is used for breakdown rolling in a vibratory mode, intermediate rolling will not be required. When the vibratory roller is used for finish rolling it shall be used in the static mode. Rolling shall progress continuously until the specified density of the corresponding daily plant Marshall Density, AASHTO T-245 has been attained. Finish rolling shall continue until all roller marks are eliminated.
- F. Unless otherwise directed, rolling shall start longitudinally at the sides and gradually progress toward the center of the pavement except on super-elevated curves where the rolling shall begin on the low side and progress to the high side, overlapping on successive trips by at least one-half the width of tandem rollers and uniformly lapping each preceding track.
- G. The motion of the rollers shall be slow enough at all times to avoid displacement of the hot mixture. Any displacement resulting from reversing the direction of the rollers or from any other cause shall be satisfactorily corrected.
- H. When the base course or surface course fails to comply with the density requirements herein specified, additional compaction may be applied when permitted and as directed, to attain the required density. If satisfactory density cannot be attained the Contractor shall be required to remove and replace, at his own expense, any affected area, which is proven to be structurally inadequate and/or incapable of maintaining material integrity.
- I. Any mixture that becomes loose and broken, mixed with dirt, or is in any way defective, shall be removed and replaced with fresh hot mixture, which shall be compacted to conform to the surrounding area. Any area showing an excess or deficiency of bituminous material shall be

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removed and replaced.

- J. In the event of dispute as to the creditability of the results, density shall be determined from cores taken from the pavement.

**3.4 FIELD QUALITY CONTROL**

- A. Conform to testing methods outlined in Section 02200 - Earthwork.
- B. In general, compaction testing shall be performed at a minimum frequency as specified in Section 02200 – Earthwork and at locations and depths directed by the Owner. Excavate to depths directed to accommodate testing and backfill once completed.

END OF SECTION

**SECTION 02502**

**BITUMINOUS CONCRETE EXCAVATION BY COLD PLANER**

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**PART 1 GENERAL**

**1.1 SUMMARY**

**A. Section Includes**

1. Requirements for removing bituminous concrete by Cold Planer in designated areas.

**1.2 REFERENCES**

- A. This specification includes by reference, requirements of additional specifications as listed. The Contractor shall perform the Work in accordance with requirements of the referenced specification in addition to the requirements of this Specification Section 02502.

1. Materials and construction methods shall conform, insofar as applicable, to the requirements of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction (latest edition), together with all errata, addenda, additional revisions, and supplemental specifications.

**1.3 PERFORMANCE REQUIREMENTS**

- A. The Cold Planner must be equipped with an elevating device capable of loading planed material directly into dump trucks while operating. The Cold Planer shall have necessary safety devices such as reflectors, headlights, taillights, flashing lights and back up signals so as to operate safely in traffic day and/or night.
- B. The Cold Planer shall be designed and built for planing flexible pavements and shall possess the ability to plane cement concrete patches when encountered in bituminous pavement. It shall be self propelled and have the means for planing without tearing or gouging the underlying surface. Variable lacing patterns shall be provided to permit a rough grooved or smooth surface as directed by the Engineer.
- C. A 1 ½ inch cut to predetermined grade or any specified lesser depth may be required in one pass. The minimum width of pavement planed in one pass shall be 6 feet, except in areas to be trimmed and edged. The Contractor will be permitted to augment the large Cold Planning equipment with other more maneuverable machines for those areas inaccessible to the 6 foot machine such as curb or casting cuts.
- D. The machine shall be adjustable as to crown and depth and meet the standards set by the Air Quality Act for noise and air pollution.

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**PART 2 PRODUCTS (Not used)**

**PART 3 EXECUTION**

**3.1 CONSTRUCTION METHODS**

- A. The planed surface shall conform generally to the grade and cross section required. The surface shall not be torn, gouged, shoved, broken or excessively grooved. It shall be free of imperfections in workmanship that prevent resurfacing after the Cold Plane operation. Surface texture shall be as required by the Engineer and excess material shall be removed so that the surface is acceptable to traffic if required.
- B. Asphalt cuttings shall be removed and legally disposed of by the Contractor.
- C. The planed surface shall be swept clean and its condition accepted by the Engineer prior to installation of bituminous surface course.
- D. The depth of planing shall be to within an acceptable tolerance of +/- 1/2-inch. Contractor will not be permitted to change finished road surface (either low or high) in areas where there acceptable range of pavement removed by cold planer has not been performed

END OF SECTION

SECTION 02530 RESTORATION OF CURB SIDEWALKS, AND VEGETATED AREAS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Requirements for removal and replacement of granite curb, concrete and bituminous sidewalks including sidewalks at driveways and wheelchair ramps.
2. Requirements for restoration of vegetated areas, plantings, and tree beds.
3. Requirements for construction of sidewalks in sensitive tree areas.
4. Restoration to include those areas designated by the Contract Drawings and those affected or damaged by the construction operations, outside the limits of Work.

B. Related Sections

1. Section 02200 – Earthwork
2. Section 02900 – Landscaping

1.2 REFERENCES

- A. This specification makes reference to the requirements of additional specifications as listed. The Contractor shall obtain and familiarize himself with all requirements referenced by this specification prior to preparation and installation of any pavements.
1. Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, including all addenda, issued by the State of Rhode Island Department of Public Works, (referred to as the Standard Specifications). All references to measurement and payment are deleted.

1.3 SUBMITTALS

- A. Submit in accordance with Section 01300,
1. Sieve analysis for aggregates and loams.
  2. Mix designs for batched materials.
  3. Certifications for landscape material.
  4. Samples when requested by the Engineer.

1.4 COORDINATION WITH CITY FORESTER

- A. The Contractor shall notify the City Forester in advance of all work, which will impact existing trees or tree roots. This includes any required tree trimming or root pruning or excavation of sidewalks or structures encumbered by tree roots, in order to perform the Work as detailed by the Contract Drawings.

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1. The Contractor shall prepare and submit a list of areas to be reviewed by the City Forester based on the Contractor's proposed schedule.
2. The list shall be submitted in advance of the construction in order to avoid delays. The time limit required for review shall be coordinated with the City Forester.
3. The City Forester will evaluate proposed areas impacted by trees and provide direction and determine if the location is to be handled as a "Sensitive Tree Area".

**PART 2 PRODUCTS**

**2.1 MATERIALS**

**A. Gravel Borrow**

1. In accordance with State of Rhode Island Standard Specification, Subsection M.01.02, meeting the gradation requirements of Table 1, Column 1, with 100% passing the 3-inch Square Mesh Sieves.

**B. Granite Curb**

1. In accordance with the requirements of Section M.09 of the Standard Specifications.

**C. Cement Concrete**

1. In accordance with the requirements of Section M.02 of the Standard Specifications.

**D. Bituminous Concrete**

1. In accordance with the requirements of the Standard Specifications, Section 401 for Surface Course, Class I-2 and the gradation requirements for Class I-2 or sidewalk in section M.03.01.

**E. Loam, Seed, Lime, Fertilizer, Mulch and Water**

1. In accordance with Section M.18 of the Standard Specifications.

**F. Stone Dust**

1. Stone dust shall conform to the following gradation requirements.

Sieve Size:	3/8"	#4	#8	#16	#30	#50	#100	#200
Percent Passing:	100	98	82	55	36	24	14	10.5

**2.2 SOURCE QUALITY CONTROL**

- A. The plants used by the Contractor for preparation of bituminous paving materials and cement concrete shall be acceptable to the Engineer who shall have the right to inspect the plant and the making of the material.

**PART 3 EXECUTION**

**3.1 INSTALLATION/RESTORATION**

- A. Excavation shall be in accordance with Section 02200 unless noted otherwise by the referenced specifications below.
- B. Granite Curb
  - 1. Installing new granite curb or removing, salvaging, and resetting existing granite curb at the locations indicated on the Drawings or as directed by the Engineer shall be in accordance with Section 906 of the Standard Specifications.
- C. Sidewalks
  - 1. Installation of new or replacing existing sidewalks, driveways and wheelchair ramps at the locations shown on the Drawings or as directed by the Engineer shall be in accordance with Section 905 of the Standard Specifications.
- D. Vegetated Areas, Plantings and Tree Beds
  - 1. Restore all disturbed areas in accordance with the following Sections of the Standard Specifications.
    - a. Loam in accordance with L.01,
    - b. Seeding in accordance with L.02
    - c. Plantings and Tree Beds in accordance with L.08
- E. Remove and Dispose Sidewalks in Sensitive Tree Areas
  - 1. This work shall include removing concrete sidewalks from areas where sensitive tree roots are located below the sidewalk. The specification shall be applied to the trees affected by the installation of sidewalk in "Sensitive Tree Areas" as determined by the City Forester. All work shall be performed under direct on-site supervision of the Engineer. Contractor shall give the City Forester opportunity to be on-site during this work as well.
  - 2. Removal of concrete shall be accomplished by using hand tools and light power equipment. Pavement breakers and large backhoes shall not be used for this operation.
  - 3. Remove sidewalk material taking special care not to damage underlying tree roots. The root system may be located directly below the sidewalk in some areas. The Engineer must be present during the sidewalk removal. The existing gravel sub-base will be left in place.
  - 4. Remove and dispose all debris immediately from the job site. No stockpiling of removed material will be allowed around the root zone of any tree.
  - 5. The tree roots will not be allowed to remain uncovered for more than one (1) hour. Loam borrow will be placed over the tree roots until the stone dust and/or sidewalk is installed. The roots shall be kept moist, and not allowed to dry out. Water shall be provided by the

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Contractor until the actual surface is placed within the sidewalk area. Heavy equipment shall not be permitted to traverse the remaining root system.

**F. Stonedust Sidewalk**

1. The work shall include the construction of stone dust sidewalk on an existing gravel borrow sub-base. This specification shall govern work performed near the trunk base of trees designated by the Engineer as "Sensitive Tree Areas" and is intended to minimize damage to the root system of the trees which lie within the sidewalk area.
2. Installation of stone dust shall be done after the excavation of the existing sidewalk within the Sensitive Tree Area is complete.
3. Remove protective loam before the stone dust is installed. The remaining gravel sub-base shall be left in place. The stone dust shall be applied to a four (4) inch depth on the existing gravel sub-base within the designated "Sensitive Tree Area" The stone dust will be fine graded smooth and level.
4. The stone dust will be tamped in place by using hand tools only. The use of vibrating compactors will not be allowed. All roots will be left in place unless they are above the finish grade of the sidewalk. If root trimming is necessary, it shall be done in accordance with Section L.10, Tree Root Pruning of the State of Rhode Island Standard Specifications.
5. Roots are not to be left exposed for more than one (1) hour. Stone dust shall be installed immediately after the loam has been removed. Heavy equipment shall be excluded from the "Sensitive Tree Areas" at all times.

**G. Restoration Limits**

1. Where the trench location is in a sidewalk, the entire width of the sidewalk shall be replaced with new material. Side forms shall be set so as to obtain and preserve a straight edge along both sides of the walk.
2. Sidewalks shall be cut at existing joints or as directed otherwise by the Engineer.
3. Where trench is in a driveway, the driveway shall be repaved across its entire width with even edges.

**H. Restoration Outside Limits of Work**

1. Sidewalks, driveways, parking lots and curbing that are damaged by the Contractor's operations shall be restored to a condition at least equal to that in which they are found immediately prior to the start of operations. Materials and methods used for such restoration shall be in conformance with the requirements of the Standard Specification.
2. There shall be no cost to the Owner for this work.

**END OF SECTION**

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**SECTION 02616**

**DUCTILE IRON PIPE AND FITTINGS**

**PART 1 GENERAL**

**1.1 SCOPE**

- A. This section specifies requirements for furnishing and installing ductile iron pipelines complete and in place for water distribution systems.
- B. All materials included in this section that are to come into contact with potable water shall be either NSF 61 or NSF 60 approved as applicable.

**1.2 REFERENCES**

- A. American Water Works Association (AWWA):
  - 1. AWWA C104: Standard for Cement Mortar Lining
  - 2. AWWA C110: Standard for Ductile Iron and Gray Iron Fittings for Water
  - 3. AWWA C111: Standard for Rubber Gasket Joints
  - 4. AWWA C150: Standard for the Thickness Design of Ductile Iron Pipe
  - 5. AWWA C151: Standard for Ductile Iron Pipe, Centrifugally Cast
  - 6. AWWA C153: Standard for Ductile Iron Compact Fittings
  - 7. AWWA C600: Standard for Installation of Ductile Iron Water Mains and Their Appurtenances
  - 8. AWWA C651: Standard for Disinfecting Water Mains
  - 9. CITY OF EAST PROVIDENCE: Standard Technical Specifications for Water Main Installation

**1.3 MARKING**

- A. Marking of all pipes shall conform to the requirements of AWWA C151, latest revision, and marking of all fittings shall conform to the requirements of AWWA C153 or C110, latest revision.

**1.4 MANUFACTURER'S REPRESENTATIVE**

- A. The Contractor shall furnish at no additional expense to the Owner, the services of pipe manufacturer's representatives for instruction of the Contractor's personnel who will be installing the pipe. The instructions shall include proper handling, installation, and jointing and other construction areas, and shall be for such lengths of time required to fully familiarize the Contractor's personnel with the proper techniques.

**1.5 SUBMITTALS**

- A. Submittals shall be provided in accordance with the requirements as specified in Section 01300.

**1.6 QUALITY CONTROL**

- A. Provide in accordance with the requirements in Section 01400.

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B. Manufacturers' Recommendations:

1. The Contractor shall submit for approval, six (6) copies of the manufacturer's printed recommendations for the storage, protection, handling and installation of the ductile iron pipe, pipe fittings and appurtenances, which shall be strictly adhered to by the Contractor.

C. Certificate of Compliance:

1. Each shipment of pipe, pipe fittings, and appurtenances, shall be accompanied by the manufacturer's notarized certificate certifying conformance with all requirements of these specifications.

**PART 2 PRODUCTS**

**2.1 GENERAL**

- A. All materials to be incorporated into the work shall be new and purchased specifically for this contract.
- B. All hardware associated with ductile iron pipe shall be stainless steel.
- C. All material shall be made in the United States of America.

**2.2 BURIED DUCTILE IRON PIPE**

- A. Buried ductile iron pipe shall be Class 52 or 53, as indicated on the Contract Drawings. and shall conform to AWWA specifications C150 and C151, latest revision. Ductile iron pipe shall have push-on type joints. Push-on type joints shall be restrained with Field Lok 350 Gaskets as manufactured by US Pipe or approved equal, where required by the drawings or as required by the Engineer. All mechanical type joints shall be restrained with MEGALUGS Series 1100. All pipe shall have a double bituminous seal coating on all exterior surfaces.
- B. Interior ductile iron pipe shall be Class 53, with flanged joints, and shall conform to AWWA specifications C150 and C151, latest revision.
- C. All gaskets for use on all interior pipe, fittings, valves and other appurtenances shall be Vitron or approved equivalent for use in a chlorine environment.

**2.3 FITTINGS**

- A. Fittings and plugs for use with the ductile iron pipe specified shall be ductile iron, with a working pressure rating of not less than 350 psi, class 350 conforming to AWWA C153, for buried ductile iron pipe and AWWA C110 for interior ductile pipe, latest revision.
- B. All hardware, in particular nuts, washers, and bolts, for use with mechanical and flange fittings shall be stainless steel.

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**2.4 JOINTS**

- A. Push-on and mechanical type joints for pipe as specified above shall conform to AWWA C111, latest revision. Gasket material for all jointing requirements shall be styrene butadiene (SBR) for buried pipe and Vitron for all interior pipe. All lubricants shall be certified NSF approved for use in potable water systems.

**2.5 CEMENT MORTAR LINING**

- A. The interior of all ductile iron pipe shall be covered with a double cement-mortar continuous lining not less than 1/4" thick for 30" pipe, 3/16" thick for 20" and 16" pipe, and 1/8" thick for 12" and smaller pipe, which shall be applied in accordance with AWWA/ANSI C104/A21.4, latest revision.

**2.6 STORAGE OF MATERIALS**

- A. Pipe and related materials shall be stored in locations and in a manner approved by the Owner or the Engineer. The locations and manner of storage shall be as to minimize handling of the materials.
- B. All pipe shall be stored with a plastic covering over each end of the pipe. The purpose of the covering is to prevent deleterious material from entering the pipe during storage. The covering shall be secured in-place with a cord or cable and each pipe opening shall be provided with its own covering.
- C. The Contractor shall, at all times, be solely responsible for the safe storage of all materials.

**2.7 TESTING**

- A. Manufacturer Testing:
  - 1. Testing of ductile iron pipe shall be done in accordance with AWWA C151, latest revision.
  - 2. Testing of ductile iron fittings shall be done in accordance with AWWA C153 or C110, latest revision.
  - 3. Testing of jointing material shall be done in accordance with AWWA C111, latest revision.
  - 4. Testing of the interior coating shall be done in accordance with AWWA C104, latest revision.
  - 5. Certified test reports shall be submitted by the Pipe manufacturer.
  - 6. The Owner and the Engineer shall be notified at least ten (10) days in advance of the date and location of the testing in order to witness the tests.
  - 7. The Contractor shall furnish to the Owner and the Engineer notarized test reports by an independent testing laboratory, which show compliance of all materials furnished to the requirements specified herein. The test reports shall indicate results and methods employed.

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**B. Field Testing**

1. Field-testing of ductile iron pipe installed for water service shall be performed according to the requirements as specified in Technical Specification 02704, Pipeline Pressure, Leakage, and Disinfection.

**2.8 IDENTIFICATION**

- A. Provide 6" blue metalized detection tape with white printing reading "CAUTION WATER LINE BURIED BELOW" for water pipes, as manufactured by Seton or approved equal.

**2.9 BURIED PIPE INSULATION**

- A. Insulation required for frost protection of water mains and services shall be rigid 90% to 95% closed-cell polyurethane foam with a core density of at least 1.9 pounds per cubic foot or approved equivalent. Insulation shall be a minimum of 2 inches in thickness.
- B. Pipe jackets shall be High Density Polyethylene (HDPE) and shall be a minimum of 100 mils for jacket sizes less than or equal to 12", a minimum of 125 mils for jacket sizes larger than 12" to 24" and a minimum of 150 mils for jacket sizes greater than 24". No tape jacket shall be allowed. The inner surface of the HDPE jacket shall be oxidized by means of corona treatment, flame treatment, or other approved methods. This will ensure a secure bond between the jacket and foam insulation preventing any ingress of water at the jacket/foam interface.
- C. Pipe jacket shall be suitable for H-20 highway loading at 1 foot of cover with appropriate trench backfill.
- D. Insulation shall be installed where called for on the drawings or where the depth of cover over a water main or water service is less than 4 feet from final ground surface .
- E. Insulation shall have a minimum coefficient of thermal conductivity (K) of at least 0.17 BTU/(hr.)\*(sq. ft.)\*(F/in) at 73°F.
- F. Insulation shall be sealed with a moisture barrier capable of withstanding 20 feet of hydrostatic head as certified by an independent testing agency.

**PART 3 EXECUTION**

**3.1 PIPE INSTALLATION**

- A. General:
  1. All pipe shall be installed in accordance with AWWA C151, latest revision and manufacturer requirements.
  2. All pipe and accessories shall be carefully inspected by the Contractor for defects before installation and all defective unsound or damaged materials shall be rejected.
  3. The Engineer will make such additional inspections as he deems necessary and the Contractor shall furnish all necessary assistance for such inspection.
  4. Proper implements, tools, and facilities satisfactory to the Owner and the Engineer shall be provided by the Contractor for the proper and satisfactory

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execution of the work.

- B. Pipe, accessories, and appurtenances shall be new and unused, and shall be of the types and materials specified, as indicated or as directed.
- C. The interior of pipe and fittings shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations.
- D. Pipelines shall be constructed in dry trenches and shall not be laid when the conditions of the trench or the weather is unsuitable for such work.
- E. The trench bottom and gravel bedding shall be shaped and compacted to give substantially uniform unyielding circumferential support to the lower fourth of the full length of each pipe.
- F. Holes for the bells shall be excavated so that after placement the pipe and coupling receive uniform bearing pressure from the trench bottom. No blocking shall be allowed.
- G. Each pipe shall be laid to the line and grade and in such a manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the flow line.
- H. As the work progresses, the interior and exterior of the pipes and couplings shall be cleaned of all dirt and superfluous material of every description.
- I. When required to keep interior of pipe clean, a suitable drag shall be kept in the pipe and pulled forward past each joint immediately after the jointing has been completed.
- J. At times when work is not in progress, open ends of pipe and fittings shall be securely closed so that no trench water, earth or other substance will enter the pipe or fitting.
- K. Any pipe that has been disturbed after lying shall be taken up and re-laid.
- L. All materials found to be defective during the progress of the work will be rejected by the Engineer and the Contractor shall promptly remove such defective material from the site of the work and replace with new material at no additional expense to the Owner.
- M. The Contractor shall be responsible for the safe storage and proper handling of all materials.
- N. No shims or mounds of earth shall be used to raise the pipe to grade.
- O. All pipe shall be maintained accurately to the required line and grade.
- P. No pipe shall be covered until the Engineer has inspected the joints.
- Q. The pipeline shall not be used to convey trench drainage during construction.
- R. Pipes shall be protected at all times during construction against flotation. They shall be thoroughly secured, properly supported and bedded to prevent settlement or disturbance. Lift thickness and compaction of bedding and backfill material shall be in strict accordance with Section 02200, Earthwork.

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- S. Bends, crosses, tees, caps, plugs, valves, and other appurtenances, shall be strapped and clamped where indicated and/or as directed. Steel bars, rods and plates shall be of structural steel. Straps, bridle rods, clamps, anchors and such other parts shall be provided to the details as directed and as approved. After installation, all parts of the strapping and clamping devices shall be given two (2) heavy coats of an approved coal-tar base protective coating.

**3.2 JOINTING**

- A. No pipes shall be jointed until couplings and ends of pipe have been inspected to determine that the joint surfaces are free from any defects in materials or workmanship, and free from dirt or other foreign matter.
- B. Pipe, pipe fittings and accessories shall be stored, installed, joined and protected by the Contractor in strict accordance with the printed recommendations of the manufacturer of the piping material, and as approved.
- C. Field assembled joints shall be checked with a suitable gauge as recommended by the manufacturer to ensure that the rubber rings are properly located.
- D. Jointing by pushing the pipe home with a backhoe bucket or other heavy equipment will not be permitted. Utilizing the backhoe and a sling to suspend pipe while pushed home by bar or jack is permitted.
- E. Protect the end of the pipe from damage at all times by using a timber header between the end of the pipe and the bar or jack.
- F. If inspection indicates that the rings are improperly located, the Contractor shall disassemble, and properly reinstall the pipe.
- G. Pipe stoppers shall be installed, sealed and blocked in such a manner as to prevent any leakage and so as to withstand an internal hydrostatic pressure of not less than 5 psi.
  - 1. Timber blocking shall be of adequate size and arrangement to prevent the stopper from being blown off the line.
  - 2. Timber bracing shall extend back to the undisturbed end of the trench.
- H. Ductile iron pipe and fittings shall be provided with two brass wedges for 12" and smaller diameter pipe and four brass wedges for larger diameter pipe at each joint.
- I. Bolts and nuts used with all mechanical joints shall be tightened to the manufacturer's specified torque with a torque wrench to verify that all bolts and nuts receive the same tightening. Under no conditions shall extension wrenches or pipe over handle of ordinary ratchet or wrench be used to secure greater leverage.

**3.3 PIPE REMOVAL**

- A. Where old pipe conflicts with new pipe, old pipe shall be cut and capped on both ends and the caps shall be secured. No fitting or pipe deflections will be allowed on new pipe to go over or under old pipe. In areas where water mains are to be removed (i.e. Juniper Street), the Contractor shall disconnect each service lateral from the main at the corporation prior to

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removal of the main and reconnect as called for on the Contract Drawings. Services that are to be disconnected due to replacement of a main shall be reconnected to the new main with appropriate size corporation and compression coupling. The Contractor shall be responsible for the legal disposal of the removed water main pipe.

**3.4 IDENTIFICATION MARKERS**

- A. The line markers shall be installed two feet above the top of the buried pipeline. Where this is not possible, line markers shall be installed as close to two feet above the top of the buried pipeline as possible.

END OF SECTION

**SECTION 02640**

**VALVES, TAPPING SLEEVES, & APPURTENANCES**

**PART 1 GENERAL**

**1.1 DESCRIPTION**

**A. Work Included:**

The work under this Section includes the furnishing, installation and testing of all valves, tapping sleeves, transition couplings, hydrants, and appurtenances as indicated on the Drawings or as may be required by the Owner or the Engineer.

**B. All materials included in this section that are to come into contact with potable water shall be either NSF 61 or NSF 60 approved as applicable.**

**C. Related Work Described Elsewhere:**

02200 – Earthwork

02616 – Ductile Iron Pipe and Fittings

02704 – Pipeline Pressure, Leakage, and Disinfection

**D. Reference CITY OF EAST PROVIDENCE - Standard Technical Specifications for Water Main Installation**

**1.2 QUALITY ASSURANCE**

**1. Manufacturer's Recommendations:**

The Contractor shall submit for approval the manufacturer's printed recommendations for the storage, protection, handling, and installation of the valves, tapping sleeves, hydrants and appurtenances, which shall be strictly adhered to by the Contractor.

**2. Certificate of Compliance:**

Each shipment of valves, tapping sleeves, transition couplings, hydrants and appurtenances shall be accompanied with the manufacturer's notarized certificate certifying conformance with all requirements of the Specifications.

**1.3 MARKING**

**A. Marking of all tapping sleeves shall conform to the requirements of AWWA 110 latest revision, marking of all valves shall conform to the requirements of AWWA 509 latest revision, and marking of all hydrants shall conform to the requirements of AWWA 502 latest revision.**

**1.4 MANUFACTURER'S REPRESENTATIVE**

**A. The Contractor shall furnish at no additional expense to the Owner, the services of the manufacturer's representative for instruction of the Contractor personnel who will be installing the tapping sleeves, transition couplings, valves and hydrants. The instruction shall include proper handling, installation and jointing, and other construction areas and**

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shall be for such lengths of time required to fully familiarize the Contractor's personnel with proper techniques. This information shall be bound and indexed for each type of unit as herein specified.

**PART 2 PRODUCTS**

**2.1 GENERAL**

- A. All materials to be incorporated into the work shall be new and purchased specifically for this Contract. All material shall be made in the United States of America and shall be provided with documentation indicating the location of the foundry and/or place of origin, unless otherwise approved.
- B. All coatings and/or protective oils used on materials that will eventually be in contact with potable water must be ANSI/NSF approved.
- C. All hardware for valves, tapping sleeves, and appurtenances shall be stainless steel for corrosion resistance.

**2.2 TAPPING SLEEVES AND TAPPING VALVES**

- A. All tapping sleeves shall comply in all respects to AWWA Standard C-110 and the following design standards:
  - 1. Tapping sleeve shall be installed at the locations shown on the plans and details.
  - 2. The tapping sleeve shall be a mechanical type joint to provide pressure-tight installation and be suitable for use with the existing pressurized pipe material. Outlet flange shall be Class 125C, ANSI B16.1.
  - 3. Mechanical joint tapping sleeves shall have totally confined end gaskets and be designed to withstand a minimum of 200 psi working pressure. Nuts and bolts shall be Type 304 stainless steel. Nuts shall be coated per manufacturer's recommendations to prevent galling.
  - 4. The test plug shall be ¾" NPT, type 304 stainless steel.
  - 5. Mechanical joint tapping sleeve body and outlet shall be thick gauge ASTM A240 type 304/304L stainless steel.
  - 6. Tapping valves shall comply with Section 2.3 - Gate Valves except one end shall be flanged and the other end shall be mechanical.
  - 7. Tapping valves shall be provided with an oversized opening to allow the use of full size cutters.
  - 8. Mechanical tapping sleeves shall be ROMAC Industries, Inc. Model STS420, or approved equivalent.

**2.3 GATE VALVES**

- A. Resilient seated gate valves shall meet AWWA C-515 and be UL listed and FM approved. This valve shall be ductile iron-body, stainless steel mounted, non-rising stem, 3-inch through 12-inch in diameter as shown on plans. All valves shall OPEN RIGHT. All valves shall be mechanical joint.
- B. Sizes 3-inch through 12-inch shall be suitable for 200 psig maximum working pressure and 400 psig test pressure.

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- C. Valve shall have a minimum of two O-ring stem seals.
- D. All gate valve hardware, in particular nuts, washers, and bolts, shall be stainless steel for corrosion resistance.
- E. The interior and exterior of valves shall be fully epoxy coated 8 mils thick. Epoxy shall be certified NSF approved for use in potable water systems. Field touch-up of the bonded epoxy within the body of the valve will be allowed; however, touch-up kit must be provided by the manufacturer of the valve and must meet the same NSF approval as the original bonded epoxy.
- F. For purposes of system standardization gate valves shall be manufactured by Mueller.

**2.4 STRAIGHT AND TRANSITION PIPE COUPLINGS**

- A. The center sleeve and end rings of couplings shall be made of ductile iron, meeting or exceeding ASTM A536. The coupling shall accommodate the entire O.D. range in the specified size by use of interchangeable color-coded end rings and gaskets.
- B. The coupling gasket shall be made of virgin rubber compound for water use. The SBR shall meet or exceed ASTM D2000-3-BA715. The gasket shall have raised lettering and sizing and state the proper color code for the appropriate end ring.
- C. The coupling shall be equipped with stainless steel bolts, washers, and nuts and conform to the latest edition of the AWWA specification designation C-111.
- D. Straight couplings shall be as manufactured by Romac style 501, or approved equal.
- E. Transitional couplings shall be as manufactured by Romac style 501, or approved equal.

**2.5 FLANGED COUPLING ADAPTERS**

- A. Flanged coupling adapters shall be Romac Restrained Flanged Coupling Adapter or approved equivalent. All nuts, washers, and bolts shall be stainless steel.
- B. Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges. Each follower gland shall incorporate cam action, independent wedge engagement and meet applicable requirements of ANSI/AWWA C111/A21.11.

**2.6 VALVE BOXES AND COVERS**

- A. Valve boxes shall be two-piece adjustable style, slip type, and heavy pattern ductile iron. Lower section barrel inside diameter shall be at least 5-1/4 inches with 26-inch top section and 48-inch bottom section lengths adjusted to finish grade.
- B. Covers shall be cast iron, 6 inch, with the word "WATER" and a direction to open arrow imprinted thereon. The boxes and covers shall be compatible with the valves to which they attach.
- C. An approved operating Key shall be provided.

## 2.6 THRUST RESTRAINTS

- A. Restraining devices shall be utilized on all mains under the following conditions:
  - 1. Pipeline direction changes (tees, bends)
  - 2. Dead end lines (caps or plugs)
  - 3. Transition pieces (reducers)
- B. Thrust blocks shall be designed to withstand the force imparted by the main with a minimum  $1\frac{1}{2}$  times the anticipated working pressure but not less than 150 psi. Maximum lateral bearing capacity shall be 1,500 lb/sf. Sizing guidelines for thrust blocks are detailed on the project Drawings.
- C. Thrust restraint shall also be provided via restrained joint, ductile iron pipe meeting AWWA C151/A21.512 and AWWA C111/A21.11. Restrained joint pipe lengths (restrained length) shall be sufficient to restrain thrust imparted by  $1\frac{1}{2}$  times the anticipated working pressure but not less than 150 psi. Pipe restrained joints shall be manufactured by EBAA Iron Sales, Inc. Series 1100 Megalug restraining system.
- D. Thrust restraint utilizing tie-rods shall not be utilized unless approved by the Engineer or specifically indicated. Tie-rod diameters shall be 2 times the diameter required to restrain the main. All rods, nuts and other appurtenances shall be stainless steel.

## 2.7 INSERTION VALVES

- A. Insertion Valves shall meet AWWA C-515 and be UL listed and FM approved. This valve shall be iron-body, bronze mounted, non-rising stem, 3-inch through 12-inch in diameter as shown on the Drawings. All valves shall OPEN RIGHT.
  - 1. Insertion Valve shall be installed at the location(s) shown on the plans and details and where required by the Owner.
  - 2. Insertion Valves shall be the PermaSeal as manufactured by Mueller, or Approved Equivalent.
  - 3. Insertion Valve shall have a sacrificial anode for cathodic protection. The contractor shall follow the manufacturer's recommendations on installation and connection.

## 2.8 HYDRANTS

- A. All fire hydrants shall comply in all respects to AWWA C-502 and the following design standards:
  - 1. Fire hydrants shall be of the compression type, closing with the line pressure. The connecting line or hydrant lateral shall be 6 inches in diameter, as per AWWA Standard M17.
  - 2. The depths of bury shall have a typical bury of 5.5 feet, but at all times be installed to meet manufacturer's specifications for proper operation of the traffic breakaway feature. Hydrant extensions, which may be required, shall be manufactured by the same manufacturer of the hydrants being installed. Contractor shall field verify exact bury depths of all proposed hydrants prior to ordering. Should extensions be necessary on new hydrants, the contractor shall not be entitled to additional compensation or time.

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3. Hydrant shall be furnished with a sealed reservoir located in the bonnet so that all threaded and bearing surfaces are lubricated each time the hydrant is operated.
4. Hydrant shall be equipped with "O" ring packing. Each nozzle cap shall be provided with a Buna-N rubble washer.
5. A bronze or rustproof steel nut and check nut shall be provided to hold the main hydrant valve on its stem.
6. Hydrant shall be equipped with 5- $\frac{1}{4}$  inch main valve opening.
7. Hydrants shall have a 150 PSI working pressure. Each hydrant shall be able to deliver 500 gallons per minute through its two hose nozzles when opened together with a loss of not more than 2 psi through hydrant.
8. Hydrant shall have at least two (2) bronze or copper lined drain outlets. The shoe of the hydrant shall be 6 inch mechanical joint D-150, suitable for use either with centrifugally cast pipe or Class D Pit Cast Pipe. Lugs will be case on either side shoe, securely anchoring the hydrant. Hydrants shall be furnished with a breakable feature that will break cleanly upon impact. This shall consist of a 2-part breakable safety flange with a breakable stem coupling. Hydrant nozzles must be able to be rotated to any position without disassembly of ground-line flange.
9. Hydrants shall open to the LEFT (counter-clockwise) and shall have a direction-to-open arrow with the word "OPEN" imprinted on the hydrant.
10. The above grade stem shall be factory-coated with "Caution" yellow enamel.
11. One field applied coat of "Caution" yellow epoxy-based paint shall be applied to the above grade stem of the fire hydrant after it has been installed and backfilled, with bonnet and end caps painted red. Epoxy based paint shall have NSF 61 approval.
12. Hydrants shall be so arranged that the direction of outlets may be turned 90 degrees without interference with the drip mechanism or obstructing the discharge from any outlet.
13. Hydrants shall be furnished with caps, double galvanized steel hose cap chain, galvanized steel pumper hose cap chain, a galvanized steel chain holder and any other hooks and/or appurtenances required for proper use.
14. All hydrants shall be equipped with a 6" gate valve in accordance with Section 2.3 above, and be fully restrained as shown on the drawings. Restrained joints shall be by Megalug Thrust Restraint Wedge manufactured and sold by EBAA Iron Sales Inc.
15. Hydrants shall be Mueller 3-way Centurion Model A-423 or AVK Series 2780 Nostalgic Style Dry Barrel. For purposes of system standardization no substitutions shall be allowed.
16. For every 4 hydrants installed the following shall be provided to the Owner (If less than 4 hydrants are installed, at least one completed set of the following shall be provided):
  - a. One (1)-traffic repair kit,
  - b. One (1) full set of "O" - rings and gaskets,
  - c. One (1) set of drain valve facings,
  - d. One (1) hydrant valve removal wrench, and
  - e. One (1) hydrant-operating wrench.

All parts shall be properly labeled and housed in a carton with part numbers clearly indicated.

17. Hydrants shall be installed with sufficient height that when installed a 15-inch hydrant wrench will not contact the ground when making a full 360-degree turn on any nozzle cap.

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18. A drainage pit with a volume of 10 cubic feet shall be provided at the base of the fire hydrant barrel. The pit shall be filled with gravel or crushed stone to a depth of 6 inches above the hydrant drain opening and covered with filter fabric prior to backfilling. The gravel or crushed stone aggregate shall provide void space greater than the volume of the hydrant barrel.

**2.9 COMBINATION AIR/VACUUM VALVES**

- A. Combination Air Valves shall be automatic float operated valves designed to exhaust large quantities of air during the filling of a piping system and close upon liquid entry. The valve shall open during draining or if a negative pressure occurs. The valve shall also release accumulated air from a piping system while the system is in operation and under pressure. The valve shall perform the functions of both Air Release and Air/Vacuum Valves and furnished as a single body or dual body type as indicated on the plans. Combination Air Valves shall be manufactured by Val-Matic or approved equal.
- B. Valves shall be certified to NSF/ANSI 61 Drinking Water System Components – Health Effects.
- C. Manufacturer shall have a quality management system that is certified to ISO 9001 by an accredited, certifying body.
- D. Dual body valve sizes 3 in. and smaller and single body valve sizes 4 in. and smaller shall have full size NPT inlets and outlets equal to the nominal valve size. The body inlet connection shall be hexagonal for a wrench connection.
- E. Both single and dual body valves shall provide a through flow area equal to the nominal size. Floats shall be unconditionally guaranteed against failure including pressure surges. The cover shall be bolted to the body and sealed with a flat gasket. A resilient bumper shall be provided on 4 in. and larger sizes to cushion the float during sudden opening conditions. The resilient seat shall be replaceable and provide drop tight shut off to the full valve pressure rating.
- F. Dual body combination valves shall consist of an Air Release Valve piped to an Air/Vacuum Valve with a quarter-turn, full-ported bronze ball valve.
- G. The Air Release Valve shall have a leverage mechanism with sufficient mechanical advantage so that the valve will open under full operating pressure. Simple lever designs shall consist of a single pivot arm and a resilient orifice button. Compound lever designs shall consist of two levers and an adjustable threaded resilient orifice button
- H. The valve body and cover shall be constructed of ASTM A126 Class B cast iron for Class 125 and Class 250 valves. Class 300 ductile iron valves shall be constructed of ASTM A536 Grade 65-45-12 ductile iron. Dual Body Class 300 steel valves shall be constructed of ASTM A216 Grade WCB cast steel.
- I. The float, guide shafts, and bushings shall be constructed of Type 316 stainless steel. Non-metallic floats, linkage, or bushings are not acceptable. Resilient seats shall be Buna-N. Class 300 steel dual body valves shall have a 316 stainless steel seat with Buna-N seal to provide an initial contact to Buna-N with a final metal-to-metal contact to prevent over compression of the resilient seal.

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- J. All Air (Release, Vacuum, etc.) Valves installed in shall include an inflow preventer to prevent the introduction of contaminated water through the air valve outlet. The inflow preventer shall allow the admittance and exhausting of air while preventing contaminated water from entering during normal operating conditions. The inflow preventer shall be flow tested by an independent third party to certify performance. The third party shall be an approved testing lab of the American Society of Sanitary Engineers.
- K. Isolation valves shall be provided under combination air valves. Isolation valves shall be fully-ported quarter turn brass (no lead) ball valves.

**PART 3 EXECUTION**

**3.1 INSTALLATION**

- A. General:
  - 1. All tapping sleeves, valves, hydrants, and accessories shall be carefully inspected by the Contractor for defects before installation and all defective, unsound, or damaged materials shall be rejected.
  - 2. The Owner or the Engineer will make such additional inspections as deemed necessary and the Contractor shall furnish all necessary assistance for such inspection.
  - 3. Proper implements, tools and facilities satisfactory to the Owner or the Engineer shall be provided by the Contractor for the proper and satisfactory execution of the work.
- B. Tapping sleeves, valves, couplings, and appurtenances shall be new and unused and shall be of the types and materials specified as indicated or as directed.
- C. The interior of tapping sleeves, valves, and fittings shall be thoroughly cleaned of foreign matter before being lowered into the trench and kept clean during laying operation.
- D. Tapping sleeves, valves, and fittings shall be constructed in dry trenches and shall not be laid when the conditions of the trench or the weather are unsuitable for such work.
- E. Tapping sleeves, valves, and couplings shall be laid to the line and grade in such a manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the flow line.
- F. At times when work is not in progress, open ends of tapping sleeves, valves, and fittings shall be securely closed so that no trench water, earth, or other substances will enter.
- G. Any tapping sleeves, valves, or fittings that have been disturbed after laying shall be taken up and re-laid.
- H. All materials found to be defective during the progress of the work will be rejected by the Engineer and the Contractor shall promptly remove such defective material from the site of the work and replace with new material at no additional expense to the Owner.
- I. Contractor shall be responsible for the safe storage and proper handling of all materials.
- J. No shims or mounds of earth shall be used to raise the equipment to grade.

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- K. No tapping sleeve, valve, or appurtenance shall be covered until the joints have been inspected.
- L. Installed materials shall be protected at all times during construction against flotation; they shall be thoroughly secured, properly supported and bedded to prevent settlement or disturbance. Compaction of bedding and backfill material shall be in accordance with Section 02200, Earthwork.
- M. Tapping sleeves shall be installed where indicated or as directed by the Owner or the Engineer and shall be installed according to the manufacturer's recommended procedures.
- N. Valves and joint restraints shall be installed where indicated or as directed by Owner or Engineer and shall be installed according to the manufacturer's recommended procedures.

**3.2 SETTING VALVES AND VALVE BOXES**

- A. Valves shall be set in the pipelines as directed. Blocking or supports of a permanent nature shall be placed under each valve to ensure against settlement.
- B. Each valve shall be tightly closed before being placed in the line and shall remain so until the joints on each side are completely tightened.
- C. Valve boxes shall be set for all valves and shall be locking type. They shall be carefully fitted together to the valve and securely held during backfilling. They shall be centered over the valve-operating nut. The bedding material around them shall be thoroughly tamped in place and the box cover set to the finished grade.

**3.3 TESTING**

- A. All materials shall be tested for tightness as soon after installation as possible in accordance with Section 02704, Pipeline Pressure, Leakage, and Disinfection.
- B. All materials found to be defective during testing shall be replaced with new and approved material at no additional expense to the Owner.

**3.4 TEST REPORTS AND CERTIFICATES**

- A. In addition to other requirements specified herein, the Contractor shall furnish to the Engineer notarized test reports and methods of test by an approved independent testing laboratory to show compliance of all materials furnished under this section of the Specifications with all the requirements herein.
- B. Each shipment of tapping sleeves, valves, and other appurtenances shall be accompanied by the manufacturer's notarized certificate of conformance certifying that materials to be furnished under these items meet all requirements herein.
- C. All testing of materials furnished under this section of the Specifications shall be provided by the Contractor at no additional expense to the Owner.

END OF SECTION

**SECTION 02704**

**PIPELINE PRESSURE, LEAKAGE, AND DISINFECTION**

**PART 1 GENERAL**

**1.1 SCOPE**

- A. This section specifies requirements for the testing and disinfection of potable water systems. The work covered under this section includes, but is not necessarily limited to:

1. Leakage tests
2. Disinfection

NOTE: Testing will be performed prior to connecting new pipeline sections to any existing potable water system piping. No physical connections (temporary or permanent) between new pipe and existing pipe will be allowed during the test without the use of an approved backflow prevention device.

- B. All materials included in this section that are to come into contact with potable water shall be either NSF 61 or NSF 60 approved as applicable.

**1.2 REFERENCES**

- A. American Water Works Association (AWWA):

1. AWWA B300: Standards for Hypochlorites
2. AWWA B301: Standard for Liquid Chlorine
3. AWWA C600: Standard for Installation of Ductile Iron Water Mains and Their Appurtenances
4. AWWA C651: Standard for Disinfecting Water Mains

**1.3 SUBMITTALS**

- A. Submittals shall be provided in accordance with the requirements as specified in Section 01300.
- B. Certified reports for all required tests shall be provided from an approved qualified independent testing laboratory.
- C. Shop drawing of temporary connection backflow preventer.
- D. Detail of temporary connection between existing and new water pipelines.

**1.4 QUALITY CONTROL**

- A. Provide in accordance with requirements as specified in Section 01400.
- B. Sampling for laboratory analysis following disinfection shall be conducted by qualified personnel familiar with sampling procedures and protocols.

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- C. Reference Standards: Except as modified or supplemented herein, the testing of the pipeline system shall meet the requirements of the following standard specifications:
1. American Water Works Association (AWWA) C600, Latest Revision – Pressure and Leakage Tests; and C651 – Latest Revision, Disinfection Water Mains.
  2. NSF/ANSI 60: National Sanitation Foundation Standard for Drinking Water Treatment Chemicals
  3. NSF/ANSI 61: National Sanitation Foundation Standard for Drinking Water System Components

**PART 2 PRODUCTS**

**2.1 LIQUID CHLORINE**

- A. Liquid chlorine shall conform to AWWA Standard B301, current edition. Liquid chlorine shall be NSF 60 certified for potable water use.

**2.2 HYPOCHLORITE**

- A. Hypochlorite shall conform to AWWA Standard B300, current edition. Hypochlorite shall be NSF 60 certified for potable water use.

**2.3 BACKFLOW PREVENTER**

- A. Backflow prevention device for any connection between the existing water system and new water pipes prior to acceptance of pressure test, disinfections and flushing, shall be of the appropriate size as required and shall be double check-reduced pressure type as manufactured by Watts, Febco, Hersey, or approved equal.

**PART 3 EXECUTION**

**3.1 PREPARATION**

- A. Cleaning and Inspection: The interior of all pipe, fittings, valves, and appurtenances shall be thoroughly cleaned of all foreign material and inspected for cracks, flaws, or other defects before installation, and shall be kept clean until the work is accepted.

**3.2 FIELD QUALITY CONTROL**

- A. Alignment Tests: Each section of pipe will be checked by the Owner or the Engineer in order to determine whether any displacement of the pipe has occurred. The Contractor shall provide suitable assistance to the Owner or the Engineer. The Contractor shall repair any poor alignment, displaced pipe or other defects discovered, as directed by the Engineer.
- B. Hydrostatic Tests: After the pipe has been laid and the trench has been backfilled, all newly laid pipe or any valve section thereof, shall be subjected to a pressure and leakage test in accordance with AWWA C600-latest edition, as approved by the Engineer, and as modified within this specification. The Contractor shall provide all pumps, pipe, connections, gages, measuring devices, and all other apparatus necessary for the test and shall conduct the test in the presence of and to the satisfaction of the Engineer. The Owner will supply water to the Contractor for testing purposes at no expense to the Contractor. The Owner does not

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guarantee the supply water to be adequate to provide minimum flushing velocities within the pipeline; it shall be the contractor's responsibility to provide minimum flushing velocities (through use of pumps or other equipment) for the pipeline at no additional expense to the Owner.

1. In general, testing shall be carried out with as few permanently made-up connections to the existing water system as possible; with as many joints as practical uncovered and exposed; and in an approved manner. Pressure testing shall consist of completely filling each section from valve to valve with water from the distribution system and maintaining a hydrostatic test pressure of 150 psi, measured at the highest point in the section, and shall be required to hold the pressure for at least **2 hours**. Test pressures shall not vary by more than plus or minus **0 psi** for the duration of the test. The length of the main tested in not event shall be greater than 1,000 linear feet measured along the centerline of the trench unless receiving prior approval from the engineer.
2. Air Removal - Prior to performance of the test the pipeline shall be completely filled with water for a period of 72 hours. Expel air by means of air relief valves, hydrants or other means as required. If permanent air vents or taps are not located at all high points, the Contractor shall install corporation stops at such points so air can be expelled. After the tests are completed, plug all temporary taps.
3. Allowable Leakage:
  - a. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe or any valve section thereof, to maintain pressure within 5 psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled with water. **Leakage shall not be measured by a drop in pressure in a test section of a period of time.**
  - b. No pipe installation will be accepted if the leakage is greater than that determined by the following formula in which "L" is the allowable leakage in gallons per hour, "S" is the length of pipe tested in feet, "P" is the average test pressure during the leakage test in pounds per square inch (gauge); and "D" is the nominal diameter of the pipe in inches.

$$L = \frac{SD\sqrt{P}}{133,200}$$

4. Repair of Leaks - If the test discloses a pressure drop greater than the allowable pressure drop the Contractor shall, at his own expense, locate and repair the defective joints or other defective area until the pressure drop is within the specified allowable. The Contractor shall repair any specific leaks regardless of the test results if, in the opinion of the Engineer, they are serious enough to endanger the future serviceability of the pipeline. Repair clamps or other similar equipment/materials shall not be an acceptable method of repairing links.

**3.3 DISINFECTIONS OF POTABLE WATER LINES**

**A. General:**

1. Flushing and disinfection of potable waterlines shall be done in accordance with the procedure set forth in AWWA C651 - Disinfecting Water Mains, latest edition, and shall be witnessed by the Engineer unless otherwise approved. The Contractor shall provide all temporary blowoffs, pumps, chlorination equipment, chlorine and all other necessary apparatus required. The Owner will supply water to the Contractor for disinfection purposes at no expense to the Contractor.
2. All valves on the new main shall be operated during the disinfection procedure in order to ensure complete disinfections.
3. The form of chlorine proposed by the Contractor for disinfections shall be approved by the Engineer.
4. The Contractor shall take adequate measures to prevent backflow of flushing water and chlorinated water into the existing water distribution system.
5. Contractor shall not make physical connection to the existing water main prior to satisfactory results of chlorination. An approved backflow prevention device shall be utilized to transfer water from the existing system to the new piping network.

**B. Pipe Cleaning:**

1. If the pipe contains dirt or heavy encrusted matter that, in the opinion of the Engineer, will not be removed during the flushing operation, the Contractor shall clean and swab the interior of the pipe with a one (1) percent hypochlorite disinfecting solution.
2. The pipeline shall be flushed to remove all remaining foreign material prior to disinfections, except when the tablet method is used. The flushing operation shall develop a minimum velocity of 2.5 ft/sec. It will be the Contractor's responsibility to properly size and locate corporations within test sections to adequately flush all piping at least 2 times its volume at the desired velocity. The Contractor must coordinate flushing operations with the Owner, if in the Owner's opinion flushing of the new main will cause significant disruption to the existing system the Owner may require the Contractor to perform flushing at a time designated by the Owner or in a manner that the Owner views suitable. The Contractor shall not be entitled to additional monies as a result of the Owners requirements for flushing.
3. Main line valves shall not be utilized to fill, flush, test or chlorinate water mains unless authorized and supervised by the Engineer.

**C. Chlorine Application:**

1. In general, chlorine shall be applied using the continuous feed method, as specified in AWWA C651.
2. Introduce water into the line at a constant rate while adding chlorine to the water at a constant rate, such that the water will have not less than 25 mg/L free chlorine when tested by the City of East Providence. Maintain the chlorinated water in the pipeline for a minimum of 24 hours, after which period the treated water shall have a free chlorine residual of not less than 10 mg/L throughout the entire length when tested by the City of East Providence. Repeat the above procedure if the residual, at the end of the 24 hours, fails to meet the minimum concentration. Chlorinated water, above the normal system prevailing concentration, shall not be allowed to remain in the pipeline for a period longer than 5 days.

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3. Fire hydrants may not be used for sampling points but may be utilized as a feed source if properly flushed and the Owner's required temporary piping system installed.
4. A corporation stop(s) shall be provided at a location(s) for feeding of the liquid chlorine solution within five (5) feet of one end, and at locations designated by the Engineer for sampling points. All sampling points shall be within 10 feet of the end points of the new main to be tested and chlorinated, all as determined by the Engineer. Copper or plastic tubing shall be used for all chlorination and sampling pipe.

**D. Final Flushing:**

1. After the required retention period, flush all heavily chlorinated water from the main until the chlorine concentration is no higher than that prevailing in the system, or is acceptable for domestic use. The Contractor shall be responsible for satisfactory disposal of all flushing water and chlorinated water at no additional expense to the Owner.
2. Prior to discharging, a reducing agent shall be applied to the water to be wasted, to neutralize thoroughly the chlorine residual remaining in the water. (See Appendix B of AWWA C651 for neutralizing chemicals.)

**E. Analytical Tests:**

1. After completion of the final flushing and prior to placing the pipeline and water storage tank in service, two (2) consecutive sets of acceptable samples, taken at least 24 hours apart, shall be collected, with the first sample immediately after final flushing. Each sample shall be analyzed for total coliform and heterotrophic plate count (HPC). A single sample to be analyzed for volatile organic compounds (VOCs) shall be taken for the new water storage tank only. The VOC sample shall be non-detect for all parameters per RIDOH regulations. Should the sample analyzed for VOCs indicate the presence of disinfection byproducts, a sample shall be taken upstream of the water storage tank to determine if the detected disinfection byproducts exist at the same concentrations in the feed water. The RIDOH shall review sample data and make a determination as to the acceptability of the water quality. All samples shall be collected by the City of East Providence and will be witnessed by the Engineer and Contractor.

- F. Repetition of Procedure -** If the original flushing and disinfection fails to produce satisfactory bacteriological or VOC samples, repeat the flushing and disinfection procedure until satisfactory results are obtained at no additional expense to the Owner.

END OF SECTION

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**SECTION 02745**

**PAVEMENT MARKINGS**

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**PART 1      GENERAL**

**1.1      WORK INCLUDED**

- A.      Work under this section includes placement of new pavement marking paint to restore existing markings, whether or not they are shown on the Drawings, or as otherwise directed by Engineer.
- B.      Related Work Specified Elsewhere  
  
            Section 02513 – Bituminous Concrete Pavement

**1.2      SUBMITTALS**

- A.      Product Data: For each type of product indicated include technical data and composition of materials proposed.
- B.      Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.
- C.      Shop Drawings: Indicate pavement markings, lane separations, bike lanes, railroad crossings, crosswalks to match existing conditions. Provide shop drawings prior to removal of pavement.
- D.      Qualification Data: For manufacturer.
- E.      Material Test Reports: For each paving material.
- F.      Conformance Certificates: For each paving material, signed by manufacturers.

**1.3      REFERENCE STANDARDS**

- A.      All work specified in this section shall conform to "Standard Specifications for Road and Bridge Construction" of the Rhode Island Department of Transportation, including latest revisions, hereinafter referred to as "State Standards".

**1.4      QUALITY ASSURANCE**

- A.      Regulatory Requirements: Comply with the State Standards.

**1.5      DELIVERY, STORAGE, AND HANDLING**

- A.      Deliver pavement-marking materials to Project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture, and directions for storage.
- B.      Store pavement-marking materials in a clean, dry, protected location within temperature range required by manufacturer. Protect stored materials from direct sunlight.

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**1.5 PROJECT CONDITIONS**

- A. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for oil-based materials, 50 deg F for water-based materials, and not exceeding 95 deg F.

**PART 2 PRODUCTS**

**2.01 PAVEMENT MARKINGS**

- B. Pavement markings shall be composed of epoxy resin conforming to the State Standards.
- C. Pavement markings shall be “yellow” or “white” in color as specified on the Drawings.
- D. Pavement marking stripes shall measure 4 inches in width or as specified on the Drawings.
- E. Waterborne pavement markings are not acceptable.

**PART 3 EXECUTION**

**3.01 PAVEMENT MARKINGS**

- F. Epoxy Resin Pavement Markings shall be installed in accordance with Section T.20 of the State Standards.

END OF SECTION

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**SECTION 02900**

**LANDSCAPING**

**PART 1 GENERAL**

**1.1 WORK INCLUDED**

- A. Work under this section includes furnishing of additional topsoil and its preparation for seeding and mulching areas disturbed by the construction operations.

**1.2 RELATED WORK SPECIFIED ELSEWHERE**

Section 02200 - Earthwork

**1.3 QUALITY ASSURANCE**

- A. Submittals:

Include certifications of performance for mulch products and analysis of proposed seed products. Submit certification that grass seed has been tested by a recognized laboratory for seed testing, within 6 months prior to delivery. Do not use seed that has become wet or moldy. Refer to Section 01300 – Submittals.

**PART 2 PRODUCTS**

**2.1 MATERIALS**

- A. Topsoil: Loose friable loam, free of stumps, roots, rocks, brush, weeds, subsoil, refuse or other material detrimental to proper development of vegetative growth.
- B. Mulch: Wood Cellulose Fiber - commercial product specifically manufactured for use with grass seed. Express application requirements of product in terms of air-dry weight (10% maximum allowance for moisture content).
- C. Commercial Fertilizer: Commercial product manufactured for seeded or sodded areas, containing nitrogen derived from natural sources and 10% by weight in available form with 6% phosphoric acid and 4% potash.
- D. Lime: Ground limestone to existing State and Federal regulations containing minimum 50% total oxides (calcium and magnesium oxides). Fifty percent passing 100-mesh sieve and 98% passing 20 mesh sieve.
- E. Seed Mix: Quality seed, free of noxious seed such as Russian or Canadian Thistle, European Bindweed, Johnson Grass or Leafy Spurge. Indicate supplier, lot number, net weight, percent weed seed content, and guaranteed percent purity and germination as follows:

<u>Seed Type</u>	<u>Proportion by Weight</u>	<u>Percent Purity</u>	<u>Percent Germination</u>
Ruby Red Chewing Fescue	20	96	90
Marion Kentucky Bluegrass	20	96	85
Baron Kentucky Bluegrass	20	96	85
Ranger Perennial Ryegrass	20	96	90
Palmer Perennial Ryegrass	20	96	90

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**PART 3      EXECUTION**

**3.1      GRASS SEEDING**

- A.    General - plant seed in either spring or fall season as directed by the Owner. Re-seed all newly filled or disturbed areas.
- B.    Topsoil - place and spread to a compacted thickness of not less than 9 inches where areas are filled or disturbed as a result of the construction operations. Key to underlying sub grade by means of harrows, rollers or other suitable and approved equipment. Do not begin placement until areas have been properly graded and prepared.
  - 1.    Apply water as required, an in a manner that will prevent washing and eroding.
- C.    Soil Preparation - remove all ground surface irregularities to eliminate low areas where ponding of water will occur.
  - 1.    Immediately prior to seeding, lightly till soil into an even and loose seedbed at the specified or directed line and grade.
- D.    Fertilizing - till lime into the upper 3-inch layer of loam at the rate of 46 pounds per 1,000 square feet of area to be seeded. Repeat procedure for application of fertilizer at the rate of 21 pounds of 10-6-4 commercial fertilizers per 1,000 square feet. Remove sticks, stones and debris from the areas and dispose of as directed.
- E.    Seeding - apply seed with mechanical landscape drill so that seed will have about 1/4" cover. Do not drill seed in windy weather or when ground is frozen. Use broadcast or hydraulic seeding methods only in areas inaccessible to machine methods; or use hydraulic equipment capable of pumping 100 gallons per minute at 100 pounds per square inch. Provide means for estimating volume used or remaining in storage tank.
  - 1.    Water and maintain seeded areas for periods of 5 weeks following seeding including mowing. Avoid standing water, surface wash or scour. Protect seeded areas from vehicle and pedestrian traffic by use of barriers and signs.
  - 2.    Reseed areas where a satisfactory stand of grass, which has no bare spots larger than 72 square inches covering a maximum of 2 percent of the entire grassed area, has not produces in a 5-week period, repeat seeding until accepted.
- F.    Mulching - add cellulose fiber mulch in proper proportional quantities of water in a slurry tank and thoroughly mix. Spray mulch uniformly over seeded areas at the rate of 1,000 pounds per acre. Do not mulch in the presence of free surface water resulting from rain, melting snow or similar causes.

END OF SECTION

**DIVISION 3**

**CONCRETE**

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**SECTION 03100**

**CONCRETE FORMWORK**

**PART 1 GENERAL**

**1.1 WORK INCLUDED**

- A. This section specifies requirements for concrete formwork to produce cast-in-place concrete structures as shown on the Drawings and as specified herein. The work shall consist of designing, furnishing, constructing and removing formwork for all cast-in-place concrete structures.
- B. Use forms, wherever necessary, to confine the concrete and shape it to the required lines, and to provide the specified finish. Construct forms with sufficient strength to structurally support the work, and withstand the pressure resulting from placement and vibration of the concrete, and maintain forms rigidly in position. Construct forms sufficiently tight to prevent loss of mortar from the concrete.

**1.2 REFERENCES**

- A. American Concrete Institute (ACI):
  - 1. ACI 117: Standard Specification for Tolerances for Concrete Construction and Materials.
  - 2. ACI 301: Standard Specification for Structural Concrete.
  - 3. ACI 347: Guide to Formwork for Concrete.
  - 4. Rhode Island State Building Code
  - 5. State of Rhode Island Department of Transportation "Standard Specifications for Road and Bridge Construction", latest edition.

**1.3 DESIGN REQUIREMENTS**

- A. Design formwork to support vertical loads and lateral pressures resulting from placement and vibration of concrete in accordance with the requirements of ACI 301 and ACI 347, and as specified herein.
- B. Camber the formwork to compensate for anticipated deflections due to the weight and pressure of the fresh concrete and due to construction loads.
- C. Provide shores and struts with positive means of adjustment capable of taking up formwork settlement during concrete placing operations. Use wedges or jacks, individually or in combination for adjustment.
- D. Design forms and falsework to include assumed values of live loads, dead load, weight of moving equipment operated on formwork, concrete mix, height of drop, vibrator frequency, ambient temperature, lateral stability, and other factors pertinent to the safety of the structure during construction.

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- E. Provide and design forms to conform with expansion and construction joint locations.

**1.4 SUBMITTALS**

- A. Submittals for the following items shall be made in accordance with the requirements as specified in Section 01300, Submittals.
- B. Submit the following at least 30 days before the first concrete placement:
  - 1. Manufacturer's data and installation instructions for proprietary form accessories, form coatings, pipe sleeves and seals, form ties and manufactured form systems if used.
  - 2. Certification that form coatings comply with the requirements of this Section and utilize a NSF-61 certified form release agent for any concrete that will come in contact with potable water.

**1.5 QUALITY CONTROL**

- A. Provide in accordance with the requirements as specified in Section 01400, Quality Control.
- B. Tolerances:
  - 1. Permissible surface irregularities for the various classes of concrete surface finish as specified in Section 03300, Cast-in-Place Concrete, are defined as "finishes", and are to be distinguished from tolerances as specified herein. Deviations from the established lines, grades, and dimensions will be permitted to the extent set forth herein.
  - 2. The tolerance limits specified in this Section and the surface finish irregularities permitted in Section 03300, Cast-in-Place Concrete, are not the limits to which forms may be built or by which damaged from sheathing may be used. These limits are provided only for the occasional slight misalignment or irregularity of surface which may occur despite a serious effort to build and maintain the forms accurately and securely with an even surface. These limits will be allowed only for inadvertent or relatively infrequent irregularities of the degree mentioned, but practices and form materials will be prohibited which without doubt will result in the creation of additional irregularities, even though these would be within the limits specified.
  - 3. Where specific tolerances are not stated herein or shown on the Drawings for a structure, portion of a structure, or other feature of the work, permissible deviations will be interpreted conforming to the tolerances stated herein for similar construction. Specific maximum or minimum tolerances as shown on the Drawings in connection with any dimension shall be considered as supplemental to the tolerances specified herein and shall govern. Concrete forms shall be set and maintained within the tolerance limits necessary to ensure that the completed work will be within the tolerances specified. Concrete construction that exceeds the tolerance limits specified or as shown on the Drawings shall be remedied or removed and replaced by the Contractor at no cost to the Owner.
  - 4. Tolerances shall be as specified in ACI 117, Standard Specifications for Tolerances for Concrete and Materials.

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**PART 2        PRODUCTS**

**2.1        MATERIALS**

- A.        Forms for Exposed Finish Concrete: Construct formwork for exposed concrete surfaces with smooth faced undamaged plywood or metal, metal-framed plywood faced or other acceptable panel-type facing materials approved by Engineer, to provide continuous, straight, smooth as-cast surfaces, and produce a uniform and consistent texture and pattern on the surfaces. Metal patches on forms for these surfaces will not be permitted. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on the Drawings.
1.        Use overlaid plywood complying with U.S. Product PS-1 "A-C or B-B High Density Overlaid Concrete Form", Class I.
  2.        Use plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood", Class I, Exterior Grade or better, mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.
- B.        Forms for Unexposed Finish Concrete: Plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.
- C.        Tubular Fiber Forms:
1.        Provide forms with spirally constructed laminated plies of fiber.
  2.        Provide forms with wall thickness as recommended by the manufacturer to meet load requirements of the various uses and sizes.
  3.        Provide forms with wax coated outside surfaces for moisture resistance.
  4.        Provide forms with inside surface coated with bond-breaker compound.
- D.        Form Ties:
1.        Form Ties: For concrete structures, which will not be in view or buried below finish grade, use carbon steel factory-fabricated, removable or stay in place snap-off type form ties, designed to prevent form deflection and to prevent spalling concrete upon removal. Provide units, which will leave no metal closer than 1-1/2" to surface. Provide ties which, when removed, will leave holes not larger than 1" diameter in concrete surface. Patch all holes with non-shrink grout.
  2.        Form ties and spreaders for walls in areas exposed to view shall be Stainless Steel Cone-Tight Tyscru by Richmond Screw Anchor Co.; Dayton Sure-Grip and Shore Co.; or substitute approved by Program Manager with Plastic cone-tight type cones having a 1" setback and a taper from 1" to 1-1/4". Tycone holes shall be sealed with plastic set back plugs, color as selected by Engineer from manufacturer's standard color selection or filled with non-shrink grout. Tyscru ties shall be sized to satisfy loading requirements.
  3.        In lieu of form ties specified above, fiberglass form tie systems shall be used. Fiberglass form ties shall be standard gray color. The concrete structure shall be finished by grinding the fiberglass form tie flush with the finish surface of the concrete structure.
    - a.        If tapered architectural holes are required, dummy tapered cones having a 1" setback and a taper from 1" to 1-1/4 shall be fastened to the interior

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of the formwork to achieve the specified pattern on the finish structure.

- E. Form Releasing Agents: Provide commercial formulation form-releasing agents that will not bond with, stain, nor adversely affect concrete surfaces requiring bond or adhesion, nor impede the wetting of surfaces to be cured with water or curing compounds. Volatile organic compound emissions of form coating agent shall not exceed 2.09 pounds per gallon (250 grams per liter). Form release agents utilized on concrete that will come in contact with potable water shall be NSF-61 certified.
- F. Chamfer Strips: Provide 1-inch triangular fillets to form all exposed concrete corners. Material shall be rubber or polyvinyl chloride type, or smooth clear, sealed softwood.
- G. Sleeves: Sleeves for wall and floor penetrations shall be pre-engineered Century-Line sleeves as manufactured by Thunderline Corporation or Engineer approved substitute. Sleeves shall be constructed of high impact thermoplastic with waterstop collar, reinforcing ribs and nailer end caps for positioning forms. Sleeve shall be designed to work with modular mechanical seal for through wall penetrations. Size of sleeves shall be selected according to manufacturer's recommendations for pipe sizes indicated on Drawings.
- H. Seals: Sleeve/pipe seals shall be Link-Seal modular mechanical seals as manufactured by Thunderline Corporation or Engineer approved substitute. The seal shall be modular, mechanical; type, consisting of interlocking synthetic rubber links shaped to continuously fill the annular space between the pipe and the wall opening. The elastomeric element shall be sized and selected per manufacturer's recommendations and have the following properties as designated by ASTM:
  - 1. For standard service applications: (-40°F to 250°F) EPDM – ASTM D2000 M3 BA 510.
  - 2. For hydrocarbon service applications: (-40°F to 210°F) Nitrile – ASTM D2000 M1BF510.
  - 3. For high temperature or fire seal applications: (-60°F to 400°F) Silicone – ASTM D2000 M1GE505.

**PART 3 EXECUTION**

**3.1 INSPECTION**

- A. Examine the substrate and conditions under which work of this Section is to be performed, and correct unsatisfactory conditions, which would prevent proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

**3.2 FORM CONSTRUCTION**

- A. General:
  - 1. Construct forms as designed and in accordance with Contractor's approved working Drawings conforming to ACI 347, to the exact sizes, shapes, lines, and dimensions shown, and as required to obtain accurate alignment, location, grades,

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level, and plumb work in finished structures.

2. Provide for openings, offsets, keyways, recesses, moldings, chamfers, blocking, screeds, bulkheads, anchorages, inserts, and other features required. Use selected materials to obtain required finishes.
3. Forms for concrete which accommodate work of other trades, fabricated before the opportunity exists to verify the measurements of adjacent construction, shall be accurately sized and located as dimensioned on the Drawings. In the event that deviation from the Drawing dimensions results in problems in the field, the Contractor shall be responsible for resolution of the conditions as approved by the Engineer, at no cost to the Owner.

**B. Fabrication:**

1. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage concrete surfaces.
2. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Brace temporary closures and set tightly to temporary openings on forms in as many inconspicuous locations as possible, commensurate with design requirements. Form intersecting planes to provide true, clean cut corners.

**C. Falsework:**

1. Erect falsework and support, brace, and maintain it to safely support vertical, lateral, and asymmetrical loads applied until complete structure has attained design strength. Construct falsework so that adjustments can be made for take-up and settlement, and access is provided for inspection.
2. Provide wedges, jacks or chamfer strips to facilitate vertical adjustments. Carefully inspect falsework and formwork during and after concrete placement operations to determine abnormal deflection or signs of failure; make necessary adjustments to product work of required dimensions.

**D. Forms for Exposed Concrete:**

1. Drill forms to suit ties used and to prevent leakage of concrete mortar around tie holes. Do not splinter forms by driving ties through improperly prepared holes
2. Provide sharp clean corners at intersecting planes, without visible edges or offsets. Back joints with extra studs or grits to maintain true, square intersections.
3. Use extra studs, walers, and bracing to prevent bowing of forms between studs and to avoid bowed appearance in concrete. Do not use narrow strips of form material, which will produce bow.

**E. Corner Treatment:**

1. Unless shown otherwise, form chamfers with  $\frac{3}{4}$ -inch by  $\frac{3}{4}$ -inch strips, accurately formed and surfaced to produce uniformly straight lines and tight edge joints on exposed concrete. Extend terminal edges to required limit and miter chamfer strips at changes in direction.

**F. Control Joints: Locate as indicated on the Drawings.**

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- G. Provision for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Verify size and location of openings, recesses and sleeves with the trade requiring such items. Accurately place and securely support items to be built into forms.
- H. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove encrusted mortar and grout, chips, wood, sawdust, dirt, and other debris just before concrete is placed. Retighten forms immediately after concrete placement as required to eliminate mortar leaks.

**3.3 FORM COATINGS**

- A. Coat form contact surfaces with form-releasing agent before reinforcement is placed. Do not allow excess form coating material to accumulate in the forms or to come into contact with surfaces that will be bonded to fresh concrete. Apply in strict compliance with manufacturer's instructions. Form-releasing agent for form contact surfaces that will come in contact with potable water shall be NSF-61 approved.
- B. Remove surplus coating on form surfaces before placing concrete.

**3.4 INSTALLATION OF EMBEDDED ITEMS.**

- A. Set and build into the forms, anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting Drawings, diagrams, instructions and directions provided by suppliers of the items to be attached thereto.
- B. Set edge forms or bulkheads and intermediate screed strips for slabs, to obtain required elevation and contours in the finished slab surface. Provide and secure units to support types of screeds required.

**3.5 REMOVAL OF FORMS**

- A. Formwork not supporting concrete, such as sides of walls, columns, and similar parts of the Work, may be removed after cumulatively curing at not less than 50 degrees F for 72 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operation, and provided that curing and protection operations are maintained.
- B. Formwork supporting weight of concrete, such as elevated beams, joists, slabs and other structural elements may not be removed until concrete has attained 70% of its design minimum 28-day compressive strength, and has cumulatively cured for no less than 7 days. Concrete shall have sufficient strength to safely support its own weight and construction live loads and lateral pressures. Determine potential compressive strength of in-place concrete testing field-cured specimens representative of the concrete location or members, as specified in Section 03300, Cast-in-Place Concrete.
- C. Form facing material may be removed one day after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

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- D. Form ties: The concrete structure shall be finished by grinding the fiberglass form ties flush with the finish surface of the concrete structure.

3.6 REUSE OF FORMS

- A. Clean and repair surfaces of forms to be reused in the work. Split, frayed, delaminated or otherwise damaged form facing material will not be acceptable. When forms are reused for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close all joints. Align and secure joints to avoid offsets. Apply new form releasing agent to all form areas that will be in contact with concrete.
- B. Do not reuse forms if there is any evidence of surface wear and tear, splits, fraying, delamination or other damage which would impair the quality of the concrete surface or prevent obtaining the specified concrete finish.

END OF SECTION

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**SECTION 03200**

**CONCRETE REINFORCEMENT**

**PART 1 GENERAL**

**1.01 WORK INCLUDED**

- A. This Section specifies all work necessary to provide all concrete reinforcement such as reinforcing steel, welded wire fabric, mechanical couplers and concrete inserts as shown on the Drawings and as specified herein.
- B. The design requirements, materials, and methods outlined in this specification shall be considered the minimum requirements for the scope of work covered herein.

**1.02 RELATED WORK SPECIFIED ELSEWHERE**

Section 03100 – Concrete Formwork  
Section 03300 – Cast-in-Place Concrete

**1.03 REFERENCES**

- A. American Concrete Institute (ACI):
  - 1. ACI 315: Details and Detailing of Concrete Reinforcement
  - 2. ACI 315R: Manual of Engineering and Placing Drawings for Reinforced Concrete Structures
- B. American Society for Testing and Materials (ASTM):
  - 1. A 185: Specification for Steel Welded Wire, Fabric, Plain, for Concrete Reinforcement
  - 2. A 615: Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
  - 3. A 706/A 706M: Specification for Low-Alloy Steel Deformed Bars for Concrete Reinforcement
- C. American Welding Society (AWS):
  - 1. AWS D1.4: American Welding Society, Structural Welding Code, Reinforcing Steel.
- D. Rhode Island State Building Code
- E. State of Rhode Island Department of Transportation "Standard Specifications for Road and Bridge Construction", latest edition.

**1.04 QUALITY CONTROL**

- A. Do not fabricate reinforcement until shop and placement drawings have been approved by the Engineer.

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B. Tolerances:

1. Tolerances shall be as specified in ACI 315R.

1.05 SUBMITTALS

A. Shop Drawings:

1. Shop drawings for reinforced concrete structures shall be submitted after the concrete pour sequences, construction joint locations, and placement schedules have been approved by the Engineer.
2. At least 30 days before each scheduled concrete placement, submit shop drawings covering the reinforcing steel details, bar lists, support bars and details, locations of reinforcing bar cut-offs, splices, development lengths and placement details. Prepare shop drawings in accordance with ACI 315 and 315R from reinforcement details shown on the Drawings.
3. Mill Certificates: Accompanying the shop drawings, submit steel producer's certification of mill analysis, tensile, and bend tests for reinforcing steel.
4. Welder's certification in conformance with AWS D1.4, when welding is indicated or specified. Testing of welds shall be conducted and witnessed by an independent testing laboratory prior to welding of reinforcement. Maintain qualification and certification records at the job site, readily available for examination of test results.

B. Samples:

1. Provide one sample of each type of mechanical splicing device.

C. Manufacture's literature including installation instructions for the following:

1. Mechanical splicing devices
2. Supports

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver reinforcement to the job site bundled, tagged, and marked. Use metal tags indicating bar size, lengths, and other information corresponding to markings shown on shop drawings.
- B. Storage: Store reinforcement at the job site in a manner to prevent damage and accumulation of dirt and excessive rust.

**PART 2 PRODUCTS**

2.01 MATERIALS

- A. Reinforcing bars shall be newly rolled deformed bars conforming to ASTM A615 Grade 60, unless otherwise indicated on the Drawings.
1. Bars to be welded shall conform to ASTM A706 deformed, Grade 60.
  2. Provide mill bent reinforcing bars, bent cold to the dimensions indicated and conforming to the requirements of ACI SP-66.

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- B. Welded wire fabric shall conform to ASTM A 185, with a minimum ultimate tensile strength of 70,000 psi. Provide in sizes indicated. Provide support bars and reinforcing bar supports as specified to obtain the concrete cover.
- C. Bar support and accessories shall be galvanized or plastic coated and shall conform to ACI 315. Provide minimum size number 5 support bars.
- D. Provide 3-in. by 3-in. plain precast concrete blocks and precast concrete doweled blocks for reinforcing bar supports in foundation mats, base slabs, footings, pile caps, grade beams and slabs on grade. Provide block thickness to produce concrete cover of reinforcement as indicated. Provide blocks of Type II cement with 3,000 psi minimum compressive strength in conformance with the Section 03300, Cast-in-Place Concrete.
- E. Wire for tying reinforcement in place shall be No. 16 AWG or heavier black soft-annealed wire.
- F. Mechanical splices shall develop 125 percent of the specified yield strength of the reinforcing steel at each spike. Mechanical couplers shall be provided where shown on the Drawings or as submitted to the Engineer.

**2.02 FABRICATION**

- A. Fabricate reinforcement only after shop drawings have been returned by the Engineer marked "Approved".
- B. Provide reinforcing bars that have been cut and bent before shipment. If bars must be bent on site, bend reinforcing steel cold, and do not straighten or re-bend in a manner which will damage the material. Bend in conformance with requirements of ACI SP-66 or with ASTM A767 when reinforcement is to be galvanized.
- C. Splices:
  - 1. Provide standard reinforcement splices by lapping ends, placing bars in contact, and tightly wire tying for the full length of the splice. All lap splices shall be ACI 318, Class B, unless indicated otherwise on the Drawings.
  - 2. Adjacent splices shall be staggered whenever possible.
  - 3. Mechanical splicing devices may be substituted for lap splices with the approval of the Engineer at no additional cost.

**PART 3 EXECUTION**

**3.01 GENERAL**

- A. General: Comply with Concrete Reinforcing Steel Institute's recommended Practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.

**3.02 PLACEMENT**

- A. Comply with the specified standards for details and methods of reinforcement placement

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and supports, and as herein specified.

- B. Clean reinforcement to remove loose rust and mill scale, earth, and other materials that would reduce or destroy bond with concrete.
- C. Position, support, and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.
- D. Place reinforcement to obtain the specified coverage for concrete protection. Arrange, space, and securely tie bars and bar supports together with wire, to hold reinforcement accurately in position during concrete placement operation. Set wire ties so that twisted ends are directed away from exposed concrete surfaces.
- E. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh.
- F. Provide supports of sufficient numbers and strengths to carry reinforcement. Do not place reinforcing bars more than 2 inches beyond the last leg of any continuous bar support. Do not use supports as bases for runways for conveying equipment and similar construction loads.
- G. Bars may be moved as necessary to avoid interference with other reinforcing steel, conduits or embedded items. Bars moved more than three inches are subject to approval of Engineer. Place required number of bars.
- H. Position dowels accurately. Rigidly support, securely tie. Align dowels normal to concrete surface before concrete placement. Setting dowels into wet concrete is prohibited.
- I. Provide and place safety caps on all exposed ends of vertical reinforcement.
- J. Tie a minimum of 25 percent of all intersecting bars in foundation mats, base slabs, footings, pile caps, slabs on grade and elevated slabs.
- K. Do not splice reinforcement steel in foundation mats, base slabs, beams, girders, slabs and walls at points of maximum stress unless otherwise indicated.
- L. Lap splice welded wire fabric reinforcement at least two full meshes. Stagger splices to avoid continuous laps in either direction and wire tightly together. Straighten rolled welded wire fabric reinforcement into flat sheets before use.
- M. Provide continuous reinforcement through construction joints.

END OF SECTION

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**SECTION 03300**

**CAST-IN-PLACE CONCRETE**

**PART 1 GENERAL**

**1.1 WORK INCLUDED**

- A. This Section specifies requirements for furnishing, placement, finishing, curing and protecting of all concrete, plain and reinforced as shown on the Drawings and as specified herein. Review and approval of the Contractor's working drawings by the Engineer does not relieve the Contractor of the responsibility for the adequacy of work.

**1.2 REFERENCES**

- A. General: Where the language in any of the documents referred to herein is in the form of a recommendation or suggestion, such recommendations or suggestions shall be deemed to be mandatory for these Specifications.
- B. American Concrete Institute (ACI):
1. ACI 117: Standard Tolerances for Concrete Construction and Materials
  2. ACI 301: Specifications for Structural Concrete
  3. ACI 302: Guide for Concrete Floor and Slab Construction
  4. ACI 304R: Guide for Measuring, Mixing, Transporting and Placing Concrete.
  5. ACI 305R: Hot Weather Concreting
  6. ACI 306: Cold Weather Concreting
  7. ACI 308: Standard Practice for Curing Concrete
  8. ACI 309R: Guide for Consolidation of Concrete
  9. ACI 318: Building Code Requirements for Structural Concrete
- C. American Society for Testing and Materials (ASTM):
1. C31: Making and Curing Concrete Compression and Flexural Strength Test-Specimens in the Field.
  2. C33: Specification for Concrete Aggregates
  3. C39: Test Method for Compressive Strength of Cylindrical Concrete Specimens
  4. C94: Specifications for Ready Mixed Concrete
  5. C136: Sieve Analysis of Fine and Coarse Aggregate
  6. C138: Unit Weight, Yield, and Air Content of Concrete
  7. C143: Test for Slump of Portland Cement Concrete
  8. C150: Specification for Portland Cement
  9. C171: Sheet Materials for Curing Concrete
  10. C172: Sampling Fresh Concrete
  11. C231: Test for Air Content of Freshly Mixed Concrete by the Pressure Method
  12. C260: Specification for Air-Entraining Admixtures for Concrete
  13. C309: Specification for Liquid Membrane Forming Compounds for Curing Concrete
  14. C494: Specification for Chemical Admixtures for Concrete
  15. C827: "Test Method for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures
  16. C989: Specification for Ground Iron Blast-Furnace Slag for Use in Concrete and

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Mortars

17. C1064: Test Method for Temperature of Freshly Mixed Portland-Cement Concrete
18. C1107: Specification for Packaged Dry, hydraulic Cement Grout (Non-Shrink)
19. C1240: Standard Specification for Silica Fume for Use in Hydraulic-Cement Concrete
20. D1751: Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
21. E154: Test Methods for Water Vapor Retarders Used in Contact with Earth under Concrete Slabs, on Walls, or as Ground Cover

**1.3 QUALITY CONTROL**

- A. Concrete Testing Service: The Contractor shall employ and pay an independent testing laboratory to perform material evaluation tests and to design concrete mixes and provide copies of recently made material tests and mix designs.
- B. Materials and installed work may require testing and retesting at any time during progress of work. Allow free access to material stockpiles and facilities. All tests, including retesting of rejected materials and installed work, shall be done at Contractor's expense.
- C. Workmanship: The Contractor is responsible for correction of corrected work that does not conform to the specified requirements, including strength, tolerances and finishes. Correct deficient concrete as directed at no additional cost to the Owner.

**1.4 DESIGN REQUIREMENTS**

- A. Codes: Building concrete shall be in conformance with the requirements of ACI 318, and the Rhode Island State Building Code.
- B. Air entrain all concrete.
- C. Any concrete that will come in contact with potable water shall utilize NSF 61 certified concrete admixtures.

**1.5 SUBMITTALS**

- A. Product Data: Submit design mix as applicable. Submit manufacturer's product data with application and installation instructions for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, waterstops, joint systems, curing compound, and others as requested by the Engineer.
- B. Shop Drawings: Submit working drawings for all work under this Section to the Engineer for approval. Show location of joints, concrete pouring sequence, schedule dates, rate of placement and methods.
- C. All concrete mix designs shall conform to ACI-318, Chapter 5 and as specified. All concrete mix designs and concrete material tests shall be signed and sealed by a Professional Engineer in the State of Rhode Island.
- D. Samples: Submit samples of materials as specified, including names, sources and

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descriptions.

- E. Laboratory Test Reports: Submit laboratory test reports for concrete, concrete materials, and mix design tests.
- F. Material Certificates: Provide materials certificates in lieu of materials laboratory test reports when permitted. Material certificates shall be signed by manufacturer and Contractor, certifying that each material item complies with, or exceeds, specified requirements.
- G. Submit prior to start of work written reports of each proposed mix for each class of concrete. Do not begin concrete production until mixes have been approved by the Engineer.
- H. Batch Ticket Information: Provide concrete delivery tickets showing job name and location, date and time of delivery, quantity of concrete, quality and type of concrete, admixtures, amount of water added, and all other relevant information as described in ASTM C-94. Submit original batch tickets and 2 copies at the end of each week.

**1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Order concrete from batching plant so that trucks arrive at discharge locations when concrete is required. Avoid excessive mixing of concrete or delays in placing successive layers of concrete in forms.
- B. Deliver concrete to discharge locations in watertight agitator or mixer trucks without altering the water-cement ratio, slump, air entrainment, temperature and homogeneity.
- C. Concrete not conforming to specification, unsuitable for placement, exceeding the time or temperature limitations or not having a complete delivery batch ticket will be rejected.

**1.7 JOB SITE CONDITIONS**

- A. Weather: Protect concrete from damage and reduced strength or performance due to weather extremes during mixing, placing and curing.
- B. Cold Weather: Unless special precautions are taken to protect concrete, do not work when temperatures are below 40°F or when temperatures are expected to fall below 40°F within 72 hours after placing concrete.
  - 1. Comply with ACI 306 in cold weather.
  - 2. Maintain concrete temperature of at least 60°F. Reinforcement, forms and ground in contact with concrete shall be free of frost.
  - 3. Keep concrete and formwork at least 50°F for at least 96 hours after placing concrete.
  - 4. The use of calcium chloride in any form is not permitted. Non-chloride accelerator shall be used when ambient temperature is below 50°F.
  - 5. Admixture manufacturer shall provide technical assistance at no additional cost. A manufacturer's representative shall be available for consultation by phone or on site upon 72-hour notice.

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- C. Hot Weather: Concrete, when deposited, shall be less than 85°F. Cool the mix in a manner acceptable to the Engineer if the concrete temperature is higher.
  - 1. Comply with ACI 305 in hot weather.
  - 2. Retarder shall be used when ambient temperature exceeds 80°F.

**PART 2 PRODUCTS**

**2.1 CONCRETE MATERIALS**

- A. Portland Cement: ASTM C 150, Type II for all work unless otherwise specified. Use one brand of cement throughout project.
- B. Normal Weight Aggregates: ASTM C 33, and as herein specified. Use ¾" maximum size for all concrete, unless otherwise directed or specified. Provide aggregates from a single source for exposed concrete.
- C. Water: Clean, potable and free from foreign materials in amounts harmful to concrete and embedded steel. Provide water, which meets ACI/ASTM requirements for concrete mix water.
- D. Air-Entraining Admixture: ASTM C 260 and NSF 61 approved; certified by manufacturer to be compatible with other required admixtures.
  - 1. Products: Subject to compliance with requirements, products that may be incorporated in the work include the following:
    - a. "Air-Mix"; Euclid Chemical Co.
    - b. "Sika Aer"; Sika Corp.
    - c. "MB-VR or MB-AE"; Master Builders
    - d. "Darex AEA" or "Daravair"; W.R. Grace
    - e. Or equivalent.
- E. Water Reducing Admixture: ASTM C 494, Type A, and containing not more than 0.1% chloride ions. Follow manufacturer's recommendations for amount of admixture to be added to the concrete. Admixture shall be NSF 61 approved and compatible with air-entraining admixtures.
  - 1. "WRDA Hycol"; W. R. Grace.
  - 2. "Eucon WR-75"; Euclid Chemical Co.
  - 3. "Pozzolith Normal"; Master Builders
  - 4. "Plastocrete 160"; Sika Chemical Corp.
  - 5. Or equivalent.
- F. High-Range Water Reducing Admixture (SuperPlasticizer): ASTM C 494, Type F or Type G and containing not more than 0.1% chloride ions. Admixture shall be NSF 61 approved. Follow manufacturer's recommendations.
  - 1. Products: Subject to compliance with requirements, products which may be

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incorporated in the work include the following:

- a. “WRDA 10” or “Daracem”; W. R. Grace.
  - b. “PSP”; Protex Industries Inc.
  - c. “Super P”; Anit-Hydro.
  - d. “Sikament”; Sika Chemical Corp.
  - e. “Rheobuild”; Master Builders.
  - f. Or equivalent.
- G. Water Reducing, Non-Chloride Accelerator Admixture: ASTM C 494, Type E or C, and containing not more than 0.1% chloride ions. Admixture shall be NSF 61 approved.
1. Products: Subject to compliance with requirements, provide one of the following:
    - a. “Accelguard 80”; Euclid Chemical Co.
    - b. “Pozzutec 20”; Master Builders, Inc.
    - c. “PolarSet”; Grace Construction Products.
    - d. Or equivalent.
- H. Water Reducing, Retarding Admixture: ASTM C 494 Type D, and containing not more than 0.1% chloride ions. Admixture shall be NSF 61 approved.
1. Products: Subject to compliance with requirements, products that may be incorporated in the work include the following:
    - a. “Edoco 20006”; Edoco Technical Products.
    - b. “Pozzolith Retarder”; Master Builders.
    - c. “Eucon Retarder 75”; Euclid Chemical Co.
    - d. “Daratard”; W. R. Grace.
    - e. “Plastiment”; Sika Chemical Co.
    - f. Or equivalent.
- I. Prohibited Admixtures: Calcium chloride thiocyanates or admixtures containing more than 0.1% chloride ions are not permitted.

**2.2 RELATED MATERIALS**

- A. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd., complying with AASHTO M 182, Class 2.
- B. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.
1. Waterproof paper.
  2. Polyethylene film.
  3. Polyethylene-coated burlap.
- C. Liquid Membrane-Forming Curing Compound: Liquid type membrane-forming curing compound complying with ASTM C 309, Type I, Class A. Moisture loss not more than 0.055 gr./sq. cm. when applied at 200 sq. ft./gal.

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1. Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
  - a. "Masterseal"; Master Builders.
  - b. "A-H 3 Way Sealer"; Anti-Hydro Waterproofing Co.
  - c. "Ecocure"; Euclid Chemical Co.
  - d. "Clear Seal"; A.C. Horn, Inc.
  - e. "Sealco 309"; Gifford-Hill/American Admixtures.
  - f. "J-20 Acrylic Cure"; Dayton Superior.
- D. Underlayment Compound: Free flowing, self-leveling, pumpable cementitious base compound.
  1. Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
    - a. "Ardex K-15"; Ardex Engineered Cements.
    - b. "Silflo 200"; Silpro Masonry Systems.
    - c. "Ultra/Plan"; Mapei.
- E. Bonding Compound: Polyvinyl acetate or acrylic base.
  1. Products: Subject to compliance with requirements, products that may be incorporated in the work include, but are not limited to, the following:
    - a. Acrylic or Styrene Butadiene:
      - i. "J-40 Bonding Agent"; Dayton Superior Corp.
      - ii. "Everbond"; L & M Construction Chemicals.
      - iii. "Hornweld"; A. C. Horn, Inc.
      - iv. "Daraweld C"; W. R. Grace.
- F. Adjustable inserts: Adjustable inserts shall be hot-dip galvanized in conformance with ASTM A123 and A153. Adjustable insets shall be:
  1. Ductile iron wedges inserts, Type F-7 manufactured by Dayton Sure-Grip & Shore Co.
  2. Malleable iron peerless wedge inserts, insert as manufactured by Richmond Screw, Anchor Co., Inc.
  3. Malleable iron wedge inserts, Type HW as manufactured by Hohmann & Barnard Inc.
- G. Vapor barrier: Provide a 5-ply laminate sheet that combines three layers of high-density polyethylene and two high strength cored grids. The non-woven cord grids shall provide a minimum uniform loading resistance of 1380 pounds per yard in all directions. Cord reinforcement shall be a diamond pattern with a minimum of 96 strands per square foot suspended in a permanently flexible adhesive media to allow fiber slippage. Perm rating of the vapor barrier shall be 0.0350 grains/hr/ft<sup>2</sup> when tested in accordance with ASTM E 96. Other physical properties, minimum values, shall be as follows:

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<u>Property</u>	<u>ASTM Test</u>	<u>Test Values</u>
Weight	D2103	41 lb/100 SF
3" Tensile strength	D882	110 lb/4583 psi
3" Elongation	D882	321 percent
PPT Resistance	D2582	21 lb
3 x 8 Tongue tear	D2261	21 lb
Cold crack	D1709 (Mod)	-45°F
Drop dart	D1709	4.5 lb
Hot air shrink	D12-4	-0.25% Total Area

1. Provide double sided asphaltic pressure sensitive mastic tape, 1.5 inches wide by 100 feet in length for field seams between multiple sections and to seal around projections.

### 2.3 PROPORTIONING AND DESIGN OF MIXES

- A. Prepare design mixes for type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. If trial batch method used, use an independent testing facility acceptable to the Engineer for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing.
- B. Submit written reports for review of design mix for specified strength of concrete within 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed.
- C. Strength: Provide concrete having the following minimum compressive strength at 28 days:
  1. Class 4000 –3/4" aggregates: Use an all concrete, unless otherwise specified.
- D. The concrete quality, mixing and placing shall conform to ACI-318, Chapter 5.
- E. Design mixes to provide normal weight concrete with the following properties, as indicated:

Design Compressive Strength,	Minimum Strength fc 7 days	Laboratory Testing Age 28 day	Minimum ** Cement Content/cu.yd.	Maximum* W/C Ratio
4,000 psi	2,400 psi	4,000 psi	565	0.45

\*Maximum: Decrease if possible

\*\*Minimum: Increase as necessary to meet all other stated requirements.

- F. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by the Engineer. Laboratory test data for revised mix design and strength results must be submitted to and accepted by the Engineer before using in work.

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G. Admixtures:

1. Use water-reducing admixture or high range water reducing admixture (super plasticizer) in all concrete in strict accordance with the manufacturer's printed instructions.
2. Use non-chloride accelerating admixture in concrete slabs placed at ambient temperatures below 50°F in strict accordance with the manufacturer's printed instructions.
3. Use high-range water-reducing admixture in pumped concrete required to be watertight, and concrete with water/cement ratios below 0.40.
4. Use air-entraining admixture in all concrete, unless otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content of 6.0% with a tolerance of  $\pm 1-1/2\%$ .

H. Consistency:

1. The consistency shall be uniformly maintained within the allowable range of slump for the job materials. Ordinarily the slump shall not be less than 1-1/2 nor more than 3 inches, unless in the opinion of the Engineer, job conditions warrant exceeding these limits. The consistency shall be determined by the AASHTO Method T-119. This range of slump is to be maintained for all concrete including pumped concrete.
2. Concrete containing HRWR admixture (super-plasticizer): Not more than 7" after addition of HRWR to site-verified 1-1/2" to 3" slump concrete.

2.4 CONCRETE MIXING

- A. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as herein specified. Delete references for allowing additional water to be added to batch for material with insufficient slump. Addition of water to the batch will not be permitted.
1. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C94 may be required. When air temperature is between 85°F (30° C) and 90°F (32° C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90°F (32°C), reduce mixing and delivery time to 60 minutes.
  2. During cold weather heat water, sand and cement materials per recommendations of ACI 306.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Batch, mix and deliver Portland cement concrete in conformance with ASTM 94. Batch all constituents at central batching or mixing plant. Produce concrete in conformance with ACI 301 and as specified.

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B. Seasonal Conditions:

1. Conform to ACI 305R and as specified for hot weather concreting.
2. Conform to ACI 306R and as specified for cold weather concreting.

3.2 INSTALLATION OF EMBEDDED ITEMS

- A. Set and build into work, anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached thereto.
- B. Clean embedded items of oil, ice, dirt and all other foreign items.
- C. For embedded pipes, complete all necessary testing requirements prior to placing concrete.

3.3 PLACING CONCRETE

A. General:

1. Concrete formwork shall satisfy the requirements of Section 03100, Concrete Formwork. Do not place concrete until the depth, character and adequacy of forms, falsework, embedments, and the placing of the steel reinforcement have been approved by the Engineer. The method and manner of placing the concrete shall be such as to avoid segregation of aggregate and displacement of the reinforcement. Troughs, pipes and chutes may be used as aids in placing concrete when necessary. Dropping the concrete a distance of more than five feet, or depositing a large quantity at one point, will not be permitted. Concrete shall be placed upon clean, damp surfaces, free from running water, or upon properly consolidated soil.
2. Retempering of concrete by adding water or any other material shall not be permitted.
3. Concrete placement, finishing and curing, and all other pertinent construction practices shall be in accordance with ACI 117 and ACI 301. In addition to the requirements of ACI 117 and ACI 301, the following shall apply:
  - a. Concrete shall be placed so that a uniform appearance of surfaces will be obtained.
  - b. Concrete shall be placed and consolidated free of rock pockets, honeycombs, and voids.
  - c. Concrete shall be deposited as nearly as practicable in its final position, to avoid segregation due to rehandling or flowing, and shall not be subjected to any procedure that will cause segregation.
  - d. Concrete shall be placed and consolidated in walls in approximately 18-inch layers, proceeding at a uniform rate or per the form designer's recommendation.

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**B. Consolidating:**

1. Consolidate concrete with suitable mechanical vibrators operating within concrete. When necessary, vibrating shall be supplemented by hand spading with suitable tools to assure proper and adequate consolidation. Vibrators shall be manipulated so as to work the concrete thoroughly around the reinforcement and embedded fixtures and into corners and angles of the forms. The vibration at any joint shall be of sufficient duration to accomplish consolidation but shall not be prolonged to the point where segregation occurs.
2. Employ as many vibrators and tampers as necessary to secure the desired results. For every two vibrators required for the job, an additional standby vibrator shall be kept on the site. Do not place subsequent layers of concrete until the previous layer has been consolidated as specified. Internal vibrators shall have a minimum frequency of 8000 vibrations per minute when immersed in concrete and shall have sufficient amplitude to effectively consolidate the concrete.
3. Prevent the following practices:
  - a. Pushing of concrete with vibrator.
  - b. External vibration of forms.
  - c. Allowing vibrator to vibrate against reinforcing steel where steel projects into green concrete.
  - d. Allowing vibrator to vibrate against the contact faces of forms.

**C. Cold Weather:** Do not place concrete when the ambient temperature is below 40°F, unless specifically authorized by the Engineer. Conform to the requirements of ACI 306R during cold weather.

**D. Hot Weather:** Do not place concrete with a mix temperature exceeding 90°F, unless specifically authorized by the Engineer. Conform to the requirements of ACI 305R during hot weather.

**E. Construction Joints:**

1. When the placing of concrete is suspended, necessary provisions shall be made for joining future work before the placed concrete takes its initial set. For the proper bonding of old and new concrete, such provisions shall be made for grooves, steps, keys, dovetails, reinforcing bars or other devices as may be prescribed. Before depositing new concrete against concrete, which has hardened, the surface of the hardened concrete shall be cleaned by a heavy steel broom, roughened slightly, wetted, and covered with a neat coating of cement paste or grout. Install joint sealant where shown on the Drawings, in accordance with manufacturer's instructions.
2. Joints shall be perpendicular to the main reinforcement.

**F. Expansion and Control Joints:** Expansion and control joints shall be constructed in the locations and to the dimensions and details shown on the Drawings.

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**G. Defective Work:**

1. All defective work disclosed after the forms have been removed shall be immediately removed and replaced. If dimensions are deficient, or if the surface of the concrete is bulged, uneven, or shows honeycomb, which in the opinion of the Engineer cannot be repaired satisfactorily, the entire section shall be removed and replaced at no cost to the Owner.
2. Other work considered to be defective includes, but is not limited to, the following:
  - a. Concrete in which defective or inadequate steel reinforcement has been placed.
  - b. Concrete incorrectly formed, or not conforming to details and dimensions on the Drawings or with the intent of these documents, or the concrete surfaces of which are out of plumb or level beyond specified tolerances.
  - c. Concrete below specified strength.
  - d. Concrete containing wood, cloth, or other foreign matter, rock pockets, voids, honeycombs, cracks or cold joints not scheduled or indicated on the Drawings.

**3.4 CONCRETE FINISHING**

- A. Exposed concrete surfaces shall be true, smooth, and free from open or rough spaces, depressions, or projections. The concrete in horizontal plane surfaces shall be brought flush with the finished top surface at the proper elevation and shall be struck off with a straightedge and floated. Mortar finishing will not be permitted, nor shall dry cement or sand-cement mortar be spread over the concrete during the finishing of horizontal plane surfaces.
- B. Following placement of concrete for slabs, tamp to force coarse aggregate away from surface, bull float, and steel trowel.
- C. The following requirements shall govern concrete finishes so indicated on the Drawings.
  1. Float Finish: Force coarse aggregate away from surface; float to a smooth and even surface.
  2. Trowel Finish:
    - a. After floating, begin the first trowel finish operation using a power-driven trowel; begin final troweling when the surface produces a ringing sound as the trowel is moved over the surface.
    - b. Consolidate the concrete surface by the final hand troweling operation, free from trowel marks, uniform in texture and appearance, and with a surface plane tolerance not exceeding 1/8" in 10'-0" when tested with a 10'-0" straight-edge
  3. Broom Finish:
    - a. Apply nonslip broom finish to exterior concrete as specified, immediately after trowel finishing; roughen the concrete surface by

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brooming in the direction perpendicular to the main traffic route.

- i. Use a fiber bristle broom.
- ii. Frequently clean broom to avoid deep brooming.

4. As-Cast Finish:

- a. Rough form finish; tie holes and defects shall be patched.
  - i. Fins exceeding ¼ inch in height shall be chipped off or rubbed off.
  - ii. Otherwise, surfaces shall be left with the texture imparted by the forms.
- b. Smooth form finish: the form facing material shall produce a smooth, hard, uniform texture on concrete.
  - i. The arrangement of the facing material shall be orderly and symmetrical, and the number of seams kept to the practical minimum.
  - ii. Forms shall be supported by studs or other backing capable of preventing excessive deflection.
  - iii. Form-facing material with raised grain, torn surfaces, worn edges, patches, dents, or other defects, which will impair the texture of the concrete surface, shall not be used.

3.5 CURING AND PROTECTION

- A. Initial Curing: All concrete shall be properly cured and protected in accordance with ACI 308. Maintain concrete above 50 degrees F during first seven days after placing. The work shall be protected from the elements, flowing water, and from defacement of any nature, during construction. The concrete shall be cured as soon as it has sufficiently hardened, by covering with an approved material. Water-absorptive coverings shall be thoroughly saturated when placed, and kept saturated for a period of at least seven days. Curing mats or blankets shall be sufficiently weighted or tied down to keep the concrete surface covered and to prevent the surface from being exposed to air currents. Where wooden forms are used, they shall be kept wet at all time until removed, to prevent the opening of joints and drying out of the concrete. Membrane curing compounds shall be coordinated with the surface to be painted, covered with plaster, covered with sealer, and other surfaces which curing compound would adversely affect subsequent construction.
- B. Duration of Curing: The final curing shall continue until the cumulative number of days or fractions thereof, not necessarily consecutive, during which the temperature of the air in contact with the concrete is above 50°F, has totaled 7 days beyond the initial curing period.
  - 1. Rapid drying at the end of the curing period shall be prevented.
- C. Formed Surfaces: Steel forms heated by the sun and all wood forms in contact with the concrete during the curing period shall be kept wet.

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1. If forms are to be removed during the curing period, one of the specified curing materials or methods shall be employed immediately.
2. Such curing shall be continued for the remainder of the curing period.

**3.6 CONCRETE SURFACE REPAIRS**

- A. General: Any defective work disclosed after removal of forms shall be immediately removed and replaced. If in the opinion of the Engineer, the surface of the concrete cannot be repaired satisfactorily, the entire section shall be removed and replaced at no additional expense to the Owner.
- B. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to the Engineer.
  1. Cut out honeycomb, rock pockets, voids over 1" in any dimension, and holes left by tie rods and bolts, down to solid concrete but in no case to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water, and brushcoat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.
- C. For exposed-to-view surfaces, blend white Portland cement and standard Portland cement so that, when dry, patching mortar will match color surrounding. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.
- D. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to the satisfaction of the Engineer. Surface defects, as such, include color and texture irregularities, bulges, uneven surfaces, air bubbles, honeycomb, rock pockets; fins and other projections on surface; and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes, fill with dry pack mortar, or precast cement cone plugs secured in place with bonding agent.
- E. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.
- F. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slab, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness using a template having required slope.
- G. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least  $\frac{3}{4}$ " clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
- H. Repair isolated random cracks and single holes not over 1" in diameter by dry-pack method. Groove top of cracks and cutout holes to sound concrete and clean of dust, dirt,

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and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry-pack, consisting of one part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry pack after bonding compound has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.

- I. Perform structural repairs with prior approval of the Engineer for method and procedure, using specified epoxy adhesive and mortar.
- J. Repair methods not specified above may be used, subject to acceptance of the Engineer.

**3.7 QUALITY CONTROL TESTING DURING CONSTRUCTION.**

- A. The Contractor shall retain the services of a testing laboratory to perform and to submit test reports.
  - 1. Sampling and testing for quality control during placement of concrete may include the following, as directed by the Engineer.
- B. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.
  - 1. Slump: ASTM C 143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.
  - 2. Air Content: ASTM C 173, volumetric method for lightweight or normal weight concrete; one for each day's pour of each type of air-entrained concrete.
  - 3. Concrete Temperature: Test hourly when air temperature is 40°F and when 80°F and above; and each time a set of compression test specimens are required.
  - 4. Compressive Strength Tests: ASTM C39; one set for each day's pour exceeding 5 cu. yds. plus additional sets for each 50 cu. yds. over and above the first 25 cu. yds. of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.
    - a. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches if fewer than 5 are used.
    - d. When total quantity of a given class of concrete is less than 50 cu. yds. strength test may be waived by the Engineer if, in his judgment, adequate evidence of satisfactory strength is provided.
    - c. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
    - d. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength, and no individual strength test results falls below specified compressive strength by more than 500 psi.

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- C. Test results will be reported in writing to the Engineer and Contractor within 24 hours after tests. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name and location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials; compressive breaking strength and type of break for both 7-day tests and 28-day tests.
- D. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.
- E. Additional Tests: The Contractor's Independent testing service shall make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by the Engineer. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42, or by other methods as directed.

END OF SECTION

**APPENDIX A**

**TRANSPORTATION MANGEMENT PLAN**



# LEVEL 3 TRANSPORTATION MANAGEMENT PLAN

## City of East Providence

Project Name: **Pawtucket Avenue Water Main Relocation**

RI Design Contract No(s): **N/A**

RI Construction Contract No(s): **N/A**

Submission: **FINAL**

Date: **5/10/2023**

## PROJECT INFORMATION

### Brief Project

This project consists of the installation of two (2) new runs of 12-inch ductile iron (DI) water main located within the southbound travel lane on Pawtucket Avenue to the limits shown on the plans. The utility work performed in this contract includes but is not limited to, installing approximately 1,400 linear feet of 12-inch DI water main including tees, gate valves, bends, dresser couplings and all work associated with tying the proposed water mains into the existing water mains all as detailed on the Plans. Pavement restoration will include temporary trench patching, concrete road base restoration, permanent trench patching and milling and overlaying of all impacted travel lanes. Additional work includes, project wide installation of sediment and erosion controls, maintenance and protection of traffic, final pavement striping and all other incidentals needed to complete the work to the satisfaction of the Engineer..

### General Work

The water main installations will require a general work limit of approximately  $\pm 700$  feet. Installation of the water mains will require temporary half road closures in which one lane of traffic in each direction will be maintained at all times during normal working hours. Pavement restoration will require permanent half road closures in which one lane traffic in each direction will be maintained using barrier for the duration of the work.

### Limits:

## WORK ZONE LOCATIONS

ROADWAY NAME or INTERSECTION	FROM	TO	APPROX. LENGTH
Pawtucket Avenue	$\pm 500'$ South of Taunton Avenue	$\pm 1,000'$ North of Waterman Avenue	0.14 mi

### General Project Schedule\*:

Work for this project is expected to be started in July 2023 and completed before the start of the 2023-2024 school year on August 28, 2023.

\*The information in this section is not intended to and shall not supersede the approved schedule and milestone/completion dates for the project.

## TRAFFIC-RELATED WORK RESTRICTIONS

### General Restrictions:













































See the attached General Restrictions Chart (Attachment A).

### Holiday Restrictions:

See the attached Holiday Restrictions Chart (Attachment B).

## TEMPORARY TRAFFIC CONTROL PLANS

*These RIDOT- and/or Designer-Developed TTC Plans will be used during the work on this project*

RIDOT TYPICAL TTC PLANS		Included in:		DESIGNER-DEVELOPED TTC PLANS		Included in:	
		TMP	Plan Set			TMP	Plan Set
	Mobile Operation			Temporary Traffic Control Plan 1			X
	Work Beyond the Shoulder			Temporary Traffic Control Plan 2			X
	Shoulder Closure - Two Lane Road						
	Shoulder Closure - Limited Access						
	1-Side Lane Shift - Two Lane Road						
	2-Side Lane Shift - Two Lane Road						
	Lane Shift - Limited Access						
	Lane Closure - Two Lane Road						
	Lane Closure - Four Lane Road						
	Lane Closure - Limited Access						
	Double Lane Closure - Limited Access						

PUBLIC INFORMATION PLAN

*These strategies will be used to provide information concerning the project to road users and the community*

SELECTED STRATEGIES	RESPONSIBILITIES / REQUIREMENTS / SPECIAL CONSIDERATIONS
<b>RIDOT travel advisories news releases</b>	RIDOT TMP Imp. Mngr. to send RIDOT notification form to Communications min. 48 hrs. in advance of restrictions.
<b>RIDOT travel advisories web site</b>	RIDOT TMP Imp. Mngr. to send RIDOT notification form to Communications min. 48 hrs. in advance of restrictions.
<b>RIDOT 511 traveler information system</b>	RIDOT TMP Imp. Mngr. to send RIDOT notification form to RIDOT TMC min. 48 hrs. in advance of restrictions.

# TRANSPORTATION OPERATIONS PLAN

*These strategies will be used to provide improved transportation operations/safety within project work zones*

[illegible]

## PERFORMANCE MONITORING, CHANGES TO TMP, & CONTINGENCIES

The **Contractor's TMP Implementation Manager (if identified below)** is responsible for keeping the portion of the project being used by public traffic in a condition that (1) safely and adequately accommodates such traffic and (2) is in accordance with the Traffic-Related Work Restrictions, the Temporary Traffic Control Plans, and where appropriate, the other transportation management strategies identified above. The **RIDOT TMP Implementation Manager** or his/her responsible designee should (1) inspect the project work zones at initial setup, at the start of each subsequent work day, and just prior to extended breaks in the work (e.g., weekends) for conformance with the Temporary Traffic Control Plans, the *ATSSA Quality Guidelines for Temporary Traffic Control Devices and Features*, and where applicable, the other transportation management strategies identified above and (2) document all work zone-related feedback and complaints that are received from the public.

If at any time (1) a significant deviation from any of the strategies included in the TMP (e.g., the use of an alternate construction sequence) is desired by one or more members of the project implementation team, (2) field observations and/or data suggest that impacts to road users are or will be unacceptable, or (3) one or more performance requirements established in the TMP are not being met in the field, the RIDOT TMP Implementation Manager shall report the situation to his/her supervisor or Division/Section/Unit manager. The supervisor / manager will coordinate with the State Traffic Engineer, the Traffic Management Chief, the TMP Implementation Manager(s), the Chief Engineer, and/or other interested parties as appropriate and/or necessary to consider and determine whether revised and/or alternate strategies should be implemented in an effort to lessen the adverse safety and/or mobility impacts of the project. If the supervisor / manager deems that strategy changes should be implemented, the changes shall be documented in a revised version of the TMP and the Traffic Management Chief, the State Traffic Engineer, and the Chief Engineer must approve of the revised TMP prior to their implementation.

If a significant deviation from any of the strategies included in the TMP is requested by the Contractor, unless directed otherwise by the RIDOT the Contractor is responsible for preparing and submitting to the RIDOT TMP Implementation Manager appropriate documentation (e.g., design calculations, analysis reports, Temporary Traffic Control Plans, etc.) showing that the requested change(s) are (1) feasible and (2) expected to result in safety and mobility impacts that are no more adverse than the impacts resulting from the strategies already included in the latest approved TMP. The RIDOT will review and consider the submittal(s) as described in the preceding paragraph and will determine whether the changes should be implemented. If the requested changes are approved by the RIDOT, unless otherwise directed by the RIDOT the Contractor shall prepare and submit to the RIDOT TMP Implementation Manager a revised version of the latest approved TMP in both printed and electronic (Microsoft® Excel) format that documents all of the approved changes. Work to implement the changes shall not begin until the Traffic Management Chief, the State Traffic Engineer, and the Chief Engineer have approved of the revised TMP.

When unexpected events (e.g., crashes, inclement weather, unforeseen traffic demands, etc.) occur in a project work zone where one or more lanes are closed, the RIDOT TMP Implementation Manager or his/her responsible designee should (1) determine whether or not the lane closure(s) can/should be removed in order to improve traffic operations and/or minimize delays and (2) if deemed appropriate, take action to remove the lane closure(s).

Other  
Requirements:

## TMP APPROVALS

*All approvals must be obtained prior to start of work*

TRAFFIC MANAGEMENT CHIEF		
Signature: <span style="float: right; background-color: yellow; padding: 2px 10px;">Lori Fisette</span>		
Date: _____		
Revision #	Initials	Date

STATE TRAFFIC ENGINEER		
Signature: <span style="float: right; background-color: yellow; padding: 2px 10px;">Steve Pristawa, P.E.</span>		
Date: _____		
Revision #	Initials	Date

CHIEF ENGINEER		
Signature: <span style="float: right; background-color: yellow; padding: 2px 10px;">Robert Rocchio, P.E.</span>		
Date: _____		
Revision #	Initials	Date

## TMP IMPLEMENTATION MANAGERS

*Project managers with the primary responsibility & authority for implementation of this TMP*

RIDOT	
Name:	
Title:	
Unit:	
Office Phone:	
Mobile Phone:	
E-Mail:	

CONTRACTOR (if contract work)	
Name:	
Title:	
Company/Unit:	
Office Phone:	
Mobile Phone:	
E-Mail:	

### General Restrictions Chart

Location	MINIMUM NUMBER OF LANES & SHOULDERS TO REMAIN OPEN TO TRAFFIC <sup>1-5</sup>								
	Time of Day		Day of Week						
	From	To	SUN	MON	TUES	WED	THURS	FRI	SAT
Pawtucket Avenue (Water Main Installation)	0:00	7:00	ALL	ALL	ALL	ALL	ALL	ALL	ALL
	7:00	16:00	ALL	1L	1L	1L	1L	1L	ALL
	16:00	24:00	ALL	ALL	ALL	ALL	ALL	ALL	ALL
Pawtucket Avenue (Pavement Restoration)	0:00	24:00	1L	1L	1L	1L	1L	1L	1L

#### LEGEND



All travel lanes and shoulders shall remain open to traffic



One travel lane in each direction shall remain open to traffic.

#### NOTES

1. The set-up and break-down of temporary traffic control devices within a traveled way shall be construed as a closure of that traveled way.
2. The provisions noted herein shall not free the Contractor from his responsibility to conduct all work in such a manner that assures the least possible obstruction to traffic.
3. Access and egress from all side streets, driveways, businesses, and residences intersecting the Project work zone shall be maintained at all times unless otherwise noted or shown on the Plans.
4. The Contractor shall provide safe access for all pedestrians through the work area. A minimum of one sidewalk on one side of the roadway shall be open to pedestrians.
5. Working hours are subject to change based on City recommendations and RIDOT approval.

## **Holiday Restrictions**

**NOTE: IN CASE OF DISCREPANCY BETWEEN THESE HOLIDAY RESTRICTIONS AND THE GENERAL RESTRICTIONS (ATTACHMENT A), THESE HOLIDAY RESTRICTIONS SHALL GOVERN.**

No lane and/or shoulder closures allowed after 13:00 on the Friday preceding a holiday weekend.

### **EASTER SUNDAY**

No lane and/or shoulder closures allowed on Saturday.

No lane and/or shoulder closures allowed on Sunday until 20:00 (after 20:00, General Restrictions shall apply).

### **NEW YEAR'S DAY, INDEPENDENCE DAY, & CHRISTMAS DAY**

No lane and/or shoulder closures allowed after 13:00 on the day before the holiday.

No lane and/or shoulder closures allowed on the holiday.

### **VETERANS DAY**

No lane and/or shoulder closures allowed after 13:00 on the day before the holiday.

No lane and/or shoulder closures allowed on Veterans Day until 20:00 (after 20:00, General Restrictions shall apply).

### **DR. MARTIN LUTHER KING JR. DAY, VICTORY DAY, & COLUMBUS DAY**

No lane and/or shoulder closures allowed on Saturday and/or Sunday.

No lane and/or shoulder closures allowed on Monday until 20:00 (after 20:00, General Restrictions shall apply).

### **MEMORIAL DAY & LABOR DAY**

No lane and/or shoulder closures allowed on Saturday and/or Sunday.

No lane and/or shoulder closures allowed on Monday until 22:00 (after 22:00, General Restrictions shall apply).

### **THANKSGIVING DAY**

No lane and/or shoulder closures allowed after 13:00 on the Wednesday preceding Thanksgiving Day.

No lane and/or shoulder closures allowed on Thanksgiving Day, Friday, Saturday, and/or Sunday.

**APPENDIX B**

**RIDOT UTILITY PERMIT APPLICATION**



Department of Transportation  
Division of Highway and Bridge Maintenance  
360 Lincoln Avenue  
Warwick, RI 02888

## APPLICATION FOR UTILITY PERMIT

APPLICANT: East Providence Water Utilities Division

DATE: 5/15/2023

UTILITY COMPANY SIGNATURE: 

DATE: 5/15/2023

The applicant requests permission to: install approximately 1,400 linear feet of new 12-inch diameter ductile iron water main along the southbound travel lane of Pawtucket Avenue from the Shaw's Plaza Driveway to the southern parking lot entrance to the school.

Location: Pawtucket Avenue

City/Town: East Providence

Utility Type: ☒ Water ☐ Sewer ☐ Electric ☐ Gas ☐ Telecom ☐ Other: \_\_\_\_\_

NOTE I: The applicant agrees to comply with all conditions stated on this permit application, and furthermore to pay any and all cost associated with the issuance of said permit, if granted. All work performed under the permit shall be in accordance with the latest edition of the [Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction](#) and the [Rhode Island Standard Details](#).

NOTE II: Accompanying this application shall be a **set of plans** and a **Transportation Management Plan (TMP)**. The plan set shall show all work to be contemplated under this application. The proposed work plan shall show specific locations and dimensions so they can be easily located and investigated. The traffic control plan included in the TMP shall be in accordance with the most recent edition of the [Manual on Uniform Traffic Control Devices](#). **Any requests for night work or extended work hours must be accompanied by a written approval from the local municipality.**

NOTE III: Upon affixing signature to this application, the applicant agrees, as a condition governing the issuance of a permit, that the Department of Transportation, the Director, his agents and employees be held harmless from any and all claims and actions what so ever arising from the exercising of said permit.

NOTE IV: This application shall be countersigned by the owner (Utility Company or the city/town who owns the line) to confirm the following:

1. The utility company is aware of and authorizes the contractor to work on their utility facilities.
2. It insures the Department that the utility company will own that utility connection upon completion. That is, if the connection fails at some time in the future, the utility company will be responsible for the work to repair their facility, the roadway, and all other impacted areas within the State Right-of-Way (ROW) as needed to facilitate the repair.
3. It insures the Department that the utility company and/or the hired contractor will take responsibility for the restoration of the roadway as outlined in the utility permit for a period of no less than five (5) years from the completion of the work including the repair, replacement and/or maintenance of the roadway during this period.

**See Page 2 for required Contact Information.**

Revised 12/20/22



Department of Transportation  
Division of Highway and Bridge Maintenance  
360 Lincoln Avenue  
Warwick, RI 02888

### CONTACT INFORMATION

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APPLICANT: East Providence Water Utilities Division

Address: 60 Commercial Way, East Providence, RI 02914

Phone Number: (401) 435-7741

Contact Person: Jim Marvel- Water Superintendent

Phone Number: (401) 435-7741

Email: waterdept@eastprovidenceri.com

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UTILITY OWNER: East Providence Water Utilities Division

Address: 60 Commercial Way, East Providence, RI 02914

Phone Number: (401) 435-7741

Contact Person: Jim Marvel- Water Superintendent

Phone Number: (401) 435-7741

Email: waterdept@eastprovidenceri.com

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CONTRACTOR  
PERFORMING WORK: TBD  
*(If other than the Applicant)*

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email: \_\_\_\_\_

---

### **Emergency Contact Information**

**THE PARTY PERFORMING THE WORK MUST SUPPLY THE DEPARTMENT WITH  
THREE (3) EMERGENCY CONTACTS.**

CONTACT PERSON: Police Dispatch

PHONE NUMBER: (401) 435-7600

CONTACT PERSON: \_\_\_\_\_

PHONE NUMBER: \_\_\_\_\_

CONTACT PERSON: \_\_\_\_\_

PHONE NUMBER: \_\_\_\_\_

***See Page 3 for require permit conditions***

### **On-going Maintenance Conditions**

The grantee shall maintain the surface of the roadway over said substructures and other areas where work has been performed as long as the Department deems necessary, but at no time shall this period of time be less than five (5) years from the completion of work.

### **Conditions Relating to Overhead Structures, Including Poles, Towers, Wire, etc.**

- On all freeways, any overhead structures relocated and/or installed shall be placed in conformance with AASHTO's publication, "A policy on the Accommodation of Utilities on Freeway Rights-of-Way", issued February 15, 1969, or amendments thereto.
- On state highways other than freeways, overhead structures shall be relocated and/or installed in conformance with P.P.M. 30-4 or amendments thereto of the Federal Highway Administration, unless as otherwise ordered by the Department.
- All aspects of said installation and/or relocation shall be in conformance with the standards set forth in the "National Electrical Code" and the "National Electrical Safety Code".
- In connection with the installation and/or relocation of the facilities covered by this permit, no trees shall be cut or trimmed except as provided herein.

### **General Conditions**

The word "Department" as used herein shall imply the Department of Transportation, State of Rhode Island. The word "Engineer" as used herein shall mean the Department Engineer or the authorized agent of the Department. The word "Grantee" as used herein shall mean the person or persons, corporation or municipality to whom this permit is granted or their legal representatives.

During the progress of work, all structures under and above ground shall be properly protected from damage or injury. It shall be the duty of the grantee to make certain that the security of the traveling public is safeguarded and its rights are not unreasonably curtailed. No detours may be engaged on any project without obtaining special permission from the Department and local authorities. The work area shall be protected at all times to avoid the possibility of accident. Said work area shall be marked with "Construction Approach Warning Signs", lights, flasher beacons or other warning devices as prescribed by the Department or the Engineer. The work performed under permit shall be planned and carried out so that the drainage system of the highway is effective at all times.

### **Conditions Relating to Maintenance of Traffic**

The permittee shall maintain any road affected by its work open to traffic and keep such road in a condition that shall safely and adequately accommodate such traffic. The permittee shall furnish, erect and maintain all traffic control including barricades, warning signs, delineators, flaggers, and traffic- persons in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways". The permittee shall submit for approval a traffic control plan for all utility work which would have an effect on the roadway. If it is determined that the contractor is not in conformance with the MUTCD, the Department or their designee will order a suspension of work until the work area is brought into conformance with MUTCD. All traffic control protection will be maintained until the proposed work has been completed.