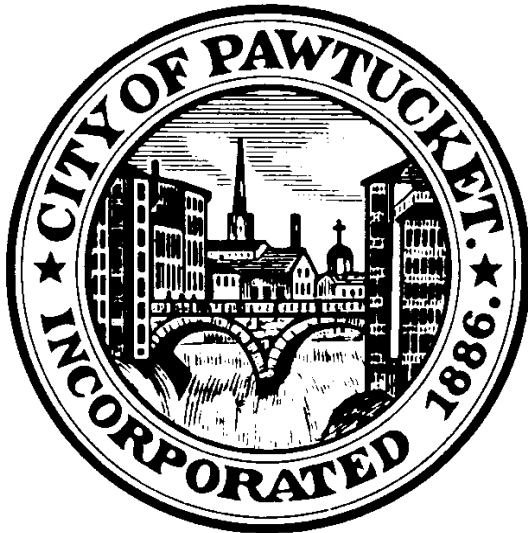


# **ADDENDUM NO. 3**

## **BLACKSTONE BIKEWAY 3A-1 CONTRACT 1**

**BID #23-040**

**PAWTUCKET, RI**



**PAWTUCKET, RHODE ISLAND**

DEPARTMENT OF PLANNING & REDEVELOPMENT  
137 ROOSEVELT AVENUE  
PAWTUCKET, RHODE ISLAND

**ISSUED: December 7, 2023**

## **Addendum #3 – December 7, 2023**

### **BID #23-040** **BLACKSTONE BIKEWAY 3A-1 CONTRACT 1** **Pawtucket, RI**

The attention of bidders submitting proposals for the above-referenced project is called to the following Addendum to the Request for Proposals indicated above. The items set forth herein, whether of omission, addition, substitution, or other change, are all to be included in, and form a part of the proposed Contract Documents for the work.

Inclusion of this Addendum must be acknowledged in the spaces provided in the document entitled "Request for Proposals Blackstone Bikeway 3A-1 Contract 1 Bid #23-040". Failure to acknowledge any and all addenda in the above specified bid may be cause for rejection of the bids by the Owner on the grounds that it is not responsive.

This Addendum consists of 65 pages (Cover (1), Summary (2) and Attachments (62)).

#### **1. CLARIFICATION TO PROPOSALS**

- a. As noted in Addendum No. 2, the City has elected to eliminate the Removal of the existing Bus Shelter on Roosevelt Avenue in it's entirety from the project. Attention shall be brought to the following sections:
  - i. Appendix H Table of Contents is revised to remove Section 03900 Clean and Repair Park Wall.
  - ii. Section 4.0 Scope of Work, Sub-Section 4.3 is revised to eliminate the Removal of the Existing Bus Shelter in it's entirety from the project.
  - iii. Section 01010 Summary of Work is revised to eliminate the Removal of the Existing Bus Shelter in it's entirety from the project.
  - iv. Section 02050 Site Preparation is revised to eliminate the Removal of the Existing Bus Shelter in it's entirety from the project.
  - v. Section 03900 Clean and Repair Wall has been eliminated in it's entirety from the project.
  - vi. Sheets 16 + 17 of the Drawings Issued for Bid have been revised to eliminate Removal of the Bus Shelter in it's entirety from the project.

- b. Section 02795 Pervious Concrete Pavement is being issued as part of this Addendum.
- c. Section 11.0 Bid Form is deleted in its entirety and replaced with re-issued Section 11.0 as part of this Addendum.
- d. Section 01025 Measurement and Payment is deleted in its entirety and replaced with re-issued Section 01025 as part of this Addendum, attention shall be brought to the following items:
  - i. Bid Item No. 3 Area 2 Removal and Disposal of Bus Shelter has been eliminated.
  - ii. Measurement and Payment for Bid Item No. 16.0 Pervious Concrete Pavement has been revised from Cubic Yard to Square Yard.
- e. Section 16560 Exterior Lighting, Part 2, 2.1 LIGHT BOLLARD is revised to eliminate "a. Light Bollard shall be Cat. No. DOSB1 20WLED4K 208 VPA BKTX by Lumec."
- f. Plan Sheets 16 & 17 are deleted in their entirety and replaced with re-issued Plan Sheets 16 & 17 as part of this Addendum.

**ATTACHMENTS:**

- A. Section 11.0 – Bid Form – Re-Issued (20 Pages)
- B. Section 01025 - Measurement & Payment – Re-Issued (28 Pages)
- C. Section 02795 – Pervious Concrete Pavement (12 Pages)
- D. Sheets 16 + 17 – Re-Issued (2 Pages)

Please contact Michael Wilcox (401-728-0500 ext. 447 or [mwilcox@pawtucketri.com](mailto:mwilcox@pawtucketri.com)), City of Pawtucket, with any questions.

**11.0 – Bid Form**

**BID # 23-040 Blackstone Bikeway 3A-1 Contract 1**

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

Submitted By: \_\_\_\_\_  
(Include Name, Address and Telephone No.) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name and remittance address that will appear on invoices:

Physical address of business:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

General Information

Is your firm a sole proprietorship doing business under a different name? \_\_\_\_Yes \_\_\_\_ No  
If yes, please indicate sole proprietorship, a name, and the name you are doing business under.

\_\_\_\_\_  
\_\_\_\_\_

Is your firm incorporated? \_\_\_\_Yes \_\_\_\_ No

Will any of the work spelled out in this bid be outsourced? \_\_\_\_Yes \_\_\_\_ No

If so, please explain below:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Have you or your firm been subject to suspension, debarment or criminal conviction by the City of Pawtucket, the State of Rhode Island, or any other jurisdiction?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

Have the City of Pawtucket and/or the State of Rhode Island ever terminated contracts with your firm for cause?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

Has your firm ever withdrawn from a contract with the City of Pawtucket and/or the State of Rhode Island during its performance?

Yes: \_\_\_\_\_ No: \_\_\_\_\_

Have you or your firm been involved in litigation against the City of Pawtucket and/or the State of Rhode Island.

Yes: \_\_\_\_\_ No: \_\_\_\_\_

If you answered yes to any of the foregoing, please explain the circumstances below. If you or your firm has been involved in litigation against the City of Pawtucket and/or the State of Rhode Island, please include the case caption, case number and status. (If more space is needed, please attach separate sheet and submit with the bid.)

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Is your company bonded? Yes \_\_\_\_ No \_\_\_\_

Please describe the nature and extent of all insurance coverage:

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References

Please list at least four (4) companies with whom you have contracted to provide similar services. Preferably, references should be municipalities which are of approximate size as the City of Pawtucket, and a website address should be included if available.

<p><u>Reference #1</u></p> <p>Company Name: _____</p> <p>Contact Person: _____ Telephone #: _____</p> <p>Contract Dates: _____ To _____</p> <p>Website Address: _____</p>
---

<p><u>Reference #2</u></p> <p>Company Name: _____</p> <p>Contact Person: _____ Telephone #: _____</p> <p>Contract Dates: _____ To _____</p> <p>Website Address: _____</p>
---

<p><u>Reference #3</u></p> <p>Company Name: _____</p> <p>Contact Person: _____ Telephone #: _____</p> <p>Contract Dates: _____ To _____</p> <p>Website Address: _____</p>
---

<p><u>Reference #4</u></p> <p>Company Name: _____</p> <p>Contact Person: _____ Telephone #: _____</p> <p>Contract Dates: _____ To _____</p> <p>Website Address: _____</p>
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**Pricing Proposal**

**Bid # 23-040 Blackstone Bikeway Segment 3A-1 Contract 1**

**1.00 OFFER:**

- A. Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by BETA Group, Inc. (Landscape Architect/Engineer for the above mentioned project) and the City of Pawtucket, we, the undersigned, hereby offer to enter into a Contract to perform the Work, (**Blackstone Bikeway Segment 3A-1 Contract 1**), for the amount indicated below, subject to the additions and deductions according to the terms of the Contract Documents and as stated below. The undersigned will provide all necessary and proper material, machinery, equipment, facilities, and means to complete the Work.
  
- B. The undersigned hereby understands that the City of Pawtucket (Owner) has the right to reject any and all bids and to award the contract in the best interests of the Owner. The Owner reserves the right to award the entire project or delete portions of the work to funds available, whichever is in the best interest of the Owner.
  
- C. The undersigned also understands that the contract must be carried out in strict accordance with the contract documents.
  
- D. Total Price below should include BID ITEMS 1.0 – 52.0 and all ALLOWANCES.

TOTAL Price:  
\$.....dollars  
(Amount in words)  
  
(.....)  
(Amount in figures)

in lawful money of the United States of America and,

We have included herewith, the unit price bid forms, information, and the required security deposit or Bid Bond as required by the Instruction to Bidders.

BID FORM

Title of Specifications: BLACKSTONE RIVER BIKEWAY Segment 3A-1 CONTRACT 1 , City of Pawtucket, Rhode Island.

Part A:

Pursuant to and in compliance with the invitation for bids of **BLACKSTONE RIVER BIKEWAY SEGMENT 3A-1 CONTRACT 1** and in compliance with the Contractual Documents and the Specifications relating hereto, the undersigned, unless explicitly noted, hereby offers to furnish the items necessary, proper and incidental to this work, whether incorporated on the bid or not, FOR THE **TOTAL BASE BID** as follows:

	\$	
(Written)		(Figures)

**TOTAL PRICE OF THE BASE BID SHALL BE ITEMS 1-52 AND ALL ALLOWANCES** as listed on the following pages.

The bidder shall specify his bid price in both words and figures. All words and figures shall be in ink or typed. In case of a discrepancy between the written words and those in figures, the written word shall govern. The Bidder is required to submit a bid based upon the products having the level of quality specified in the contract documents.

Substitution Request Language:

The bidder shall identify and document cost implications involved in all substitution requests. Any and all cost savings shall be returned to the Contract.

Addenda, if any, shall be issued by the owner and delivered to the undersigned by an appropriate traceable method.

The bid may be withdrawn prior to the scheduled time for opening of bids or any authorized postponement thereof.



**Bid Form Part B:**

**Blackstone Bikeway 3A-1 Contract 1**

**BID # \_\_\_\_\_**

**Item 1.0 Project Mobilization & Demobilization**

\_\_\_\_\_ (\$ Figures) 1 LS  
\_\_\_\_\_ Dollars/Cents

**Item 2.0 Site Preparation Activities – Project Wide**

\_\_\_\_\_ (\$ Figures) 1 LS  
\_\_\_\_\_ Dollars/Cents

**Item 3.0 NOT USED**

***REMOVED FROM SCOPE OF WORK***

**Item 4.0 Site Protection and Maintenance of Site – Project Wide**

\_\_\_\_\_ (\$ Figures) 1 LS  
\_\_\_\_\_ Dollars/Cents

**Item 5.0 Utility Test Pits – Project wide**

\_\_\_\_\_ (\$ Figures) 4 EA  
\_\_\_\_\_ Dollars/Cents

**Item 6.0 Earth Excavation**

\_\_\_\_\_ (\$ Figures) 350 CY  
\_\_\_\_\_ Dollars/Cents

**Item 7.0 Gravel Borrow**

\_\_\_\_\_ (\$ Figures) 140 CY  
\_\_\_\_\_ Dollars/Cents

**Item 8.0 Drop Inlet Drainage Structure & Catch Basin Modifications**

\_\_\_\_\_ (\$ Figures) 2 EA  
\_\_\_\_\_ Dollars/Cents

<b>Item 9.0</b>	<b>Trimming and Fine Grading</b>			
	_____	(\$ Figures)	2,200	SY
	_____	Dollars/Cents		
<b>Item 10.0</b>	<b>HMA Pavement - Roadway</b>			
	_____	(\$ Figures)	22	TON
	_____	Dollars/Cents		
<b>Item 11.0</b>	<b>HMA Pavement – Bike Path</b>			
	_____	(\$ Figures)	38	TON
	_____	Dollars/Cents		
<b>Item 12.0</b>	<b>Granite Curb – Type 1</b>			
	_____	(\$ Figures)	470	LF
	_____	Dollars/Cents		
<b>Item 13.0</b>	<b>Granite Curb – Type 2</b>			
	_____	(\$ Figures)	270	LF
	_____	Dollars/Cents		
<b>Item 14.0</b>	<b>Brick Pavers</b>			
	_____	(\$ Figures)	1770	SF
	_____	Dollars/Cents		
<b>Item 15.0</b>	<b>Cement Concrete - Types A &amp; B</b>			
	_____	(\$ Figures)	110	CY
	_____	Dollars/Cents		
<b>Item 16.0</b>	<b>Pervious Concrete Pavement</b>			
	_____	(\$ Figures)	210	SY
	_____	Dollars/Cents		
<b>Item 17.0</b>	<b>Concrete Wheelchair Ramps A-D</b>			
	_____	(\$ Figures)	16	SY
	_____	Dollars/Cents		

<b>Item 18.0</b>	<b>Detectable Warning Panel – Type 1 (Within Wheelchair Ramp)</b>			
	_____	(\$ Figures)	50	SF
	_____	Dollars/Cents		
<b>Item 19.0</b>	<b>Detectable Warning Panel – Type 2 (Isolated)</b>			
	_____	(\$ Figures)	60	SF
	_____	Dollars/Cents		
<b>Item 20.0</b>	<b>Concrete Seat Wall W-1</b>			
	_____	(\$ Figures)	1	LS
	_____	Dollars/Cents		
<b>Item 21.0</b>	<b>Reconstruction of Existing Concrete Ramp</b>			
	_____	(\$ Figures)	1	LS
	_____	Dollars/Cents		
<b>Item 22.0</b>	<b>Signage</b>			
	_____	(\$ Figures)	30	SF
	_____	Dollars/Cents		
<b>Item 23.0</b>	<b>Sign Post 2 1/2" Steel</b>			
	_____	(\$ Figures)	16	EA
	_____	Dollars/Cents		
<b>Item 24.0</b>	<b>Yellow and White Epoxy Resin Pavement Markings</b>			
	_____	(\$ Figures)	680	LF
	_____	Dollars/Cents		
<b>Item 25.0</b>	<b>Crosswalk Type 1 Epoxy Resin Pavement Markings</b>			
	_____	(\$ Figures)	280	SF
	_____	Dollars/Cents		
<b>Item 26.0</b>	<b>Crosswalk Type 2 Epoxy Resin Pavement Markings</b>			
	_____	(\$ Figures)	140	SF
	_____	Dollars/Cents		

<b>Item 27.0</b>	<b>Modifications to Existing Memorial</b>		
	_____ (\$ Figures)	1	LS
	_____ Dollars/Cents		
<b>Item 28.0</b>	<b>CS-1 Granite Stair Tread at Existing Memorial</b>		
	_____ (\$ Figures)	2	EA
	_____ Dollars/Cents		
<b>Item 29.0</b>	<b>CS-2 Granite Edging</b>		
	_____ (\$ Figures)	332	LF
	_____ Dollars/Cents		
<b>Item 30.0</b>	<b>CS-3 Granite Curb Transition</b>		
	_____ (\$ Figures)	4	EA
	_____ Dollars/Cents		
<b>Item 31.0</b>	<b>CS-4 Granite Bike Rack Base</b>		
	_____ (\$ Figures)	1	EA
	_____ Dollars/Cents		
<b>Item 32.0</b>	<b>CS-5 Granite Bench Base</b>		
	_____ (\$ Figures)	10	EA
	_____ Dollars/Cents		
<b>Item 33.0</b>	<b>Railing System Modifications &amp; Railing Type 1</b>		
	_____ (\$ Figures)	1	LS
	_____ Dollars/Cents		
<b>Item 34.0</b>	<b>Ornamental Bollard &amp; Chain System</b>		
	_____ (\$ Figures)	1	LS
	_____ Dollars/Cents		
<b>Item 35.0</b>	<b>Bike Rack</b>		
	_____ (\$ Figures)	1	EA
	_____ Dollars/Cents		

<b>Item 36.0</b>	<b>Bench</b>			
	_____	(\$ Figures)	5	EA
	_____	Dollars/Cents		
<b>Item 37.0</b>	<b>Loam 4 " Deep and Seed for Turfgrass</b>			
	_____	(\$ Figures)	600	SY
	_____	Dollars/Cents		
<b>Item 38.0</b>	<b>Tree &amp; Shrub Conservation Measures</b>			
	_____	(\$ Figures)	1	LS
	_____	Dollars/Cents		
<b>Item 39.0</b>	<b>Area 1 PB-A (Plant Bed) Landscape Plantings</b>			
	_____	(\$ Figures)	1	LS
	_____	Dollars/Cents		
<b>Item 40.0</b>	<b>Area 1 PB-B (Plant Bed) Landscape Plantings</b>			
	_____	(\$ Figures)	1	LS
	_____	Dollars/Cents		
<b>Item 41.0</b>	<b>Area 1 PB-C (Plant Bed) Landscape Plantings</b>			
	_____	(\$ Figures)	1	LS
	_____	Dollars/Cents		
<b>Item 42.0</b>	<b>Area 1 PB-D (Plant Bed) Landscape Plantings</b>			
	_____	(\$ Figures)	1	LS
	_____	Dollars/Cents		
<b>Item 43.0</b>	<b>Area 2 PB-A (Plant Bed) Landscape Plantings</b>			
	_____	(\$ Figures)	1	LS
	_____	Dollars/Cents		
<b>Item 44.0</b>	<b>Area 2 PB-B (Plant Bed) Landscape Plantings</b>			
	_____	(\$ Figures)	1	LS
	_____	Dollars/Cents		

<b>Item 45.0</b>	<b>Area 1 Irrigation System</b>		
	_____ (\$ Figures)	1	LS
	_____ Dollars/Cents		
<b>Item 46.0</b>	<b>Relocate Pedestrian Crosswalk Signal</b>		
	_____ (\$ Figures)	1	LS
	_____ Dollars/Cents		
<b>Item 47.0</b>	<b>Pedestrian Crosswalk Push Button Actuator Extension</b>		
	_____ (\$ Figures)	1	EA
	_____ Dollars/Cents		
<b>Item 48.0</b>	<b>Remove &amp; Reset Existing Light Poles</b>		
	_____ (\$ Figures)	2	EA
	_____ Dollars/Cents		
<b>Item 49.0</b>	<b>Bollard Light</b>		
	_____ (\$ Figures)	6	EA
	_____ Dollars/Cents		
<b>Item 50.0</b>	<b>Uplight</b>		
	_____ (\$ Figures)	4	EA
	_____ Dollars/Cents		
<b>Item 51.0</b>	<b>Area 1 Interior &amp; Exterior Electrical Equip, Conduit, &amp; Wiring</b>		
	_____ (\$ Figures)	1	LS
	_____ Dollars/Cents		
<b>Item 52.0</b>	<b>Flag Persons</b>	500	HRS
	_____ (\$ Figures)		
	_____ Dollars/Cents		

**Bid Form Part C Allowances**

As part of the Base Bid (Total Bid), the Bidder agrees to carry quantities of materials below in the base bid of the contract. The Owner reserves the right to remove these items from the contract totally or in part and to adjust the contract sum to reflect the actual costs of the construction authorized by the Owner. Unit prices reflect replacement with suitable materials.

**ALLOWANCE NO. 1 Allowance for Removal of Unsuitable Material**

The Base Bid Price listed in the Bid Proposal shall include the removal of a quantity of 20 cubic yards of unsuitable material, such as defective gravel base, brick, stone mortar, blocks, cobblestone, curbing, concrete footing and other waste debris that is not scheduled for removal under the other sections of the specifications. The Contractor shall contact the Engineer in the event unsuitable material is encountered. Unsuitable material shall not be removed from the site without inspection and approval by the engineer. Removal requires certification of quantities by the Contractor. Un-used allowances for unsuitable material removal shall be reimbursed to the Owner at the Contract Unit Price stated below.

Unit Price for the Removal of Unsuitable Material, 20 Cubic Yards:

\$ \_\_\_\_\_ \$ \_\_\_\_\_  
Cost per Cubic Yard In Words Per Cy

\$ \_\_\_\_\_  
Total Cost Removal of 20 Cubic Yards of Unsuitable Material

**ALLOWANCE NO. 2 Allowance for Removal of Boulders over 3 feet in diameter**

The Base Bid Price listed in the Bid Proposal shall include the removal and disposal of a quantity of 5 cubic yards of boulders over 3 feet in diameter (considered unclassified excavation). The Contractor shall contact the Engineer in the event boulders are encountered. Boulders shall not be removed from the site without inspections by the Engineer. Certification of quantities are required. Unused allowances for boulder removal shall be reimbursed to the Owner at the Contract Unit Price.

Unit Price for the Removal and Disposal of Boulders over 3 feet in diameter, 5 Cubic Yards:

\$ \_\_\_\_\_ \$ \_\_\_\_\_  
Cost per Cubic Yard In Words Per Cy

\$ \_\_\_\_\_  
Total Cost 5 CY Removal and Disposal of Boulders

**ALLOWANCE NO. 3 Allowance for Removal and Disposal of Concrete Foundations and Footings requiring jackhammer demolition:** The Base Bid Price listed in the Bid Proposal shall include the removal and disposal of the quantity of five (5) cubic yards of unclassified concrete requiring jackhammer demolition (considered Unclassified Excavation) The Contractor shall contact the Engineer in the unclassified foundations or footings are encountered. The concrete rubble may not be removed from the site without inspections by the Engineer. Certification of quantities is required. Unused allowances for Concrete Foundations and Footing Removal and Disposal shall be reimbursed to the Owner at the Contract Unit Price.

Unit Price for the Removal and Disposal of Concrete Foundations and Footings requiring jackhammer demolition, 10 Cubic Yards:

\$ \_\_\_\_\_ \$ \_\_\_\_\_  
 Cost per Cubic Yard In Words Per Cy

\$ \_\_\_\_\_  
 Total Cost 5 CY Removal and Disposal of Concrete Footings and Foundations

**ALLOWANCE NO. 4 Permit Fees:** A permit allowance of Four-Thousand Dollars (\$4,000.00) shall be provided to address this item. The Contractor shall be responsible for payment of all permit fees and shall request reimbursement thru payment requisitions. The Contractor shall provide documentation that the permit fees have been paid prior to reimbursement. The amount reimbursed will be the amount that is stated on the permit receipt(s). Unused allowances not expended for permitting shall be reimbursed to the Owner.

\$ 4,000.00 Four Thousand Dollars  
 Lump Sum In Words



**ALLOWANCE NO 5. NOT USED**

**REMOVED FROM SCOPE OF WORK**

**ALLOWANCE NO 6. Police Detail for Traffic Protection:** An allowance of Fifty-Thousand Dollars (\$50,000.00) shall be provided to address this item. The Contractor shall be responsible for reviewing proposed work operations with the Engineer and shall coordinate and ensure the proper police detail is present to maintain orderly traffic flow and provide the necessary traffic protection. The Contractor shall provide documentation of the days and manhours required. The amount reimbursed will be the amount that is stated on the time slip (s). Unused allowances not expended for Police Detail for Traffic Protection shall be reimbursed to the Owner.

\$ 50,000.00 Fifty-Thousand dollars  
 Lump Sum In Words

END OF ALLOWANCES



**Bid Form Part D Bid Add Alternates**

Part D not used as part of this Contract.

**Bid Form Part E Acknowledgement of Addenda**

The Bidder hereby states that he/she has become thoroughly familiar with the site, local conditions affecting the performance and costs of the work, and with the Contract Documents, including the Bid Documents and those forms required to be executed and submitted with this proposal as well as the method of contract award, the terms of the proposal contract, wage rates and employment requirements and reports, the conditions of this contract relating to performance, the technical specifications and drawings, and any noted modifications to the Bidding Documents have been incorporated into addenda thereto as prepared by the Owner as follows:

ADDENDUM NO.

SIGNATURE OF BIDDER

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**BID SUBMITTED BY:**

The Bidder, in compliance with the invitation for bids for construction of the BLACKSTONE BIKEWAY SEGMENT 3A-1 CONTRACT 1, Pawtucket, Rhode Island, having examined the Contract Documents and related specifications and plan, and being familiar with the site and with all the conditions surrounding the proposed construction including the availability of materials, labor and equipment, hereby proposed to construct the Project in accordance with the contract documents within the time set forth to cover all expenses incurred in performing the work required under the Contract Documents in which this proposal is a part.

The prices that are herein quoted will be the price to the Owner

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

Company Address: \_\_\_\_\_

Bidder's Signature: \_\_\_\_\_

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

**1.00 BID ACCEPTANCE:**

If this Bid is accepted within the time stated in the contract documents, and we fail to commence the Work, the Bid Bond shall be forfeited as damages to the Owner by reason of our failure, limited in amount to the lesser of the face value of the Bid Bond or the difference between this Bid and the Bid upon which the Contract is executed.

In the event our Bid is not accepted within the time stated in the contract documents, the required Bid Bond shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

The City of Pawtucket reserves the right to increase or decrease the quantities stated in the bid at the unit prices quoted.

**2.00 BID FORM SIGNATURE(S)**

The Corporate Seal of

---

(Bidder - please print the full name of your Proprietorship, Partnership, or Corporation)

was hereunto affixed in the presence of:

---

(Authorized signing officer                      Title)

(Seal)

---

(Authorized signing officer                      Title)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

**NON-COLLUSION AFFIDAVIT OF PRIME BIDDER**

State of \_\_\_\_\_ )  
 ) .ss  
County of \_\_\_\_\_ )

\_\_\_\_\_  
,  
being first duly sworn, deposes and says that;

(1) He is \_\_\_\_\_ (owner, partner, officer, representative or agent) \_\_\_\_\_ of \_\_\_\_\_, the BIDDER that has submitted the attached bid;

(2) He is fully informed respecting the preparation and contents of the attached Bid and all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham Bid;

(4) Neither the said BIDDER nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including the affiant, has in any way colluded, conspired or agreed, directly or indirectly, with any other BIDDER, firm or person to submit a collusive or sham bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such a contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other BIDDER, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other BIDDER, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Local Government or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the BIDDER or any of its agents, representatives, owners, employees or parties in interest including this affiant.

(Signed) \_\_\_\_\_

\_\_\_\_\_  
(Title)

Subscribed and sworn to before me  
This \_\_\_\_\_ Day of \_\_\_\_\_, 20 \_\_\_\_\_

My Commission Expires \_\_\_\_\_

**CERTIFICATE OF COMPLIANCE WITH TAX LAWS**

I, \_\_\_\_\_ of \_\_\_\_\_,  
certify under  
*(principal)* *(corporation)*  
pains and penalties of perjury that said corporation has complied with all the laws of the State of Rhode Island  
and Providence Plantations relating to taxes.

\_\_\_\_\_  
Date \_\_\_\_\_ Signature \_\_\_\_\_  
  
\_\_\_\_\_  
Title \_\_\_\_\_  
  
\_\_\_\_\_  
Federal Tax Identification Number \_\_\_\_\_

END OF SECTION

THE BIDDER SHALL STATE THE NAMES OF ALL THE SUBTRACTORS THAT THE CONTRACTOR PROPOSES TO USE

**PROPOSED SUBCONTRACTORS**

If none, write "None" \_\_\_\_\_

\*Description of Work \_\_\_\_\_

Proposed Subcontractor, Name: \_\_\_\_\_

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

Fed Tax ID#: \_\_\_\_\_

DUNS #: \_\_\_\_\_

\*Description of Work \_\_\_\_\_

Proposed Subcontractor, Name: \_\_\_\_\_

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

Fed Tax ID#: \_\_\_\_\_

DUNS #: \_\_\_\_\_

\*Description of Work \_\_\_\_\_

Proposed Subcontractor, Name: \_\_\_\_\_

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

Fed Tax ID#: \_\_\_\_\_

DUNS #: \_\_\_\_\_

\*Description of Work \_\_\_\_\_

Proposed Subcontractor, Name: \_\_\_\_\_

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

Fed Tax ID#: \_\_\_\_\_

DUNS #: \_\_\_\_\_

\*Insert description of work and subcontractors' names as may be required.

This is to certify that all names of the above-mentioned subcontractors are submitted with full knowledge and consent of the respective parties.

**END SECTION 11**

## SECTION 01025

### MEASUREMENT AND PAYMENT

#### PART 1 - GENERAL

##### 1.01 SUMMARY

###### A. Section Includes

1. Measurement and payment criteria applicable to the Work performed under a unit price and/or lump sum payment method of Items listed in the BID.

###### B. RELATED SECTIONS

1. SECTION 11.0 Bid Form
2. SECTION 12.0 General Conditions AIA A201
3. SECTION 13.0 Supplementary Conditions
4. SECTION 14.0 Special Conditions for EDA Contracts
5. Appendix H Technical Specifications
6. Appendix I Plans
7. Section 01020 - Allowances
8. Section 01026 - Schedule of Values

##### 1.02 UNIT QUANTITIES SPECIFIED

- A. Quantities and measurements indicated in the BID FORM are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the Engineer shall determine payment.
- B. If the actual Work results in measurable discrepancies outside the tolerances indicated and requires more or fewer quantities than those quantities indicated, provide the required quantities at the unit price furnished in the BID FORM.

##### 1.03 MEASUREMENTS OF QUANTITIES

- A. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.
- B. Measurement by Area: Measured by square dimension using mean length and width or radius.
- C. Linear Measurement: Measured by linear dimension, along the horizontal projection of the centerline or mean chord.
- D. At appropriate points in this text, specifications are given with respect to measuring or estimating certain quantities and the sums due for the same. Except as otherwise provided, the Engineer shall determine the appropriate method for measuring and



computing each quantity, and for estimating the sums due for the various kinds of work and material, using such methods, tools and degrees of precision as are suitable for the particular measurement, Item or computation. When so requested by the Engineer, assistance in measuring or determining quantities, shall be provided by furnishing the help of unskilled laborers on the site, by furnishing copies of invoices, or by other means.

- E. For estimating quantities in which the computations of areas by analytic and geometric methods would be laborious, as determined by the Engineer, it is stipulated and agreed that the planimeter shall be considered an instrument of precision adapted to the measurement of such areas and may be used for this purpose.

#### 1.04 UNIT PRICES

- A. Payment will be computed on the basis of the unit prices indicated in Section 11 BID FORM as shown for each Item and the quantity of units completed. Unit prices are to include cost of all necessary materials, labor, equipment, overhead, profit and other applicable costs. (See Par. 1.06, this Section.)

#### 1.05 LUMP SUM PRICES

- A. Payment will be computed on the basis of the percentage of work completed on each Item in the contract BID as determined by the Engineer. Lump sum prices are to include the cost of all necessary materials, labor, equipment, overhead, profit and other applicable costs. (See Par. 1.06, this Section.)
- B. The Contractor's breakdown in the BID FORM and SCHEDULE OF VALUES of the Lump Sum bid will be used only as a guide to determine the percentage of completion.

#### 1.06 PRICES INCLUDE

- A. The prices stated in the Proposal include full compensation not only for furnishing all the labor, equipment and material needed for, and for performing the work, but also for assuming all risks of any kind for expenses arising by reason of the nature of the soil, ground water, or the action of the elements; for all excavation and backfilling; for the removal of and delay or damage occasioned by trees, stumps, pipes, ducts, timber, masonry or other obstacles; for removing, protecting, repairing, or restoring, without cost to the Owner, all pipes, ducts, drains, sewers, culverts, conduits, curbs, gutters, walks, fences, tracks, or other obstacles, road pavements and other ground surfacing whether shown on plans or not for draining, damming, pumping or otherwise handling and removing, without damage to the work or to other parties, and without needless nuisance, all water or sewage from whatever source which might affect the work or its progress, or be encountered in excavations made for the work; for all signs, fencing, lighting, watching, guarding, temporary surfacing, bridging, snow removal, etc., necessary to maintain and protect travel on streets, walks and private ways; for making all provisions necessary to maintain and protect

buildings, fences, poles, trees, structures, pipes, ducts and other public or private property affected or endangered by the work; for the repair or replacement of such things if injured by neglect of such provisions for removing all surplus or rejected materials as may be directed; for replacing, repairing and maintaining the surfaces of streets, highways, public and private lands if and where disturbed by work performed under the Contract or by negligence in the performance of work under the Contract; for furnishing the requisite filling materials in case of any deficiency or lack of suitable materials; for obtaining all permits and licenses and complying with the requirements thereof, including the cost of furnishing any security needed in connection therewith; for protection against inclement or cold weather; for all expenses incurred by or on account of the suspension; interruption or discontinuance of work; for the cost of the surety bond and adequate insurance; for all taxes, fees, union dues, etc., for which the Contractor may be or become liable, arising out of his operations incidental to the Contract; for providing equipment on the site and off site; for providing a field office and its appurtenances and for all general and incidental expenses; for tools, implements and equipment required to build and put into good working order all work contemplated by the Contract; for maintaining and guaranteeing the same as provided; and for fulfilling all obligations assumed by the Contractor under the Contract and its related documents.

- B. The Owner shall pay and the Contractor shall receive the prices stipulated in the BID FORM made as part hereof as full compensation for everything performed and for all risks and obligations undertaken by the Contractor under and as required by the Contract.
- C. The prices for those Items which involve excavation shall include compensation for disposal of surplus excavated material and handling of water.
- D. In all Items involving excavation, the price shall be based on doing the entire excavation in earth. Where rock is excavated, the price, therefore, shall be in addition to the cost of excavating earth and no deduction will be made in the amount for earth excavation.

#### 1.07 PAYMENT

- A. In general, payment will be made for all Contract work satisfactorily completed through the end of the previous month. The payment will include any additional work which has been completed and approved and change order work agreed upon by the Owner and Contractor which has been completed and approved (See SECTION 11 BID FORM).
- B. Each application for payment will indicate the total of a minimum percent retainage as defined in under SECTION 01026 SCHEDULE OF VALUES as held by the Owner on the total of all work completed under the contract and approved for payment to-date.

- C. Monthly applications for payment may also indicate reduction or increase of the total Contract price when an approved change order results in a net reduction or net increase in the cost and quantity of work to be performed under the Contract.
- D. Special billings and charges against the Contract as credit or payment to the Owner, that are not for change order work, may be subtracted from monies due on any monthly application for payment but shall not serve to reduce the total Contract price.
- E. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Engineer multiplied by the unit price for work which is incorporated in or made necessary by the Work.

#### 1.08 METHOD OF MEASUREMENT AND BASIS OF PAYMENT

- A. All bid items listed below are applicable for all site improvements as depicted in the Contract Documents.

#### **BID ITEM NO. 1.0 PROJECT MOBILIZATION & DEMOBILIZATION**

##### A. METHOD OF MEASUREMENT

- 1. This item shall be paid for at the contract price bid per Lump Sum.
- 2. The Lump Sum price for this item shall not exceed ten percent (10%) of the total amount of the bid.
- 3. A maximum of fifty percent (50%) of the Mobilization & Demobilization lump sum shall be payable in the initial payment requisition. The balance of this lump sum shall be payable upon completion of the project, after all project record keeping and close out requirements have been met, and all temporary items and measures have been removed and suitably disposed of and final restoration and cleaning has been completed.

##### B. BASIS OF PAYMENT

- 1. The Lump Sum price paid for item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
  - a. Initiating and administering the contract, including but not limited to furnishing performance and payment bonds and all other securities and insurances required, project meetings, securing of all necessary permits, etc., for providing all other materials, supplies, tools, equipment, labor, financing, supervision, temporary structures, and any and all other administrative expenses incurred in carrying out the work and furnishing the materials, keeping records and preparing

- required reports, and assuming risks, which have not been included in the prices in other items of the Bid Proposal;
- b. Costs, exclusive of the cost of materials, for mobilizing all machinery, plants, tools, and other equipment necessary to carry on and complete the work;
  - c. Coordinating and scheduling the use of uniformed traffic persons including tracking or verifying hours worked by traffic persons;
  - d. Requirements for and payment provisions for material testing and quality control testing are addressed in Allowance No. 5.
  - e. Costs for demobilizing all machinery, plant, tools, and other equipment used to perform the work upon completion of the project;
  - f. Costs for preparing, maintaining and updating the project schedule for submission to and approval by the Owner
  - g. Performance of final cleanup and any necessary restorations of the project area, exclusive of specific restoration to be paid for under other items.
  - h.

## **BID ITEM 2.0 SITE PREPARATION ACTIVITIES – PROJECT WIDE**

### **A. METHOD OF MEASUREMENT**

1. This quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, complete and accepted in place.

### **B. BASIS OF PAYMENT**

1. The Lump Sum price paid for this item shall include full compensation for all labor, equipment, materials and incidentals needed to conduct various site preparation activities, with all work, complete in place but not limited to all field survey and layout, clearing, grubbing, pruning of trees, roadway and sidewalk saw-cutting, removal and disposal of asphalt and concrete pavements, removal, salvage and stockpiling of items indicated to be used, removal, cleaning and stockpiling of existing brick pavers, terminating wiring and the removal and stockpiling of all types of light fixtures, foundations, fencing, guardrails and all types of signage including any and all incidentals related to preparing the site and any and all items considered incidental and not specifically included for payment under other specification sections.



**BID ITEM 3.0 NOT USED**

**BID ITEM NO. 4.0 SITE PROTECTION AND MAINTENANCE OF THE SITE –  
PROJECT WIDE**

**A. METHOD OF MEASUREMENT**

1. The Lump Sum price paid for this item shall include full compensation for all labor, equipment, materials and incidentals needed to conduct various site preparation activities, with all work, complete in place but not limited installation of temporary chain-link gates and fencing, protection of asphalt surfaces to remain.
2. Furnishing, installing, moving and placing any and all plastic pipe barriers and drum barrels including removing temporary traffic control devices from their initial locations, handling, maintaining, transporting, and relocating traffic control devices to storage or to subsequent intermediate locations at which they are to be used for traffic control, with markings protections.
3. Work required for the proper maintenance of the site in an orderly manner inclusive of signage, containment enclosures, stockpiles, dumpsters, and roadway sweeping to maintain the site and immediate surrounding conditions free of debris and dust. Work shall include any and all incidentals related to protecting and maintaining the site in a clean, safe and secure manner inclusive of any and all items considered incidental and not specifically included for payment under other specification sections.
4. The work shall be measured on a monthly basis, for the duration of the project, as established in the approved Project Schedule, complete and as accepted in place.

**B. BASIS OF PAYMENT**

1. Payment shall be per month based on the approved Schedule of Values. Payment for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
  - a. All erosion controls and site protection provisions.
  - b. Fabricating, furnishing, erecting, maintaining, removing and relocating the traffic management devices for the overall project, complete-in-place, as directed by the Engineer and in coordination with the City;
  - c. Providing additional traffic management devices to provide a clear and visible traffic control through the project area, if so required;
  - d. The Contractor shall be required to reposition the traffic control devices as many times as necessary to ensure the safe passage of vehicular traffic and pedestrians. Supplemental signs and traffic control devices directing traffic around and/or through the work zones shall be supplied as operations require or as directed by the Engineer. Payment for these traffic control measures shall be included as part of this item and no additional payment will be made.
  - e. Other work, whether direct or incidental, associated with the maintenance and protection of the site and related traffic and sidewalk closures/protections not specifically identified herein.

**BID ITEM NO. 5.0 UTILITY TEST PITS – PROJECT WIDE**

**A. METHOD OF MEASUREMENT**

1. The quantity of Utility Test Pits to be paid for under this item shall be measured per Cubic Yard, based on the excavated volume of material and surface restoration for the Test Pits required as directed by the Engineer.

**B. BASIS OF PAYMENT**

1. The unit price for this item shall include full compensation for all labor, equipment, materials required to install and maintain necessary traffic protection, sawcut, excavate, hand-dig to expose utilities, measure, and document subsurface conditions vertically and horizontally, backfill and compact and temporarily patch the area disturbed to match the adjacent existing surfaces impacted, inclusive of any and all incidentals.

**BID ITEM NO. 6.0 EARTH EXCAVATION**

**A. METHOD OF MEASUREMENT**

1. The quantity of Earth Excavation to be paid for under this item shall be measured per Cubic Yard, based on the total number of cubic yards of materials excavated, loaded, hauled and legally disposed of off-site.

**B. BASIS OF PAYMENT**

1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals for excavation as follows:
  - a. Excavation of all earth materials (with the exception of boulders over 3 feet in diameter), including but not limited to common borrow, silt, sand, urban fill, rubble, gravel or other soils, tree roots, organic matter, loam and any other materials encountered when excavating as necessary to perform the work.
  - b. No separate payment will be made for any saw-cutting required to facilitate the work.
  - c. Other work, whether direct or incidental, associated with excavation of earth materials and not specifically included for payment under other bid items shall be included herein.

**BID ITEM 7.0 GRAVEL BORROW**

A. METHOD OF MEASUREMENT

1. The quantity of Gravel Borrow to be paid for under this Item shall be measured per Cubic Yard based on the number of cubic yards of gravel borrow installed, complete and accepted in place. Work shall include any and all incidentals and items not specifically included for payment under other sections.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for all labor, equipment, and materials related to furnishing, hauling, placement, grading and compaction of all gravel borrow material and any and all incidentals required to install in place, complete and accepted.

**BID ITEM 8.0 DROP INLET DRAINAGE STRUCTURE & CATCH BASIN MODIFICATIONS**

A. METHOD OF MEASUREMENT

1. The quantity of Drop Inlet to be paid for under this Item shall be measured per Each based on the number of Drop Inlets installed, complete, and accepted in place and the number of Catch Basins modified, complete and accepted in place. Work shall include any and all incidentals and all items not specifically included for payment under other sections.

B. BASIS OF PAYMENT

1. The Unit Price for this item shall include full compensation for all labor, equipment, materials and incidentals needed and as follows: The price for this item shall include full compensation for furnishing drainage structure, with frame and grate, all necessary piping and fittings, excavation required to expose existing pipe and structures, saw-cutting, core drilling, installing drainage pipe and gutter inlet structure, backfilling, compacting, setting frame to the proper interim grade if so required and to finish grade, and installing grates, inclusive of any and all incidentals required to install complete and accepted, in place.

**BID ITEM 9.0 TRIMMING AND FINE GRADING**

A. METHOD OF MEASUREMENT

1. This item shall be measured by the Square Yard of grading completed, and accepted in place.

B. BASIS OF PAYMENT

1. The Unit Price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to distribute materials across surfaces the line and grade indicated, to finish grade complete and accepted in place, including and inclusive of any work considered incidental and not specifically identified.

**BID ITEM 10.0 HMA PAVEMENT - ROADWAY**

A. METHOD OF MEASUREMENT

1. This quantity of this item shall be measured by the Ton, complete and accepted in place.

B. BASIS OF PAYMENT

1. The Unit Price for this item shall include full compensation for all labor, equipment, materials, and incidentals necessary to install the work complete and accepted in place, including all lifts or layers of pavement required, complete and accepted in place, as well as all items not specifically included for payment under other specification sections, as necessary to complete the work.

**BID ITEM 11.0 HMA PAVEMENT - BIKE PATH**

A. METHOD OF MEASUREMENT

1. This quantity of this item shall be measured by the Ton, complete and accepted in place.

B. BASIS OF PAYMENT

1. The Unit price for this item includes full compensation for all labor, equipment, materials and incidentals necessary to install the work complete and accepted in place, including all lifts or layers, of pavement required, complete and accepted in place as well as all items not specifically included for payment under other specification sections, as necessary to complete the work.



**BID ITEM 12.0 GRANITE CURB - Type 1**

A. METHOD OF MEASUREMENT

1. This quantity of this item shall be measured by the linear foot installed, complete and accepted in place.

B. BASIS OF PAYMENT

1. The linear foot price paid for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to install the work complete and accepted in place, including furnishing and installing new 6" vertical granite curb, to include excavation, setting to the specified line and grade, saw cutting, as well as, backfilling, compacting installing concrete curb-lock and all related work considered incidental and not specifically identified herein, complete and accepted, in place.

**BID ITEM 13.0 GRANITE CURB - Type 2**

A. METHOD OF MEASUREMENT

1. This quantity of this item shall be measured by the linear foot installed, complete and accepted in place.

B. BASIS OF PAYMENT

1. The Linear Foot price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to install the work complete and accepted in place, including furnishing and installing new granite curb, as well as, excavation, setting curb to the specified line and grade, saw cutting, as well as, backfilling, compacting, installing concrete curb-lock and all related work considered incidental and not specifically identified herein, complete and accepted, in place.

**BID ITEM 14.0 BRICK PAVERS**

A. METHOD OF MEASUREMENT

- 1 This quantity of this item shall be measured by the Square Foot, complete and accepted in place.

B. BASIS OF PAYMENT

1. The Unit Price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to install the work complete and accepted in place, including loading and hauling from the stockpiles, incidental cleaning, sorting,

sizing and making ready bricks to be re-laid. Work shall include lay-out, forming, placing reinforcing, forming, pouring and finishing concrete rigid base, curing concrete, placing and screeding paver setting bed and selecting, cleaning, and installing pavers inclusive of cutting and setting brick pavers as well as jointing the installed bricks, as indicated on the plans as well as any necessary work considered incidental and not specifically identified herein, complete and accepted in place.

**BID ITEM 15.0 CEMENT CONCRETE - TYPES A & B**

A. METHOD OF MEASUREMENT


1. The quantity of this item will be measured by the Cubic Yard, complete and accepted in place.

B. BASIS OF PAYMENT

1. The Cubic Yard price paid for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to lay out, form, install reinforcing, pour, place and finish concrete as shown on the plans, including all work considered incidental and not specifically identified herein, complete and accepted in place.

**BID ITEM 16.0 PERVIOUS CONCRETE PAVEMENT**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured by the  Square Yard, complete and accepted in place.

B. BASIS OF PAYMENT

1. The Cubic Yard price paid for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to furnish and install the components of the Pervious Concrete Pavement including furnishing and installing geotextile, furnishing and installing all types and sizes of drain pipe to the point of discharge, core drilling existing concrete wall to accommodate drain pipe, furnishing, hauling and placing specified crushed stone in various filter and reservoir courses and pipe bedding stone, impermeable liner, as well as furnishing, forming and placing the pervious concrete, complete, and accepted in place. Work shall include any and all incidentals and all items not specifically included for payment under other sections.

**BID ITEM 17.0 CONCRETE WHEELCHAIR RAMPS A - D**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured by the Square Yard, complete and accepted in place.
2. Detectable Warning Panels shall be installed under this item, but the quantity shall be measured elsewhere.

B. BASIS OF PAYMENT

1. The Square Yard price paid for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to lay out, form, place joints, furnish, place and finish concrete, including all work considered incidental and not specifically identified herein, complete and accepted in place.
2. Detectable Warning Panels shall be paid for under Bid Item 18.0

**BID ITEM 18.0 DETECTABLE WARNING PANEL TYPE 1 & 1A (WITHIN WCR)**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured by the Square Foot, accepted, delivered at the jobsite.

B. BASIS OF PAYMENT

1. The Square Foot price paid for this item shall be payment for the item, inclusive do delivery to the site, including all equipment, materials and incidentals necessary to fully install.

**BID ITEM 19.0 DETECTABLE WARNING PANEL TYPE 2 (ISOLATED)**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured by the Square Foot, complete and accepted in place.

B. BASIS OF PAYMENT

1. The Square Foot price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to furnish and lay out, form, pour, place and finish concrete setting bed and to set detectable warning panels including any and all work considered incidental and not specifically identified herein, complete and accepted in place.

**BID ITEM 20.0 CONCRETE SEAT WALL W-1**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, complete and accepted, in place.

**B. BASIS OF PAYMENT**

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to install the work including furnishing, constructing and installing (and removing) formwork, bracing, form ties, threaded dowels, anchors, steel reinforcing, architectural treatments, surface finishes as well as geotextile fabric, crushed stone and weep holes as shown on the plans. Furnishing, installing, placing and finishing all cast-in-place concrete elements, inclusive of any and all work considered incidental and not specifically identified, complete and accepted, in place.

**BID ITEM 21.0 RECONSTRUCTION OF EXISTING CONCRETE RAMP**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, complete and accepted, in place.

**B. BASIS OF PAYMENT**

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to install the work including furnishing, constructing and installing (and removing) formwork, bracing, form ties, threaded dowels, anchors, steel reinforcing, architectural treatments, surface finishes as well as furnishing, installing, placing and finishing all cast-in-place concrete elements inclusive of any and all work considered incidental and not specifically identified, complete and accepted, in place. Modifications to existing wall, regrading gravel borrow, and excavation shall be included as part of the lump sum payment.

**BID ITEM 22.0 SIGNAGE**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured per Square Foot, complete and accepted in place.

B. BASIS OF PAYMENT

1. The price per Each shall include compensation for all labor, equipment, materials and incidentals necessary to lay out, furnish, set, install signage as indicated to signposts, with specified hardware, including all work considered incidental and not specifically identified herein, complete and accepted in place.

**BID ITEM 23.0 SIGN POSTS 2-1/2" STEEL**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured per Each, complete and accepted in place.

B. BASIS OF PAYMENT

1. The unit price paid shall include compensation for all labor, equipment, materials and incidentals necessary to lay out final locations, furnish, set, install signposts including all work considered incidental and not specifically identified herein, complete and accepted in place.

**BID ITEM 24.0 YELLOW AND WHITE EPOXY RESIN PAVEMENT MARKINGS**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured per linear foot of pavement marking, complete and accepted in place.

B. BASIS OF PAYMENT

1. The price per Each shall include compensation for all labor, equipment, materials, and incidentals necessary to layout, furnish, set, install and finish including all work considered incidental and not specifically identified herein, complete and accepted in place.
2. The basis for payment shall be for 4" wide painted pavement markings.
3. The payment will be adjusted by a factor of 1.50 for locations with 6" wide pavement markings specified.
4. The payment will be adjusted by a factor of 3.0 for locations with 12" wide pavement marking specified.

**BID ITEM 25.0 CROSSWALK TYPE 1 EPOXY RESIN PAVEMENT MARKINGS**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured per Square Foot complete and accepted in place.

B. BASIS OF PAYMENT

1. The price per Each shall include compensation for all labor, equipment, materials, and incidentals necessary to lay out, furnish, install and finish including all work considered incidental and not specifically identified herein, complete and accepted in place.

**BID ITEM 26.0 CROSSWALK TYPE 2 EPOXY RESIN PAVEMENT MARKINGS**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured per Square Foot, furnished and installed complete and accepted in place.

B. BASIS OF PAYMENT

1. The price per Square Foot shall include compensation for all labor, equipment, materials, and incidentals necessary to lay out, furnish, install and finish including all work considered incidental and not specifically identified herein, complete and accepted in place.

**BID ITEM 27.0 MODIFICATIONS TO EXISTING MEMORIAL**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, complete and accepted, in place.

B. BASIS OF PAYMENT

1. The Lump Sum price paid for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to install the work including the following:
  - a. Disassembly with care for re-use: Removal of existing memorial stones, sorting, stacking, and re-working existing stone including cutting, drilling, and re-finishing the stones identified to be reset.

- b. Excavation, hand digging, cutting, demolishing, removal and disposal of excess soils and concrete foundations indicated for removal.
- c. Excavation, placement of gravel base, compacting, forming, placing reinforcing pouring and finishing concrete foundations and slabs, in sequence as shown.
- d. Coordination for placement of Granite Edging.
- e. Drilling, setting of pins and epoxy adhesives or similar to secure stones, installing stones, shimming, adjusting as required to meet the finish grades as shown, to the line and grade indicated.
- f. Cleaning and preparing joints, installing backer rods, mortar and finishing of all joints within new and existing stones as indicted.
- g. Protection of existing Memorial elements to remain in place.
- h. Washing and cleaning of the area of work.
- i. Work to complete the modifications to the memorial, inclusive of any and elements of the work considered incidental and not specifically identified, complete and accepted, in place.

**BID ITEM 28.0 CS-1 GRANITE STAIR TREAD AT EXISTING MEMORIAL**

**A. METHOD OF MEASUREMENT**

- A. The quantity of this item shall be measured per Each, fabricated, and delivered, and accepted at the job site.

**B. BASIS OF PAYMENT**

1. The price paid for this item shall be per each CS stone, fabricated, delivered, and accepted to the site.
2. The installation of the CS-1 shall be paid for under Bid Item 27 Modifications to Existing Memorial.

**BID ITEM 29.0 CS-2 GRANITE EDGING**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall be measured per Linear Foot, fabricated, furnished, installed as shown on the plans, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The Unit Price for this item shall include compensation for all labor, equipment, materials, and incidentals necessary to lay out, furnish, excavate, install, set to line and grade indicated, backfill, compact, complete, and accepted in place including all work considered incidental and not specifically identified herein, complete and accepted in place. Resetting of any existing river stone pavers where encountered shall be considered incidental to the performance of this work and shall be included in this bid item.

**BID ITEM 30.0 CS-3 GRANITE CURB TRANSITION**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured per Each, fabricated, furnished and installed as shown on the plans, complete and accepted in place.

B. BASIS OF PAYMENT

1. The Unit Price paid for this item shall be per each curb transition for all labor, equipment, materials and incidentals necessary to install the work complete and accepted in place, including furnishing and installing new curb, including excavation, setting to the specified line and grade, saw cutting, backfilling, compacting and all related work considered incidental and work not specifically identified herein, complete and accepted, in place.

**BID ITEM 31.0 CS-4 GRANITE BIKE RACK BASE**

A. METHOD OF MEASUREMENT

- B. The quantity of this item shall be measured per Each, fabricated, delivered, and accepted at the job site.

B. BASIS OF PAYMENT

- 1 The price paid for this item shall be per each Bike Rack Base, furnished complete, delivered to the job site and accepted.
- 2 The installation of CS-4 shall be paid for under Bid Item 35.0 Bike Rack

**BID ITEM 32.0 CS-5 GRANITE BENCH BASE**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured per Each, fabricated, and delivered, and accepted at the job site.

A. BASIS OF PAYMENT

- 1 The price paid for this item shall be per each Bike Rack Base, furnished complete, delivered, and accepted at the job site .
- 2 The installation of CS-5 shall be paid for under Bid Item 36.0 Bench



**BID ITEM 33.0 RAILING SYSTEM MODIFICATIONS & RAILING TYPE 1**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent of the Lump Sum, installed, complete and accepted, in place.

B. BASIS OF PAYMENT

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to produce shop drawings, layout, template, cut, grind, weld, fabricate, finish, drill, set and install Rail Panels as well as all modifications to the existing railings on the existing concrete wall including all cutting, removal, grinding, welding and field finishing required including all work considered incidental and not specifically identified herein, complete and accepted in place.

**BID ITEM 34.0 ORNAMENTAL BOLLARD & CHAIN SYSTEM**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, complete and accepted, in place.

B. BASIS OF PAYMENT

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to furnish and layout, fabricate, drill, set and install all steel bollards, chains, splices lap connectors and related hardware, complete in place and accepted, including any and all work considered incidental and not specifically identified herein, complete and accepted in place.

**BID ITEM 35.0 BIKE RACK**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured per Each, fabricated, installed complete in place and accepted.

B. BASIS OF PAYMENT

- 1 The Unit Price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to lay out, furnish excavate, install set to line and

grade, backfill and compact, work to be complete and accepted in place as well as all items not specifically included for payment under other specification sections, as necessary to complete the work.

**BID ITEM 36.0 BENCH**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured per Each, fabricated, installed complete in place and accepted.

B. BASIS OF PAYMENT

- 1 The Unit Price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to lay out, furnish excavate, install set to line and grade, backfill and compact, work to be complete and accepted in place as well as all items not specifically included for payment under other specification sections, as necessary to complete the work.

**BID ITEM 37.0 LOAM 4" DEEP & SEED FOR TURFGRASS**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall be measured by the Square Yard installed, complete and accepted in place.

A. BASIS OF PAYMENT

1. The Unit Price paid for this item shall include full compensation for all labor, equipment, materials, and incidentals necessary to furnish and place loam in areas identified on the plans fertilizing, grass seeding operations and any and all work considered incidental and not specifically identified herein, complete and accepted in place.
2. Trimming and fine grading of areas to receive loam 4 inches deep and seed shall be measured and paid for else-where.

**BID ITEM 38.0 TREE & SHRUB CONSERVATION MEASURES**

A. METHOD OF MEASUREMENT

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, of the Lump Sum item, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to furnish and install complete, in place and accepted, including:
  - a. Tree canopy pruning and limbing of existing trees.
  - b. Root pruning of existing trees.
  - c. Removal/replanting of existing shrubs to accommodate utility and irrigation work, as directed in the field.
  - d. Care of existing trees and shrubs upon completion of pruning & transplanting.

**BID ITEM 39.0            AREA 1 PB-A (PLANT BED) LANDSCAPE PLANTINGS**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, of the Lump Sum item, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to furnish and install complete, in place and accepted, per the specific plant bed, including:
  - a. Layout of plant bed area.
  - b. Excavation of plant bed areas.
  - c. Removal and legal disposal of material generated from excavation.
  - d. Furnishing all plant material and lay out of all plant material for approval, making necessary adjustments to layout, as directed.
  - e. Installing plant material and loam soil backfilling, watering, and mulching.
  - f. Care and establishment of plants in plant bed identified.
  - g. Planting of plant bed shall be conducted efficiently and completely.

**BID ITEM 40.0            AREA 1 PB-B (PLANT BED) LANDSCAPE PLANTINGS**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, of the Lump Sum item, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to furnish and install complete, in place and accepted, per the specific plant bed, including:
  - a. Layout of plant bed area.
  - b. Excavation of plant bed areas.
  - c. Removal and legal disposal of material generated from excavation.
  - d. Furnishing all plant material and lay out of all plant material for approval, making necessary adjustments to layout, as directed.
  - e. Installing plant material and loam soil backfilling, watering, and mulching.
  - f. Care and establishment of plants in plant bed identified.
  - g. Planting of plant bed shall be conducted efficiently and completely.

**BID ITEM 41.0            AREA 1 PB-C (PLANT BED) LANDSCAPE PLANTINGS**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, of the Lump Sum item, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to furnish and install complete, in place and accepted, per the specific plant bed, including:
  - a. Layout of plant bed area.
  - b. Excavation of plant bed areas.
  - c. Removal and legal disposal of material generated from excavation.
  - d. Furnishing all plant material and lay out of all plant material for approval, making necessary adjustments to layout, as directed.
  - e. Installing plant material and loam soil backfilling, watering, and mulching.
  - f. Care and establishment of plants in plant bed identified.
  - g. Planting of plant bed shall be conducted efficiently and completely.

**BID ITEM 42.0            AREA 1 PB-D (PLANT BED) LANDSCAPE PLANTINGS**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, of the Lump Sum item, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to furnish and install complete, in place and accepted, per the specific plant bed, including:
  - a. Layout of plant bed area.
  - b. Excavation of plant bed areas.
  - c. Removal and legal disposal of material generated from excavation.
  - d. Furnishing all plant material and lay out of all plant material for approval, making necessary adjustments to layout, as directed.
  - e. Installing plant material and loam soil backfilling, watering, and mulching.
  - f. Care and establishment of plants in plant bed identified.
  - g. Planting of plant bed shall be conducted efficiently and completely.

**BID ITEM 43.0            AREA 2 PB-A (PLANT BED) LANDSCAPE PLANTINGS**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, of the Lump Sum item, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to furnish and install complete, in place and accepted, per the specific plant bed, including:
  - a. Layout of plant bed area.
  - b. Excavation of plant bed areas.
  - c. Removal and legal disposal of material generated from excavation.
  - d. Furnishing all plant material and lay out of all plant material for approval, making necessary adjustments to layout, as directed.
  - e. Installing plant material and loam soil backfilling, watering, and mulching.
  - f. Care and establishment of plants in plant bed identified.
  - g. Planting of plant bed shall be conducted efficiently and completely.

**BID ITEM 44.0 AREA 2 PB-B (PLANT BED) LANDSCAPE PLANTINGS**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, of the Lump Sum item, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to furnish and install complete, in place and accepted, per the specific plant bed, including:
  - a. Layout of plant bed area
  - b. Excavation of plant bed areas
  - c. Removal and disposal of excavate generated.
  - d. Furnishing all plant material and lay out of all plant material for approval,
  - e. Making necessary adjustments to layout as directed
  - f. Installing plant material to the correct line and grade, and loam soil backfilling,
  - g. watering, and mulching as specified.
  - h. Care and establishment of plants in plant bed indicated.
  - i. Planting of identified plant bed shall be conducted efficiently and completely.
  - j.

**BID ITEM 45.0 AREA 1 IRRIGATION SYSTEM**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials, and incidentals necessary to disconnect and abandon the current irrigation system on site in the areas indicated, while maintaining the current system in other areas, and to furnish, install new irrigation components necessary to support a new fully functional irrigation system, complete and accepted, including all work considered incidental and not specifically identified herein. The evaluation of the progression of work activities and operations that are necessary to furnish, install and make necessary connections to furnish and install a fully functional site irrigation system includes but is not limited to the following listed items.
  - a. Work inside the basement of the existing Fire Station as required to remove existing pipe, backflow preventer and irrigation zone wiring, and to then extend the water supply line to supply the irrigation system outside the building.

- b. Work outside of the existing Fire Station on the site as required to extend the water supply line from the foundation to the location of the proposed irrigation controller.
- c. Work to extend irrigation main lines from the proposed irrigation controller to existing valve assemblies indicated to remain as well as to the areas designated to for irrigation.
- d. Work to install a new backflow preventer, and irrigation controller, with all appurtenant valves, fittings, and filters, including but not limited to irrigation main lines, secondary lines, fittings, zone valves, hand holes, irrigation heads drip irrigation lines, quick coupler valves, etc. as required to create a complete and fully functional zoned spray and drip irrigation system.
- e. Work to include re-connections of the existing irrigation system shown as in place to remain as well as testing of the system.
- f. All permit fees are addressed under Allowance No. 4 Permit Fees

**BID ITEM 46.0 RELOCATE PEDESTRIAN CROSSWALK SIGNAL**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The price paid shall include compensation for all labor, equipment, materials, and all incidentals necessary to remove existing signal from the existing foundation, and stockpile aside to be re-set, to excavate by hand, expose, cut and modify existing conduit and wiring, reconstruct handhole to the correct line and grade, furnish and install concrete block and construct new hand hole with new frame and cover, excavate for new signal pole base, trench for conduit, furnish and install concrete signal pole base, new conduit and wiring, The price so-stated constitutes full and complete compensation for all labor, materials, tools and equipment, including all incidentals required to finish the work, complete in place and accepted by the Engineer.

**BID ITEM 47.0 PEDESTRIAN CROSSWALK PUSH BUTTON ACTUATOR**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall be measured per Each, furnished and installed, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The unit price paid shall include compensation for all labor, equipment, materials, and all incidentals necessary to furnish, locate, modify existing signal poles to accommodate the new Pedestrian push button actuators as shown in the plans. The price so-stated constitutes full and complete compensation for all labor, materials, tools and equipment, including removal and legal disposal of the existing pedestrian pushbuttons, wiring disconnection, closure of the hole in the mast arm pole including the epoxy patch, furnishing and installing pedestrian pushbutton with sign, modular station, and extension bracket with tamper-proof banding, rewiring new button, mounting and installation hardware, PVC conduit and wiring to connect to existing signal post and testing required prior to and after installation in the field, and all incidentals required to finish the work, complete in place and accepted by the Engineer.

**BID ITEM 48.0 REMOVE & RESET EXISTING LIGHT POLES (LP)**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall be measured per Each, furnished, and installed, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The unit price paid shall include compensation for all labor, equipment, materials, and all incidentals necessary to excavate for footings, form and pour new concrete footing with conduit, haul light poles from stockpile, clean, repaint, reset and assemble light poles with new lamps, as shown in the plans. The price so stated constitutes full and complete compensation for all labor, materials, tools, and equipment necessary for the installation, including excavation, footings, backfilling, hauling from stockpile, cleaning, repainting, resetting, wiring, wiring connections, lamps, assembly and installation, and testing and all incidentals required to finish the work, complete in place and accepted by the Engineer.

**BID ITEM 49.0 BOLLARD LIGHT (BL)**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall be measured per Each, furnished, and installed, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The unit price paid shall include compensation for all labor, equipment, materials, and all incidentals necessary to furnish the Bollard Lights as shown in the plans and



Specifications. The price so stated constitutes full and complete compensation for all labor, materials, tools and equipment necessary for the installation, including excavation, footings, backfilling, wiring, wiring connections, lamps, assembly and installation, and testing and all incidentals required to finish the work, complete in place and accepted by the Engineer.

**BID ITEM 50.0 UPLIGHT (UL)**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall be measured per Each, furnished and installed, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The unit price paid shall include compensation for all labor, equipment, materials, and all incidentals necessary to furnish the Uplights, as shown in the plans and Specifications. The price so stated constitutes full and complete compensation for all labor, materials, tools and equipment necessary for the installation, including excavation, concrete encasement, backfilling, wiring, wiring connections, lamps, assembly and installation, and testing and all incidentals required to finish the work, complete in place and accepted by the Engineer.

**BID ITEM 51.0 AREA 1 INTERIOR & EXTERIOR ELECTRICAL  
EQUIPMENT, CONDUIT & WIRING**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall not be measured separately but by evaluation of the progression of work activities that comprise this item, determined as a percent installed, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The Lump Sum price for this item shall include full compensation for all labor, equipment, materials and incidentals necessary to disconnect and abandon the current lighting on site as indicated, and to layout, furnish, install new electrical components necessary to support the proposed site improvements, complete and accepted, including all work considered incidental and not specifically identified herein. The evaluation for the basis of payment is the progression of work activities and operations that are necessary to furnish, install and make necessary connections to establish a fully functional site electrical system includes but is not limited to the following listed items.

- a. Work inside the basement of the existing Fire Station as required to extend power to the site, including but not limited to new conduit, conduit fittings, and wiring per current Electrical Code.
- b. Work outside of the existing Fire Station on the site as required to distribute power to the irrigation system controller as well as the various site elements indicated, including but not limited to new conduit, fittings, handholes, covers, and spare conduit as indicated on the plans.
- c. Wiring, connectors, lugs, fasteners, fuses
- d. All permit fees shall be addressed under Allowance No. 4 Permit Fees.

**BID ITEM 52.0 FLAG PERSONS**

**A. METHOD OF MEASUREMENT**

1. The quantity of this item shall be measured per Person Hours, complete and accepted in place.

**B. BASIS OF PAYMENT**

1. The unit price paid shall include compensation for all labor, equipment, materials, and all incidentals necessary to all incidentals required to staff the project and provide traffic protection complete in place and accepted by the Engineer.

**PART 2 - PRODUCTS NOT USED**

**PART 3 - EXECUTION NOT USED**

END OF SECTION

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## SECTION 02795

### PERVIOUS CONCRETE PAVEMENT

#### PART 1-GENERAL

##### 1.01 SUMMARY

- A. Requirements for furnishing of all labor, materials and equipment necessary for construction of Pervious Concrete Pavement and porous media base layers for pedestrian areas in conformance with the plans and specifications.
  
- B. Related Sections
  - 1. Section 02200 - Earth Excavation, Backfill, Fill and Grading
  - 2. Section 02272 – Geotextile Materials
  - 3. Section 02215 – Aggregate Materials
  - 4. Section 03100 – Concrete Formwork
  - 5. Section 03300 – Cast in Place Concrete

##### 1.02 REFERENCES

- A. American Concrete Institute
  - 1. ACI 305 "Hot Weather Concreting"
  - 2. ACI 522 "Report on Pervious Concrete"
  - 3. ACI Flatwork Finisher Certification Program
  - 4. ACI Field Technician Certification Program
  
- B. American Society for Testing and Materials
  - 1. ASTM C29 "Test for Bulk Density (Unit Weight) and Voids in Aggregate"
  - 2. ASTM C33 "Specification for Concrete Aggregates"
  - 3. ASTM C42 "Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete."
  - 4. ASTM C94 Specification for Ready-Mixed Concrete
  - 5. ASTM C 117 "Test Method for Material Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing."
  - 6. ASTM C138 "Test Method for Density (Unit Weight), Yield and Air Content (Gravimetric) of Concrete."
  - 7. ASTM C140 "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units"
  - 8. ASTM C150 "Specification for Portland Cement"
  - 9. ASTM C 172 "Practice for Sampling Freshly Mixed Concrete"
  - 10. ASTM C260 "Specification for Air-Entraining Admixtures for Concrete"
  - 11. ASTM C494 "Specification for Chemical Admixtures for Concrete"
  - 12. ASTM C595 "Specification for Blended Hydraulic Cements"

13. ASTM C618 "Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete."
14. ASTM C989 "Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars."
15. ASTM C1064 "Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation."
16. ASTM C 1602 "Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete"
17. ASTM 01557 "Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup>)."
18. ASTM 03385 "Test Method for Infiltration Rate of Soils in Field Using Double-Ring Infiltrometer"
19. ASTM E329 "Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction."

### 1.03 SUBMITTALS

#### A. Shop Drawings

1. Concrete materials:
  - a. Proposed concrete mixture proportions including all material weights, volumes, density (unit weight), water cement ratio, and void content.
  - b. Aggregate type, source and grading.
  - c. Cement and admixture manufacturer certifications

B. Qualifications: Evidence of qualifications listed under Quality Assurance.

C. Project details: Specific plans, details, schedule, construction procedures and quality control plan.

D. Subcontractors: List all materials suppliers and subcontractors to be used on the project.

### 1.04 QUALITY ASSURANCE

A. Prior to award the contractor shall submit evidence of two successful Pervious Concrete Pavement projects including but not limited to the following:

1. Project name and address, owner name and contact information
2. Test results including density (unit weight), void content and thickness. This requirement may be waived by the owner provided the contractor can demonstrate successful experience in the concrete industry and constructs test panel(s) for inspection and testing.

B. At least two members, or 30% of the crew (whichever is greater) shall be certified by the ACI Flatwork Finisher program and be NRMCA Certified Pervious Concrete Technicians.

### 1.05 SPECIAL EQUIPMENT

- A. Pervious concrete requires specific equipment for compaction and jointing. The pavement shall be jointed and compacted using the methods listed.
  - 1. Rolling compaction shall be achieved using a steel pipe that spans the width of the section placed and exerts a vertical pressure of at least 10 psi on the concrete.
  - 2. When joints are placed in pervious pavements, they may be constructed by rolling, forming or sawing. Sawed joints shall be constructed using an early entry or wet saw.

### 1.06 TEST PANELS

- A. Prior to construction, test panel(s) shall be placed and approved by the owner. The owner is permitted to waive this requirement based on contractor qualifications.
  - 1. Test panel(s) shall be constructed in accordance with the plans and specifications. A minimum 225 sq. ft panel size shall be placed, jointed, and cured using materials, equipment, and personal proposed for the project.
  - 2. Quality: Test panels shall have acceptable surface finish, joint details, thickness, porosity and curing procedures and shall comply with the testing and acceptance standards listed in the Quality Control section of this specification.
  - 3. If test panels placed at the site are found to be deficient in thickness, density (unit weight) or percentage of voids, or of an unacceptable appearance, they shall be removed and taken to an approved landfill or recycling facility. If test panels are found to be satisfactory, they may be left in-place and included in the completed work.

## PART 2 PRODUCTS

### 2.01 PERVIOUS CONCRETE

- A. CEMENT:
  - 1. Portland cement Type II or V conforming to ASTM C150 or Portland cement Type IP or IS conforming to ASTM C595.
- B. SUPPLEMENTAL CEMENTIOUS MATERIAL:
  - 1. Class F Fly ash conforming to ASTM C618
  - 2. Ground Iron Blast-Furnace Slag conforming to ASTM C989
- C. CHEMICAL ADMIXTURES:
  - 1. Air entraining agents shall comply with ASTM C260.

2. Chemical Admixtures shall comply with ASTM C494.
3. Hydration stabilizers are permitted to be used when it is necessary to increase concrete placement time to 90 minutes and improve finishing operations.

D. AGGREGATES:

1. Coarse aggregate shall comply with ASTM C33. Size 8 (3/8" to No. 16) or Size 89 (3/8 in. to No. 50) shall be used unless an alternate size is approved for use based on meeting the project requirements. Fine aggregate complying with ASTM C33, if used, shall not exceed 3 cu. ft.
2. Larger aggregate sizes may increase porosity but can decrease workability. Avoid well graded aggregates as they may reduce porosity, and may not provide adequate void content.
3. Where available, natural rounded aggregates are recommended.

E. WATER

1. Water shall comply with ASTM C 1602.

F. MIXTURE PROPORTIONS:

1. The composition of the proposed concrete mixtures shall be submitted to the owner's representative for review and/or approval and shall comply with the following provisions unless an alternative composition is demonstrated to comply with the project requirements.
  - a. Cementitious Content: For vehicle pavements, total cementitious content shall not be less than 630 lbs/cy. For pedestrian pavements, total cementitious shall not be less than 600 lbs/cy.
  - b. Supplementary cementitious content: Fly ash: 25% maximum. Slag: 50% maximum.
  - c. Water / Cementitious Ratio: Maximum 0.30 for vehicle pavements and 0.35 for pedestrian pavement.
  - d. Aggregate Content: The bulk volume of aggregate per cubic yard shall be equal to 27 cubic foot when calculated from the dry rodded density (unit weight) determined in accordance with ASTM C29 jigging procedure.
  - e. Admixtures: Admixtures shall be used in accordance with the manufacturer's instructions and recommendations.
  - f. Mix Water: The quantity of mixing water shall be established to produce a pervious concrete mixture of the desirable workability to facilitate placing, compaction and finishing to the desired surface characteristics.

2.02 POROUS MEDIA BASE LAYERS

- A. Choker Course: Shall consist of clean, washed stone conforming to AASHTO No. 57.

**Choker Course (AASHTO No. 57)**

Sieve Size	Percent Passing (by weight)
1-1/2"	100%
1"	95%-100%
1/2"	25%-60%
#4	0%-10%
#8	0%-5%

- B. Filter Course: Shall consist of AASHTO M-6 or ASTM C-33 subbase material with a hydraulic conductivity of 10 to 60 feet per day at 95% Standard Proctor. The filter course shall meet the following grain size distribution ranges:

**Filter Course (AASHTO M-6)**

Sieve Size	Percent Passing (by weight)
3/8"	100%
#4	70%-100%
#200	0%-60%**

\*\*Preferably less than 4% fines.

- C. Filter Blanket: Shall consist of 3/8" to 3/4" size pea gravel conforming to gradation listed in Section M01.06-Keystone and M01.09, Table I, Column III of the RIDOT Standards. In addition, the material shall have D15 (of filter blanket) ≤ 5D85 (of filter course) and D50 (of filter blanket) ≤ 25D50 (of filter course).

**Keystone Filter Blanket (M01.09 Table I Column III)**

Sieve Size	Percent Passing (by weight)
1"	100%
3/4"	90%-100%
1/2"	20%-55%
3/8"	0%-20%
#4	0%-5%



- D. Reservoir Course: Shall consist of washed crushed stone conforming to gradation listed in Section M01.09, Table I, Column II of the RIDOT Standards.

**Reservoir Course (M01.09 Table I Column II)**

<b>Sieve Size</b>	<b>Percent Passing (by weight)</b>
2"	100%
1-1/2"	90%-100%
1"	30%-55%
3/4"	0%-25%
1/2"	0%-10%

**PART 3 EXECUTION**

**3.01 POROUS MEDIA BASE LAYERS**

- A. Protection of native materials from over compaction is important. Proper compaction of select subbase materials is essential. Improper compaction of subbase materials will result in either 1) low pavement durability from insufficient compaction, or 2) poor infiltration due to over-compaction of subbase. Care must be taken to assure proper compaction as detailed below.

1. Grade Control

- a. Establish and maintain required lines and elevations. The Engineer shall be notified for review and approval of final stake lines for the work before construction work is to begin. Finished surfaces shall be true to grade and even, free of roller marks and free of puddle-forming low spots. All areas must drain freely. Excavation elevations should be within +/- 0.1 ft (+/- 3 cm).
- b. If, in the opinion of the Engineer, based upon reports of the testing service and inspection, the quality of the work is below the standards which have been specified, additional work and testing will be required until satisfactory results are obtained.
- c. The Engineer shall be notified at least 24 hours prior to all porous media bed and porous pavement work.

2. Subgrade Preparation

- a. Native subgrade refers to materials beyond the limit of the excavation. The existing native subgrade material under all bed areas shall NOT be compacted or subject to excessive construction equipment traffic prior to geotextile and stone bed placement. Compaction is acceptable if an impermeable liner is used at the base of the porous system and infiltration is not desired.

- b. Where erosion of the native material subgrade has caused accumulation of fine materials and/or surface ponding, this material shall be removed with light equipment and the underlying soils scarified to a minimum depth of 6 inches with a York rake or equivalent and light tractor.
- c. Bring subgrade to line, grade, and elevations indicated. Fill and lightly regrade any areas damaged by erosion, ponding, or traffic compaction before the placing of the stone subbase.
- d. All bed bottoms are as level as feasible to promote uniform infiltration. For pavements subbases constructed on grade, soil or fabric barriers should be constructed along equal elevation for every 6-12" of grade change to act as internal check dams. This will prevent erosion within the subbase on slope.

3. Porous Media Bed Installation

- a. Subbase refers to materials below pavement surface and above native subgrade. Upon completion of subgrade work, the Engineer shall be notified and shall inspect at his/her discretion before proceeding with the porous media bed installation.
- b. Sideslope geotextile and porous media bed aggregate shall be placed immediately after approval of subgrade preparation. Any accumulation of debris or sediment which has taken place after approval of subgrade shall be removed prior to installation of geotextile at no extra cost to the Owner.
- c. Place sideslope geotextile in accordance with manufacturer's standards and recommendations. Adjacent strips of geotextile shall overlap a minimum of sixteen inches (16"). Secure geotextile at least four feet (1.2 m) outside of the bed excavation and take any steps necessary to prevent any runoff or sediment from entering the storage bed.
- d. Install filter course aggregate in 8-inch maximum lifts to a MAXIMUM of 95% standard proctor compaction (ASTM D698 / AASHTO T99). Install aggregate to grades indicated on the drawings.
- e. Install choker, gravel, and stone base course aggregate to a MAXIMUM of 95% compaction standard proctor (ASTM D698 / AASHTO T99). Choker should be placed evenly over surface of filter course bed, sufficient to allow placement of pavement, and notify Engineer for approval. Choker base course thickness shall be sufficient to allow for even placement of the pervious concrete but no less than 4-inches (10 cm) in depth.
- f. The density of subbase courses shall be determined by AASHTO T 191 (Sand-Cone Method), AASHTO T 204 (Drive Cylinder Method), or AASHTO T 238 (Nuclear Methods), or other approved methods at the discretion of the supervising engineer.
- g. The infiltration rate of the compacted subbase shall be determined by ASTM D3385 or approved alternate at the discretion of the supervising engineer. The infiltration rate shall be no less 5-30 ft/day or 50% of the hydraulic

conductivity (D2434) at 95% standard proctor compaction (refer to section 2.1.A.5).

- h. Compaction of subbase course material shall be done with a method and adequate water to meet the requirements. Rolling and shaping shall continue until the required density is attained. Water shall be uniformly applied over the subbase course materials during compaction in the amount necessary for proper consolidation.
- i. Rolling and shaping patterns shall begin on the lower side and progress to the higher side of the subbase course while lapping the roller passes parallel to the centerline. Rolling and shaping shall continue until each layer conforms to the required grade and cross-section and the surface is smooth and uniform.
- j. Following placement of subbase aggregate, the sideslope geotextile shall be folded back along all bed edges to protect from sediment washout along bed edges. At least a four-foot edge strip shall be used to protect beds from adjacent bare soil. This edge strip shall remain in place until all bare soils contiguous to beds are stabilized and vegetated. In addition, take any other necessary steps to prevent sediment from washing into beds during site development. When the site is fully stabilized, temporary sediment control devices shall be removed.

### 3.02 PERVIOUS CONCRETE

#### A. Formwork:

Form materials are permitted to be of wood or steel and shall be of width to the depth of the pavement. Forms shall be of sufficient strength and stability to support mechanical equipment without deformation of plan profiles following spreading, strike-off and compaction operations. Forms may have a removable spacer placed above the depth of pavement. The spacers shall be removed following placement and vibratory strike-off to allow roller compaction.

#### B. Mixing and Hauling:

1. Production: Pervious concrete shall be manufactured and delivered in accordance with ASTM C 94.
2. Mixing: Mixtures shall be produced in central mixers or in truck mixers. When concrete is delivered in agitating or non-agitating units, the concrete shall be mixed in the central mixer for a minimum of 1.5 minutes or until a homogenous mix is achieved. Concrete mixed in truck mixers shall be mixed at the speed designated as mixing speed by the manufacturer for 75-100 revolutions.
3. The pervious concrete mixture may be transported or mixed on site and discharge of individual loads shall be completed within one (1) hour of the introduction of mix water to the cement. Delivery times may be extended to 90 minutes when a hydration stabilizer is used.

4. Each truckload will be visually inspected for consistency of concrete mixture. Water addition is permitted at the point of discharge to obtain the required mix consistency provided a measurable quantity is used before more than 0.5 cubic yard of concrete is discharged. A minimum of 30 revolutions at the manufacturer's designated mixing speed shall be required following the addition of any water to the mix. Discharge shall be a continuous operation and shall be completed as quickly as possible. Concrete shall be deposited as close to its final position as practical and such that discharged concrete is incorporated into previously placed plastic concrete.

C. Placing and Finishing:

1. The Contractor shall provide either slip form or vibratory form riding equipment to place the concrete unless otherwise approved by the Owner or Engineer in writing. Use of roller screeds is preferred. Internal vibration shall not be permitted. Unless otherwise permitted placement procedures shall utilize a mechanical vibratory screed to strike off the concrete 1/8" to 3/4" above final height, utilizing the form spacers described in Formwork.
2. Placed concrete shall not be disturbed while in the plastic state. Low spots after the screeding operation shall be filled up and tamped with hand tampers.
3. Following strike-off, remove spacers and compact the concrete to the form level, utilizing a steel roller, a plate compactor or other method approved by the Owner. Care shall be taken during compaction that sufficient compactive force is achieved without excessively working the concrete surface that might result in sealing off the surface porosity.
4. Hand tampers shall be used to compact the concrete along the slab edges immediately adjacent to the forms. After compaction, inspection and repair, no further finishing shall be performed on the concrete. Surface curing shall begin immediately.
5. The pervious concrete pavement shall be compacted to the required cross-section and shall not deviate more than +/- 3/8 inch in 10 feet from profile grade.

D. Jointing

1. Joints in pervious pavements can be precluded at the option of the owner.
2. Control (contraction) joints shall be installed at regular intervals not to exceed 20 feet, or two times the width of the placement. The control joints shall be installed at 1/4 the depth (to a maximum depth of 1/3") of the thickness of the pavement. These joints must be installed in the plastic concrete by tooling method.
3. Jointing plastic concrete: Joints installed in the plastic concrete shall be constructed utilizing a small roller as described in the Special Equipment section

of this specification. When this option is used it shall be performed immediately after roller compaction and prior to curing.

4. Jointing hardened concrete: Saw-cuts shall be made as soon as the pavement has hardened sufficiently to prevent raveling and uncontrolled cracking. Early entry sawing occurs later with pervious concrete than with conventional concrete. For either method, the curing cover shall be removed and the surface kept misted to prevent moisture loss. After sawing the curing cover shall be securely replaced for the remainder of the curing cycle.
5. Transverse construction joints: Transverse construction joints shall be installed whenever placing is suspended for 30 minutes or whenever concrete is no longer workable.
6. Isolation joints: Isolation joints shall used when abutting fixed vertical structures such i.e. light pole bases, building foundations, etc. Isolation material shall be positioned before concrete is placed and shall be the depth of the pavement section.

#### E. Curing:

1. Curing procedures shall begin no later than 20 minutes after final placement operations have been completed. The pavement surface shall be covered with a minimum of six (6) mil thick polyethylene sheet or other approved covering material. The cover shall overlap all exposed edges and shall be secured to prevent dislocation due to winds or adjacent traffic conditions. For additional guidance on hot weather concreting, see ACI 305.
2. The low water/cement ratio and high amount of exposed surface of pervious concrete makes it especially susceptible to drying out. Immediately after screeding, the surface shall be kept moist and evaporation prevented using a spray applied curing compound and/or evaporation retarder immediately after screeding.
3. The curing cover shall remain securely in place for a minimum of 7 days. No vehicular traffic shall be permitted on the pavement until curing is complete and no truck traffic shall be permitted for at least 14 days. The owner has the option of permitting earlier traffic opening times.

#### F. Quality Control:

1. The owner shall employ a testing laboratory that conforms to the requirements of ASTM E329 and ASTM C1077. All personnel engaged in testing shall be certified by the American Concrete Institute as ACI Concrete Field Technicians or equivalent.

2. Traditional portland cement pavement testing procedures based on strength and slump control are not applicable to this type of pavement material.
3. Concrete tests shall be performed for each 150 cubic yards or fraction thereof with a minimum of one test for each day's placement.
4. Plastic concrete shall be sampled in accordance with ASTM C 172 and density (unit weight) measured in accordance with ASTM C 138. The density (unit weight) of the delivered concrete shall be +/- 5 pcf of the design density (unit weight.)
5. Plastic void content shall be calculated as per ASTM C138, Gravimetric Air Determination and compared to the void percentage required by the Hydraulic design. Unless otherwise specified, Void content shall be between 15% and 25%.
6. Hardened concrete shall be tested at a rate of one set of three cores per 150 cy of concrete placed on one day or fraction thereof. The cores shall be drilled in accordance with ASTM C 42. The cores when measured for length shall not be more than Y2 inch less than the specified design thickness.
7. The cores shall be tested for density (unit weight) and void content using ASTM 140. Density (unit weight) shall be +/- 5 pcf of the design unit weight. Void content shall be not be greater than 2% below the specified design void content. Void content shall calculate as follows:

$$\% \text{ Voids} = 1 - (Dd/Di) * 100$$

where: Dd = oven dried density of core

Di = immersed density of core

END OF SECTION

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NOTES:  
 1. EXTENSIVE PROPOSED SUB-SURFACE DRAINAGE AND RELATED UTILITY IMPROVEMENTS ARE PLANNED TO BE CONSTRUCTED WITHIN CITY STREET RIGHT-OF-WAYS. REFER TO NBC DROPSHAFT 213 CONSOLIDATION CONDUIT CONTRACT 308.XXC FOR THE LIMITS AND TYPES OF SUB-SURFACE OPERATIONS TO BE CONDUCTED.  
 2. PROPOSED STREETScape AND SHARED USE PATH IMPROVEMENTS OCCUR WITHIN THE SAME CORRIDOR IN WHICH THE NBC IMPROVEMENTS ARE PLANNED. WORK INCLUDES SURFACE DRAINAGE, WATER QUALITY AND UTILITY IMPROVEMENTS, STREETLIGHTS, CURBING, SIDEWALKS, CROSSWALKS, SHARED USE PATH (SIDE PATH), SITE AMENITIES, SIGNAGE AND LANDSCAPE PLANTINGS.  
 3. BOTH PROJECTS ARE PRESENTED OVER-LAID ON THE EXISTING CONDITIONS PLANS TO ILLUSTRATE THE OVERALL CONTEXT AND INTERFACE IN WHICH THESE PLANNED IMPROVEMENTS ARE ANTICIPATED TO OCCUR.

ADDENDUM NO. 3

REGISTERED PROFESSIONAL

SUBCONSULTANT

PROJECT

**BLACKSTONE RIVER BIKEWAY SEGMENT 3A-1 CONTRACT 1**

Pawtucket, Rhode Island

TITLE

**AREA 2 EXISTING CONDITIONS PLAN**

NO.	REVISIONS	DATE
1	ADDENDUM NO. 3	12/01/23

DRAWN BY: AKP/BB/ALG

DESIGNED BY: AWG

CHECKED BY: AWG

ISSUE DATE: 11/8/2023

BETA JOB NO.: 6352

SCALE

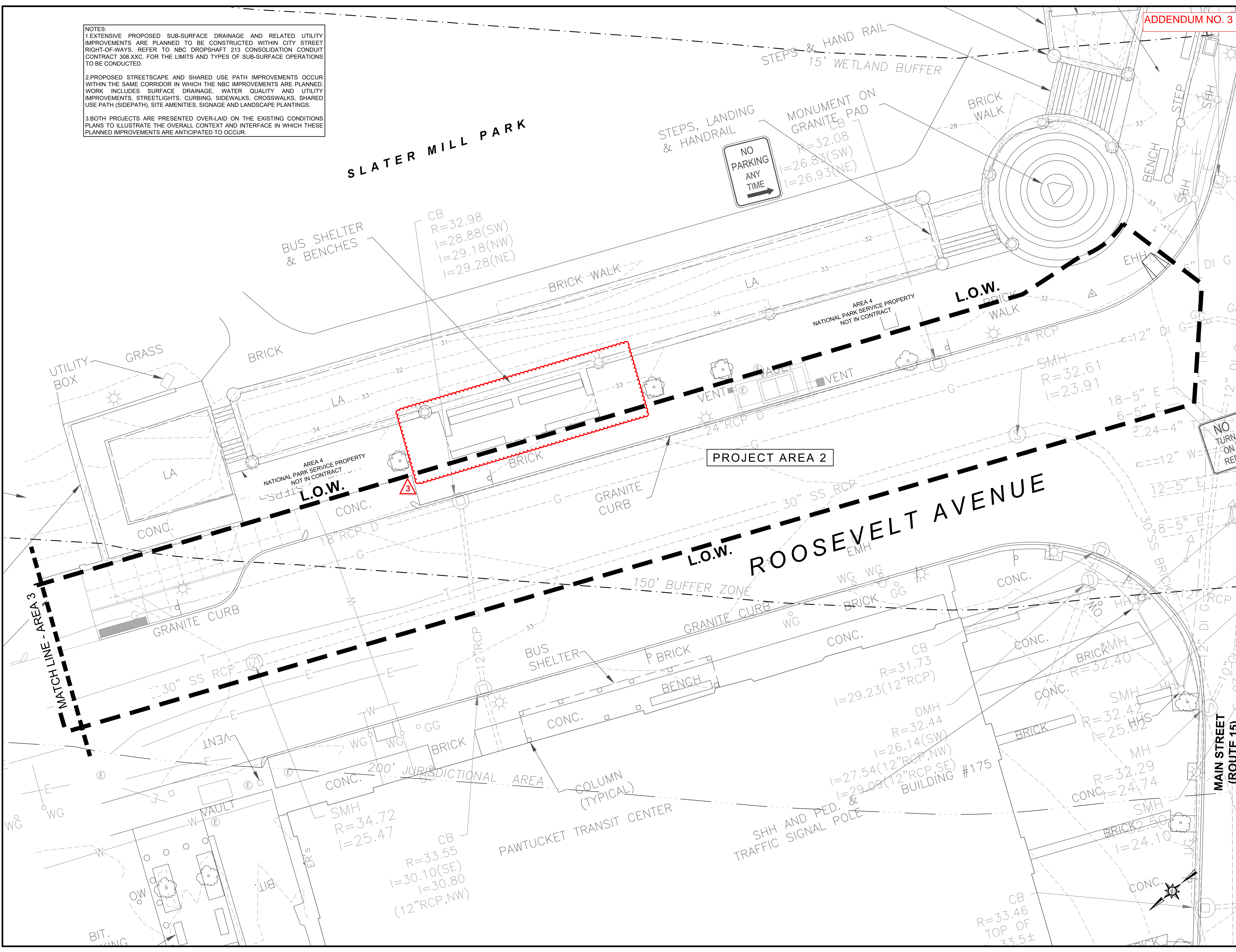


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**CONSTRUCTION DOCUMENTS**

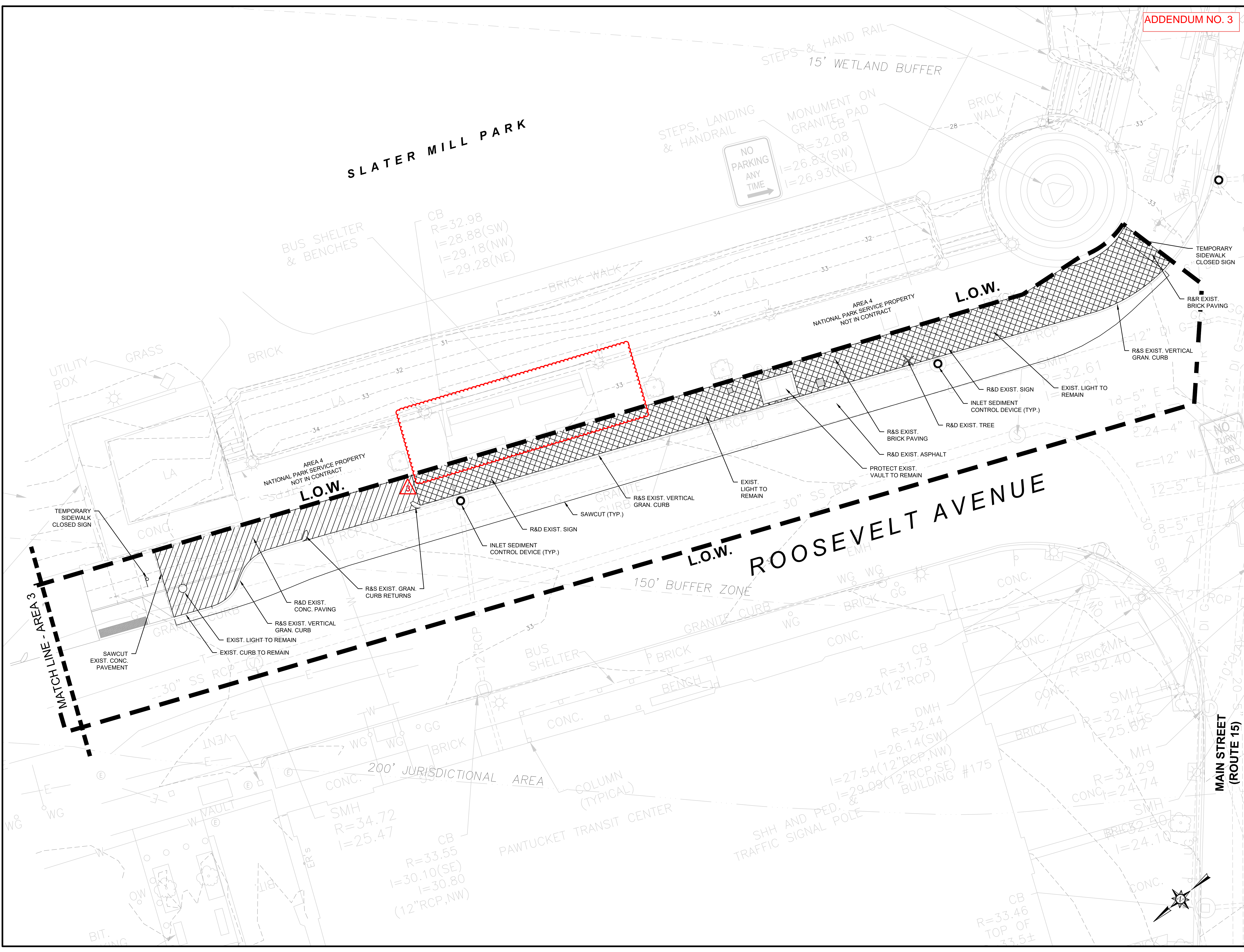
SHEET NO.

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ADDENDUM NO. 3

PREPARED BY  
  
 www.BETA-Inc.com  
 REGISTERED PROFESSIONAL  
 SUBCONSULTANT  
 PROJECT  
**BLACKSTONE RIVER BIKEWAY SEGMENT 3A-1 CONTRACT 1**  
 Pawtucket, Rhode Island  
 TITLE  
**AREA 2 SITE PREPARATION PLAN**

NO.	REVISIONS	DATE
1	ADDENDUM NO. 3	12/01/23

DRAWN BY: AKP/BB/ALG  
 DESIGNED BY: AWG  
 CHECKED BY: AWG  
 ISSUE DATE: 11/8/2023  
 BETA JOB NO.: 6352

SCALE  
  
 SCALE IN FEET: 1"=10'  
 UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

**CONSTRUCTION DOCUMENTS**  
 SHEET NO. **17**