

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Administration
DIVISION OF PURCHASES
One Capitol Hill
Providence, RI 02908-5855

Tel: (401) 574-8100
Fax: (401) 574-8387
Website: www.purchasing.ri.gov

June 28, 2013

ADDENDUM NUMBER ONE

RFQ # 7468375

TITLE: North district Parking Lot Improvements - URI

Closing Date and Time: 7/25/13 at 1:45 PM

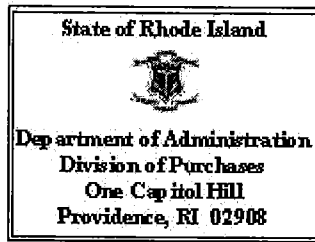
Per the issuance of this ADDENDUM #1

Three Parts:

- 1. Notice to Contractors bidding Public Works**
- 2. Addendum No. 1 for Contract Documents**
- 3. Revised Plan Sheets**



Specification Change /Addition / Clarification



Disk Based Bidding Information

File Format

All disk based bid files are ZIP files that you can open using the WinZip 8.1 software. The ZIP file will contain one or more files based on the type of Bid/RPF.

Downloading the Disk Based Bid

Bids that have a file for download are marked with a "D" in the Info field of the bid search results. The "D" will be an active link to the WinZip file until the bid reaches its opening date. Clicking on the active "D" link will allow you to open or save the ZIP file associated with the bid. Opening the WinZip file will download a copy to your computer's temporary directory.

Opening the Disk Based Bid

Once downloaded, you can open the ZIP file with WinZip and view the Microsoft Office files contained within the WinZip file. Immediately save (extract) the individual files to an appropriate directory on your computer, such as "Desktop" or "My Documents".

FOR THE DEPARTMENT OF TRANSPORTATION AND OTHER SPECIFIC PROJECTS:

Completing the Disk Based Bid

Once the Microsoft Office files are properly saved, open the individual files and enter the required information in the appropriate fields. Save each file again to capture the new information you entered.

Submitting the Disk Based Bid

Save the completed files to a CD or diskette. Label the CD or diskette with the Bid/RFP number and bidder's name (company name, not contract name). Submit as instructed in the Bid or RFP solicitation document.

THIS IS NOT A BIDDER CERTIFICATION FORM



State of Rhode Island
Department of Administration / Division of Purchases
One Capitol Hill, Providence, Rhode Island 02908-5855
Tel: (401) 574-8100 Fax: (401) 574-8387

June 28, 2013

ADDENDUM #1

RFP/RFQ # 7468375

TITLE: North District Parking Lot Improvements - URI

CLOSING DATE AND TIME: July 25, 2013 at 1:45 PM PREVAILING TIME

EFFECTIVE JANUARY 1, 2013: NEW SOLICITATIONS MUST COMPLY
WITH R.I. GEN. LAWS SECTION 37-2-18 (P.L. 221).
(Refer to the Attached: Notice to Contractors and Vendors Bidding on Public Works Projects)

JOHN F. O'HARA II
CHIEF BUYER



State of Rhode Island Department of Administration
Division of Purchases

REVISED
December 11, 2012

NOTICE TO CONTRACTORS
AND VENDORS BIDDING
ON PUBLIC WORKS PROJECTS

Effective **January 1, 2013** all Public Works related project proposals exceeding Five Hundred Thousand (\$500,000) dollars are required to include a "public copy." All agency contract solicitations, requests for proposals, invitations for bids, etc. shall state that any bid or proposal that exceeds Five Hundred Thousand (\$500,000) dollars must include a copy to be available for public inspection upon the opening of the bids. Any bid or proposal in excess of Five Hundred Thousand (\$500,000) dollars which does not include a copy for public inspection shall be deemed to be non-responsive. Additionally, proposals submitted for a Master Price Agreement, when the total amount potentially may exceed Five Hundred Thousand (\$500,000) and the solicitation expressly requires any or all vendors to submit a public copy, must include a copy to be available for public inspection.

For further information, see R.I. Gen. Laws Section 37-2-18(j) and State Procurement Regulations at www.purchasing.ri.gov. This requirement applies to all public works projects (vertical and horizontal) exceeding Five Hundred Thousand (\$500,000) dollars and any combination of base bid plus all alternates.

In accordance to the State Procurement Regulations the following conditions are required:

1. All bid proposals shall be opened publicly and read aloud.
2. Each bid, together with the name of the bidder, shall be recorded and an abstract made available "immediately" for public inspection.
3. Copy of the redacted bid proposal shall be available for public inspection by the close of the business the day the subject bid(s) and/or contract(s) is opened by the Division of Purchases.

4. The burden to identify and withhold from the public copy that is released at the bid opening any trade secrets, commercial or financial information, or other information the bidder deems not subject to public disclosure pursuant to Chapter 38-2, the Access to Public Records Act, shall rest solely and exclusively with the bidder submitting the bid proposal.
5. At the time that a proposal is submitted, a bidder must submit a redacted copy of the bid proposal in a PDF (Portable Document File) file format on a read only CD-R Media Disk (hereinafter referred to as a "CD"). Vendors are required to provide all documents submitted in response to the bid solicitation on the CD.
 - a. The acceptable media is a CD-R. Media that is read/writable (CD RW) will not be accepted.
 - b. Only readable, not writeable media is acceptable.
 - c. Vendor is responsible for supplying their own CD-R media.
 - d. Vendor is responsible for the integrity of the CD.
6. Failure of the bidder to submit a public copy on a readable CD, as required by RIGL 37-2-18 as amended, shall result in the disqualification of said bid.
7. CD must be enclosed in a protective cover and the protective cover clearly labeled with the following:
 - a. Marked "Public Copy"
 - b. Title of Solicitation as it appears on the RIVIP cover letter.
 - c. Name of Company and Vendor ID as it appears on the RIVIP cover letter.
 - d. Bid Response Number as it appears on the RIVIP cover letter.
 - e. Date of Bid as it appears on the RIVIP cover letter.
8. Bid response on CD-R to be in a PDF (Portable Document Format).
 - a. One PDF file will be on the CD-R. File to meet the following requirements:
 - i. Only one file will contain all documents in response to the bid. If you have more than one document for the response, the documents must be concatenated or merged into one PDF document. Failure to submit only one PDF file may result in disqualification of bid.
 - ii. File should be named in the following manner:
 1. BidNumber_DateofBid_VendorName_VendorID.pdf. Where:
 1. Bid Number is the bid number for which the response is for as it appears on the RIVIP cover sheet.
 2. Dateofbid is date of bid using the format (mm-dd-yyyy).
 3. VendorName is the name of the vendor as one word – no spaces or punctuation.
 4. Vendor ID as it appears on the RIVIP vendor cover sheet.

Note: you must use underscores in separating the fields. Do not use underscores anywhere else in the filename other than to separate the fields.

Example: 1234567_06-01-2011_Vendor1_9876.pdf

9. Purchasing staff will officially conclude the bid opening and all loaded proposals will be posted to the Purchasing web site. All proposals will be available immediately after bid opening www.purchasing.ri.gov .

For technical assistance, contact the Division of Purchases office at 574-8100.

University of Rhode Island, Kingston, RI
Addendum No. 1 to Contract Documents
for
North District Parking Improvements
URI Project No. KC.T.PARK.2011.003

The following changes are hereby made part of the Contract Documents:

Specifications:

- 1.) Section 00410 – Bid Form: Replace the original Bid Form with the revised Bid Form, which is enclosed in Attachment 1. The specific changes to the bid form are the addition of Temporary Construction Fencing as separate line items (G2 for the Greenhouses and W2 for White Hall), and the addition of Remove and Stockpile Timber Guardrail as a separate line item (W5). Other items have been renumbered accordingly.
- 2.) Section 01203 Attachment C: Replace the original page Section 01203 Attachment C with the revised Section 01203 Attachment C, which is enclosed in Attachment 2. The specific changes to the Measurement and Payment are related to the two new items added to the bid form and the corresponding changes to the item numbers.
- 3.) Section 01501 Attachment A: Replace the original page Section 01501 Attachment A with the revised Section 01501 Attachment A, which is enclosed in Attachment 3. The revised section contains and discusses the RIDEM RIPDES permit and approved draft SWPPP that will be applicable to this project.

Plans:

Replace the original plan set with the revised plan set, which is enclosed in Attachment 4. The following sheets of the plan set have been modified:

Sheet W2	White Hall Erosion and Sediment Control
Sheet W3	White Hall Site Plan
Sheet W7.1	White Hall Construction Details No. 1
Sheet G2	Greenhouses Erosion and Sediment Control
Sheet G3	Greenhouses Site Plan
Sheet G4	Greenhouses Drainage and Grading Plan
Sheet G6	Greenhouses Landscaping Plan
Sheet G7.1	Greenhouses Construction Details No. 1
Sheet G7.4	Greenhouses Construction Details No. 4

Verification of Addendum Receipt

Please Sign, Date, and Fax this form upon receipt to:

BETA Group, Inc.
(401) 333-9225
ATTN: Michael Zavalía

Receipt of Addendum No. 1 is hereby acknowledged:

By: _____

Date: _____

Title: _____

Company: _____

ATTACHMENT 1
Revised Section 00410

DOCUMENT 00410 - BID FORM

Date: _____

To: Dept. of Administration
Division of Purchases
One Capitol Hill
Providence, RI 02908Project: North District Parking Improvements
University of Rhode Island, Kingston CampusSubmitted by: _____
(include address,
tel. & FAX nos., _____
and license no.
if applicable) _____1. **BID**

Having examined the Place of The Work and all matters referred to in the Bid Documents and in the Contract Documents prepared by *BETA Group, Inc.* for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:

_____ (\$ _____.)
(written, and _____ numerically)

Said Sum shall constitute the total price for all work contemplated at both locations included in the project (White Hall and the Greenhouses).

- We have included the specified Allowances from Section 01200 in Division 1 of the Specifications in the above Bid sum as follows:

Greenhouses

Item G42	Resource Development Building Demolition & Disposal	\$80,000
Item G43	Remove & Relocate Sheds	\$15,000
Item G44	Mobilization	\$45,000
Item G45	Testing of Materials & Methods	\$25,000
Total of All Greenhouses Allowances		\$165,000

White Hall

Item W5	Remove & Relocate Dumpsters	\$5,000
Item W6	Remove & Stockpile Concrete Pylons & Chain	\$10,000
Item W30	Mobilization	\$22,000
Item W31	Testing of Materials & Methods	\$11,000
Total of All White Hall Allowances		\$48,000

Total of All Allowances **\$213,000**

- We have included the cost of the required Bid security/Bid Bond in the above Bid Sum.
- We have included the cost of 100% Payment and Performance Bonds in the above Bid Sum.
- We have included the original Bid and required additional “**public copy**” if required by **Document 00210 – Supplemental Instructions to Bidders**.

2. ALTERNATES – **NOT APPLICABLE**

3. UNIT PRICES

Per Section 01200, provide prices/unit as noted for the items listed in the attached Bid Form.

4. ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for sixty (60) days from the bid closing date. If this bid is accepted by the Owner within the time period stated above, we will:

- Proceed under the Agreement, subject to compliance with required State regulatory agency approvals as described in the Bid Documents.
- Furnish the required bonds in compliance with amended provisions of the Instructions to Bidders.
- Commence work within seven (7) days after receipt of a Purchase Order from URI Purchasing.

If this bid is accepted within the time stated, and we fail to commence the Work, or we fail to provide the required Bonds, the security deposit shall be forfeited to the Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

In the event our bid is not accepted within the time stated above, the required security deposit 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.

5. CONTRACT TIME

If this Bid is accepted, we will achieve Substantial Completion of the Work by September 1st, 2013. We have included all premium time or additional staffing required to accommodate this schedule.

6. LIQUIDATED DAMAGES

Time is of the Essence: If we fail to achieve certification of Substantial Completion at the expiration of the agreed upon Contract Time indicated above, we acknowledge that we will be assessed Liquidated Damages for each calendar day the project continues to be in default of Substantial Completion, as follows:

\$ 400.00 per calendar day.

7. REQUIREMENT FOR LICENSE NUMBER

In compliance with the requirements of Rhode Island General Law, Section 5-65-23, the Rhode Island license number for the work to be performed by this firm as prime contractor is:

LICENSE NUMBER: _____.

8. ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

Addendum No. 1, dated _____.

Addendum No. 2, dated _____.

9. METHOD OF BID AWARD ACCEPTANCE:

We understand and acknowledge that the Owner, at its sole discretion, reserves the right to award a Contract for either:

- a) Both of the Greenhouses and White Hall parking lots, or
- b) Only one of the Greenhouses or White Hall parking lots (either).

The following are therefore mutually exclusive bids for each parking lot.

We further acknowledge that in the event that a Contract for only one of the parking lots is awarded, there shall be no modification of or adjustment to our bid unit prices for that parking lot.

10. BID SUMMARIES

GREENHOUSES – SUBTOTAL OF BID ITEMS G1-G45, INCLUSIVE OF ALLOWANCES:

_____ (\$ _____.)
(written, and numerically)

WHITE HALL – SUBTOTAL OF BID ITEMS W1-W32, INCLUSIVE OF ALLOWANCES:

_____ (\$ _____.)
(written, and numerically)

NORTH DISTRICT PARKING IMPROVEMENTS – TOTAL OF GREENHOUSES AND WHITE HALL SUBTOTALS:

_____ (\$ _____.)
(written, and numerically)

11. BID FORM SIGNATURE(S)

(Bidder's Company Name)

By: _____
(Signature of Authorized Bidder's Representative)

Title: _____
(Title/Position of Authorized Bidder's Representative)

Corporate Seal:

**URI NORTH DISTRICT PARKING IMPROVEMENTS
GREENHOUSES PARKING LOT
BID FORM**

<u>Item No.</u>	<u>Item with Unit Bid Price Written in Words (and figures)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Amount</u>
G1	Site Preparation & Maintenance _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
G2	Temporary Construction Fencing _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
G3	R&D Vegetation _____ dollars and _____ cents (\$ _____)	300	SY	\$ _____
G4	R&D Existing Sidewalk, Bituminous Concrete, Curbing and Misc. Items _____ dollars and _____ cents (\$ _____)	3,200	SY	\$ _____
G5	R&D Drainage Structures _____ dollars and _____ cents (\$ _____)	2	EA	\$ _____
G6	Unclassified / Earth Excavation _____ dollars and _____ cents (\$ _____)	2,600	CY	\$ _____
G7	Rock Excavation _____ dollars and _____ cents (\$ _____)	260	CY	\$ _____
G8	Common Borrow _____ dollars and _____ cents (\$ _____)	2,000	CY	\$ _____
G9	Gravel Borrow _____ dollars and _____ cents (\$ _____)	2,900	CY	\$ _____
G10	Bituminous Base Course _____ dollars and _____ cents (\$ _____)	760	TON	\$ _____

**URI NORTH DISTRICT PARKING IMPROVEMENTS
GREENHOUSES PARKING LOT
BID FORM**

<u>Item No.</u>	<u>Item with Unit Bid Price Written in Words (and figures)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Amount</u>
G11	Bituminous Surface Course Type I-1 _____ dollars and _____ cents (\$ _____)	600	TON	\$ _____
G12	Bit. Conc. Temporary Patching _____ dollars and _____ cents (\$ _____)	10	TON	\$ _____
G13	Class "XX" Portland Cement Concrete _____ dollars and _____ cents (\$ _____)	40	CY	\$ _____
G14	F&I Concrete-Filled Bollards _____ dollars and _____ cents (\$ _____)	4	EA	\$ _____
G15	Abandon Storage Room Double Doors _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
G16	12" Reinforced Concrete Pipe M 170 Class III _____ dollars and _____ cents (\$ _____)	120	LF	\$ _____
G17	4" SDR 35 PVC Pipe _____ dollars and _____ cents (\$ _____)	60	LF	\$ _____
G18	6" SDR 35 PVC Pipe _____ dollars and _____ cents (\$ _____)	50	LF	\$ _____
G19	8" SDR 35 PVC Pipe _____ dollars and _____ cents (\$ _____)	360	LF	\$ _____
G20	6" Perforated PVC Underdrain Pipe & Fittings _____ dollars and _____ cents (\$ _____)	80	LF	\$ _____

**URI NORTH DISTRICT PARKING IMPROVEMENTS
GREENHOUSES PARKING LOT
BID FORM**

<u>Item No.</u>	<u>Item with Unit Bid Price Written in Words (and figures)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Amount</u>
G21	Crushed Stone Diaphragm _____ dollars and _____ cents (\$ _____)	250	LF	\$ _____
G22	F&I Catch Basin _____ dollars and _____ cents (\$ _____)	2	EA	\$ _____
G23	Dry Swale WQ BMP - 3N _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
G24	Dry Swale WQ BMP - 3S _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
G25	Infiltration Basin WQ BMP _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
G26	Precast SMH, 4' Diameter _____ dollars and _____ cents (\$ _____)	3	EA	\$ _____
G27	Adjust Frame & Cover to Grade _____ dollars and _____ cents (\$ _____)	7	EA	\$ _____
G28	Cleaning Drain Pipes & Structures _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
G29	Portland Cement Sidewalk _____ dollars and _____ cents (\$ _____)	100	CY	\$ _____
G30	Granite Curb, Quarry-Split Straight, Std. 7.3.0 _____ dollars and _____ cents (\$ _____)	140	LF	\$ _____

**URI NORTH DISTRICT PARKING IMPROVEMENTS
GREENHOUSES PARKING LOT
BID FORM**

<u>Item No.</u>	<u>Item with Unit Bid Price Written in Words (and figures)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Amount</u>
G31	Precast Concrete Curbing _____ dollars and _____ cents (\$ _____)	1,640	LF	\$ _____
G32	Loam & Seed _____ dollars and _____ cents (\$ _____)	800	SY	\$ _____
G33	F&I Fence - "Orsogrill" Steel Plate Panel, Inchblock Style, 8' High _____ dollars and _____ cents (\$ _____)	140	LF	\$ _____
G34	F&I Trees, Various Species _____ dollars and _____ cents (\$ _____)	11	EA	\$ _____
G35	F&I Shrubs, Various Species _____ dollars and _____ cents (\$ _____)	65	EA	\$ _____
G36	F&I Ground Cover Plantings _____ dollars and _____ cents (\$ _____)	3,100	SY	\$ _____
G37	Transplant Trees, Various Species _____ dollars and _____ cents (\$ _____)	7	EA	\$ _____
G38	Electrical Work _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
G39	F&I Luminaires _____ dollars and _____ cents (\$ _____)	17	EA	\$ _____
G40	Parking Signs _____ dollars and _____ cents (\$ _____)	9	SF	\$ _____

**URI NORTH DISTRICT PARKING IMPROVEMENTS
GREENHOUSES PARKING LOT
BID FORM**

<u>Item No.</u>	<u>Item with Unit Bid Price Written in Words (and figures)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Amount</u>
G41	Traffic Markings _____ dollars and _____ cents (\$ _____)	2,100	LF	\$ _____
G42	F&I Timber Guardrail - Campus Standard _____ dollars and _____ cents (\$ _____)	390	LF	\$ _____
ALLOWANCES				
G43	Resource Development Building Demolition & Disposal <u>Eighty Thousand</u> _____ dollars and <u>Zero</u> _____ cents (\$ <u>80,000.00</u>)	1	ALL	\$ <u>80,000</u>
G44	Remove & Relocate Sheds (2) <u>Fifteen Thousand</u> _____ dollars and <u>Zero</u> _____ cents (\$ <u>15,000.00</u>)	1	ALL	\$ <u>15,000</u>
G45	Mobilization <u>Forty-Five Thousand</u> _____ dollars and <u>Zero</u> _____ cents (\$ <u>45,000.00</u>)	1	ALL	\$ <u>45,000</u>
G46	Testing of Materials and Methods <u>Twenty-Five Thousand</u> _____ dollars and <u>Zero</u> _____ cents (\$ <u>25,000.00</u>)	1	ALL	\$ <u>25,000</u>

**URI NORTH DISTRICT PARKING IMPROVEMENTS
WHITE HALL PARKING LOT
BID FORM**

<u>Item No.</u>	<u>Item with Unit Bid Price Written in Words (and figures)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Amount</u>
W1	Site Preparation & Maintenance _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
W2	Temporary Construction Fencing _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
W3	R&D Vegetation _____ dollars and _____ cents (\$ _____)	170	SY	\$ _____
W4	R&D Existing Sidewalk, Bituminous Concrete, Curbing and Misc. Items _____ dollars and _____ cents (\$ _____)	2,700	SY	\$ _____
W5	Remove and Stockpile Timber Guardrail _____ dollars and _____ cents (\$ _____)	210	LF	\$ _____
W6.1	R&D Drainage Structure _____ dollars and _____ cents (\$ _____)	1	EA	\$ _____
W6.2	R&D Frame & Grate _____ dollars and _____ cents (\$ _____)	2	EA	\$ _____
W7	Unclassified / Earth Excavation _____ dollars and _____ cents (\$ _____)	700	CY	\$ _____
W8	Rock Excavation _____ dollars and _____ cents (\$ _____)	100	CY	\$ _____
W9	Common Borrow _____ dollars and _____ cents (\$ _____)	700	CY	\$ _____

**URI NORTH DISTRICT PARKING IMPROVEMENTS
WHITE HALL PARKING LOT
BID FORM**

<u>Item No.</u>	<u>Item with Unit Bid Price Written in Words (and figures)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Amount</u>
W10	Gravel Borrow _____ dollars and _____ cents (\$ _____)	1,500	CY	\$ _____
W11	Bituminous Base Course _____ dollars and _____ cents (\$ _____)	450	TON	\$ _____
W12	Bituminous Surface Course Type I-1 _____ dollars and _____ cents (\$ _____)	365	TON	\$ _____
W13	Bit. Conc. Berm _____ dollars and _____ cents (\$ _____)	150	LF	\$ _____
W14	Class "XX" Portland Cement Concrete _____ dollars and _____ cents (\$ _____)	10	CY	\$ _____
W15	12" Reinforced Concrete Pipe M 170 Class III _____ dollars and _____ cents (\$ _____)	160	LF	\$ _____
W16	Frame & Grate, Standard 6.3.2 _____ dollars and _____ cents (\$ _____)	2	EA	\$ _____
W17	F&I Catch Basin _____ dollars and _____ cents (\$ _____)	4	EA	\$ _____
W18	Adjust Frame & Cover to Grade _____ dollars and _____ cents (\$ _____)	5	EA	\$ _____
W19	Cleaning Drain Pipes & Structures _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____

**URI NORTH DISTRICT PARKING IMPROVEMENTS
WHITE HALL PARKING LOT
BID FORM**

<u>Item No.</u>	<u>Item with Unit Bid Price Written in Words (and figures)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Amount</u>
W20	Precast Concrete Curbing _____ dollars and _____ cents (\$ _____)	670	LF	\$ _____
W21	Loam & Seed _____ dollars and _____ cents (\$ _____)	1,300	SY	\$ _____
W22	F&I Fence - "Orsogril" Steel Plate Panel, Inchblock Style, 8' High _____ dollars and _____ cents (\$ _____)	40	LF	\$ _____
W23	F&I Trees, Various Species _____ dollars and _____ cents (\$ _____)	4	EA	\$ _____
W24	F&I Shrubs, Various Species _____ dollars and _____ cents (\$ _____)	58	EA	\$ _____
W25	Electrical Work _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
W26	F&I Luminaires _____ dollars and _____ cents (\$ _____)	6	EA	\$ _____
W27	Parking Signs _____ dollars and _____ cents (\$ _____)	3	SF	\$ _____
W28	Traffic Markings _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
W29	F&I Timber Guardrail - Modified Campus Standard _____ dollars and _____ cents (\$ _____)	270	LF	\$ _____

**URI NORTH DISTRICT PARKING IMPROVEMENTS
WHITE HALL PARKING LOT
BID FORM**

<u>Item No.</u>	<u>Item with Unit Bid Price Written in Words (and figures)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Amount</u>
W30	Painting _____ dollars and _____ cents (\$ _____)	1	LS	\$ _____
ALLOWANCES				
W31	Remove & Relocate Dumpsters Five Thousand _____ dollars and <u>Zero</u> _____ cents (\$ <u>5,000.00</u>)	1	ALL	\$ <u>5,000</u>
W32	Remove & Stockpile Concrete Pylons & Chain Ten Thousand _____ dollars and <u>Zero</u> _____ cents (\$ <u>10,000.00</u>)	1	ALL	\$ <u>10,000</u>
W33	Mobilization Twenty-Two Thousand _____ dollars and <u>Zero</u> _____ cents (\$ <u>22,000.00</u>)	1	ALL	\$ <u>22,000</u>
W34	Testing of Materials and Methods Allowance Eleven Thousand _____ dollars and <u>Zero</u> _____ cents (\$ <u>11,000.00</u>)	1	ALL	\$ <u>11,000</u>

ATTACHMENT 2
Revised Section 01203

**Attachment C - SECTION 01203
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. Division 0 Section 0410 – Bid Form
2. Division 1 Section 1200 – Price and Payment Procedures
3. Division 1 Section 1330 – Submittals
4. Division 1 Section 1400 – Quality Requirements

1.02 UNIT QUANTITIES SPECIFIED

- A. Quantities and measurements indicated in SECTION 00410 – BID FORM are for bidding and contract purposes only. Quantities and measurements ACTUALLY supplied or placed in the Work and verified by the Engineer shall determine payment.
- B. If the actual Work requires greater or lesser quantities than those quantities indicated in the Bid Form, Contractor shall provide the required quantities at the unit price contracted.

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 appropriate members of the Contractor's personnel on the site, by furnishing copies of invoices, or by other necessary 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 based on the unit price bid in SECTION 00410 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.)
- B. The Owner reserves the right to increase or decrease the scope of the Contract work by up to and including twenty-five percent (25%) of the original scope without adjusting the lump sums or unit prices.

1.05 LUMP SUM PRICES

- A. Payment will be computed based on 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 (submit under SECTION 01200, Section 1.04 – 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 materials needed for, and for performing the work and constructing the structures required by the Contract, but also for assuming all risks of any kind for expenses arising by reason of the nature of the soil, groundwater, or the action of the elements; for all excavation and backfilling; for the removal of and delay or damage occasioned by trees, stumps, tracks, 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 furnishing, inserting and

removing all sheeting, shoring staging, cofferdams, etc.; for all signs (up to 100 square feet), 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 any and all expenses on account of the use of any patented device or process; 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 bonds 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; equipment on the site and away therefrom; 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 made a 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.

1.07 PAYMENT

- A. In general, payment will be made for all Contract work satisfactorily completed and accepted through the end of the previous month. The payment will include any additional work that has been completed and approved and change order work agreed upon by the Owner and Contractor that has been completed and approved (See SECTION 00520 Article 5 - PAYMENTS).
- B. Each application for payment, up to the date of substantial completion as determined by the Engineer, will indicate the total value of a minimum five percent (5%) retainage to be held by the Owner, based on the total value of all work completed under the contract and approved for payment to-date. The rate of retainage subsequent to the established date of substantial completion may, at the Owner's approval, be reduced from five (5) percent to two (2) percent, and a portion of the monies held as retainage at the five (5) percent rate may be requested by and released to the Contractor as part of his application for payment in an amount which results in a balance of two (2) percent retainage being held by the Owner.

- C. Retainage in the amount of two (2) percent of the value of all work completed under the contract shall be retained by the Owner for a warranty period of not less than one (1) year from the date of project completion as determined by the Engineer (not to be construed as substantial completion), at or after which time the Contractor may request the release of final retainage in full, provided that all work has been satisfactorily completed and adequately performed during the warranty period. The Owner shall be the sole judge of whether work has been satisfactorily completed and adequately performed.
- D. Monthly applications for payment shall also indicate the reduction or increase to 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.
- E. 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.
- F. 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 BID ITEMS – METHOD OF MEASUREMENT AND BASIS OF PAYMENT

BID ITEM NO. G1 SITE PREPARATION AND MAINTENANCE

BID ITEM NO. W1

A. METHOD OF MEASUREMENT

- 1. This item shall be paid for at the contract unit price bid per lump sum.
- 2. A maximum of fifty percent (50%) of the Site Preparation lump sum shall be payable in the initial payment requisition. The balance of the lump sum shall be payable upon completion of the project, after all temporary items and measures have been removed and suitably disposed of and final restoration has been completed.

B. BASIS OF PAYMENT

- 1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Furnishing, placing, relocating, maintaining, and removing & disposing of erosion control measures, including but not limited to catch basin inserts, staked haybale/silt fence erosion barriers, sediment control traps, construction entrances, and dewatering basins throughout the duration of the Work, as indicated on the Drawings or as otherwise directed by the Engineer;

- b. Furnishing, placing, relocating, maintaining, removing and disposing of any temporary gravel or crushed stone access roads or ways created within the project limits;
- c. Relocating boulder(s) as indicated on drawings;
- d. Protecting trees and shrubs during construction as indicated on the Drawings or as otherwise directed by the Engineer. The unit price shall also include costs to remove and dispose of tree and shrub protection once construction is complete;
- e. Removal and disposal of any trash and debris that is located within the project area that impacts specific elements of the required work;
- f. Any and all other work, whether direct or incidental, associated with site preparation not specifically identified herein.

BID ITEM NO. G2 TEMPORARY CONSTRUCTION FENCING
BID ITEM NO. W2

A. METHOD OF MEASUREMENT

1. This item shall be paid for at the contract unit price bid per lump sum.
2. A maximum of fifty percent (50%) of the Temporary Construction Fencing lump sum shall be payable in the initial payment requisition. The balance of the lump sum shall be payable upon completion of the project, after all temporary fencing has been disassembled and removed from the site.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Furnishing, placing, relocating and maintaining temporary construction fencing throughout the duration of the Work, in accordance with Section 01500 Par. 1.17, as indicated on the Drawings, or as otherwise directed by the Owner;
 - b. Disassembling & removing temporary construction fencing upon completion of the Work and with the Owner's authorization;
 - c. Any and all other work, whether direct or incidental, associated with temporary construction fencing not specifically identified herein.

BID ITEM NO. G3 REMOVE AND DISPOSE VEGETATION
BID ITEM NO. W3

A. METHOD OF MEASUREMENT

1. The quantity of remove and dispose vegetation to be paid for under this item shall be measured by the square yard to the limits of vegetation removed and disposed.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Cutting, removing from the ground, and legally disposing stumps, brush, shrubs, hedges, roots and other vegetation within the project limits;
 - b. Cutting, removing and legally disposing of all trees and stumps indicated on the plans or as directed by the Engineer, within the limits of disturbance;
 - c. Trimming overhanging limbs at locations designated on the Drawings or as required to complete the work;
 - d. Any and all other work, whether direct or incidental, associated with removing and disposing of vegetation not specifically identified herein.

**BID ITEM NO. G4 REMOVE AND DISPOSE EXISTING SIDEWALK,
BID ITEM NO. W4 BITUMINOUS CONCRETE, CURBING AND MISC.
ITEMS**

A. METHOD OF MEASUREMENT

1. The quantity of remove and dispose existing sidewalks, bituminous concrete pavement and curbing to be paid for under this item shall be equal to the actual amount of sidewalk, pavement, and curbing removed and disposed, measured by the square yard as indicated on the Drawings or 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 and incidentals needed to complete the following:
 - a. Sawcutting and excavation required for removing and legally disposing of the sidewalk, pavement and/or curb or berm materials.
 - b. Removing and stockpiling and removing and disposing of existing guardrail and posts, including sawcutting, excavation, furnishing and installing backfill material (including compacting the material) as specified;
 - c. Removing and disposing of car stops as designated on the Drawings;
 - d. Any and all other work, whether direct or incidental, associated with the removal and disposal of sidewalks, bituminous concrete pavement and curbing not specifically identified herein.

BID ITEM NO. W5 REMOVE AND STOCKPILE TIMBER GUARDRAIL

A. METHOD OF MEASUREMENT

1. The quantity of remove and stockpile timber guardrail to be paid for under this item shall be actual amount of existing timber guardrail removed from its current

location, transported and stockpiled, measured by the linear foot of the guardrail, complete as indicated on the Drawings or as otherwise directed by the Engineer.

2. The Owner shall reserve the right to evaluate removed guardrail materials, and may instruct that they be disposed of instead of stockpiled. The cost of transportation and disposal of any such materials shall be included in the cost for this item, and no separate or additional compensation for said transportation and disposal shall be made to the Contractor.

B. BASIS OF PAYMENT

1. The allowance for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Disassembling and removing the existing timber guardrail, including all hardware, rails, posts and post foundations;
 - b. Loading, transporting and unloading all removed guardrail materials to a stockpile location no more than 1/2-mile from the original guardrail location as directed by the Owner/Engineer;
 - c. Disposal of removed materials in lieu of stockpiling, if so directed by the Owner;
 - d. Any and all other work, whether direct or incidental, associated with the removal and stockpiling of timber guardrail not specifically identified herein.

BID ITEM NO. G5 REMOVE AND DISPOSE DRAIN STRUCTURES **BID ITEM NO. W6.1**

A. METHOD OF MEASUREMENT

1. The quantity of remove and dispose drain structures to be paid for under this item shall be measured per each, based on the actual number of existing drain structures removed and disposed, as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Sawcutting of the existing pavements and removal and disposal of all existing pavements, including existing bituminous concrete, concrete base or reinforced concrete base, and masonry or concrete walls;
 - b. Removing and legally disposing of existing castings;
 - c. Removing and legally disposing of any accumulated debris within the structure;
 - d. Installing any necessary temporary excavation support;

- e. Protection and support of existing utilities, maintaining flows of all utilities, and repairing and/or replacing damaged or impacted existing utilities not specifically included for payment under other items;
 - f. Dewatering the excavation;
 - g. Excavating, removing and legally disposing of the existing structures;
 - h. Furnishing and installing backfill material (including compacting the material) as specified;
 - i. Any and all other work, whether direct or incidental, associated with removing and disposing drain structures not specifically identified herein.
2. Excavated materials for re-use as backfill material shall meet the specification for gravel borrow.
 3. Cost for backfilling with imported gravel borrow shall be included for payment under Gravel Borrow.
 4. Cost for excavating and disposing backfill material that does not meet the specification for gravel borrow shall be included for payment under Unclassified/Earth Excavation.

BID ITEM NO. W6.2 REMOVE AND DISPOSE FRAME AND GRATE

A. METHOD OF MEASUREMENT

1. The quantity of remove and dispose frame and grate to be paid for under this item shall be measured per each, based on the actual number of existing frames and grates removed and disposed, as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Sawcutting and removal and disposal of all existing pavements, including existing bituminous concrete, concrete base or reinforced concrete base, and masonry or concrete walls;
 - b. Temporary excavation support, dewatering, furnishing and installing backfill material including compacting the material as specified,
 - c. Protection and support of existing utilities, maintaining flows of all utilities, and repairing and/or replacing damaged or impacted existing utilities not specifically included for payment under other items;
 - d. Removing and legally disposing of existing castings;
 - e. Any and all other work, whether direct or incidental, associated with removing and disposing drain structures not specifically identified herein.

BID ITEM NO. G6 UNCLASSIFIED/EARTH EXCAVATION
BID ITEM NO. W7

A. METHOD OF MEASUREMENT

1. The quantity of unclassified/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 and either re-used in the Work or disposed of at an off-site location which are not incidental to the performance of other work items.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Excavation of all materials (except rock), including but not limited to silt, sand, gravel or other soils, and any other non-granular materials;
 - b. Stockpiling and re-handling excavated materials for reuse on other portions of this project, or removing and legally disposing of excavated materials at an off-site location (the Contractor shall locate and secure an acceptable disposal site for all excess materials);
 - c. Test Pits, including excavation, furnishing and installing backfill material (including compacting the material) as specified;
 - d. Any and all other work, whether direct or incidental, associated with excavation of unclassified materials not specifically identified herein.
2. Materials shall be tested by the Contractor to determine whether they may/shall be re-used in the Work or disposed of off-site; there shall be no difference in the unit price for excavation of unclassified/earth materials which are re-used in the Work and excavation of materials which are removed and disposed of off-site.

BID ITEM NO. G7 ROCK EXCAVATION
BID ITEM NO. W8

A. METHOD OF MEASUREMENT

1. The quantity of rock excavation to be paid for under this item shall be measured per cubic yard, based on the total number of cubic yards of rock removed from within the specified payment limits indicated on the Drawings and as defined in the Specifications and as measured in place before excavation, unless rock excavation beyond said limits has been authorized in writing by the Engineer, in which case measurements shall be made to the authorized limits.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:

- a. Removal and proper disposal of boulders in excess of one (1) cubic yard in volume (measurement and volume determination to be made by Engineer);
 - b. Breaking or fracturing of solid contiguous rock by mechanical means such as rock hammer or jackhammer (blasting of rock shall not be allowed under any circumstances);
 - c. Excavation of all broken rock to the authorized limits as determined by the engineer;
 - d. Replacement of excavated rock with sand, gravel or crushed stone as specified and detailed on the Drawings, at the direction of the Engineer.
 - e. Proper disposal of excavated rock at an off-site location.
 - f. Any and all other work, whether direct or incidental, associated with the excavation and disposal of rock not specifically identified herein.
2. Where rock is encountered, it shall be uncovered but not excavated until measurements have been made by the Engineer, unless in the opinion of the Engineer, satisfactory measurements can be made in some other manner.
 3. Excavated rock that has not yet been disposed of shall not be included for payment.
 4. For bid items that include incidental earth excavation, the bidder shall include in his unit prices the cost of performing the entire excavation as earth. The unit price for this item is intended to represent the difference between the cost of rock excavation & disposal and the cost of earth excavation that would have taken place as part of the other bid items. The unit price for this item shall be paid in addition to the incidental earth excavation costs included in the other items; no adjustment to the unit prices for other items which include earth excavation shall be made in the event that rock is encountered and excavated in lieu of earth.

BID ITEM NO. G8 COMMON BORROW

BID ITEM NO. W9

BID ITEM NO. G9 GRAVEL BORROW

BID ITEM NO. W10

A. METHOD OF MEASUREMENT

1. The quantity of gravel borrow and common borrow to be paid for under these items shall be measured per cubic yard, based on the total number of cubic yards of gravel borrow or common borrow installed, complete-in-place, as directed by the Engineer.

B. BASIS OF PAYMENT

1. The unit price for these items shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:

- a. Furnishing and placing common or gravel borrow to the approximate grades required in the specific location or for the application for which it is being used;
 - b. Trimming and fine-grading all borrow materials to the proposed or specified subbase grades;
 - c. Compacting common or gravel borrow to the relative density required for the specific location(s) or application(s) for which it is being used;
 - d. Any and all other work, whether direct or incidental, associated with furnishing and placing common or gravel borrow not specifically identified herein.
2. Gravel borrow or common borrow outside the limits of normal excavation shall be furnished, placed, and compacted at the Contractor's expense, and no payment under these items will be made for said borrow.
 3. Gravel borrow or common borrow used to backfill rock excavations will not be measured for payment under these items, but shall be included in the unit price for "Rock Excavation and Disposal."

BID ITEM NO. G10 BITUMINOUS BASE COURSE**BID ITEM NO. W11****BID ITEM NO. G11 BITUMINOUS SURFACE COURSE, TYPE I-1****BID ITEM NO. W12**

- A. GENERAL (APPLICABLE TO ALL PAVEMENT ITEMS) – The unit prices for pavement shall constitute full compensation for saw cutting; excavation to the required depth; special compaction requirements; removal and disposal of any temporary pavement; valve box adjustments, as directed; grading, grinding, cutting and matching existing pavement; sweeping the pavements; cutting all edges at limit of work and in front of edge stone, excavating around all utility castings; satisfactory disposal of all materials outside the limits of the contract, furnishing and applying required prime coats, tack coats, emulsions and joint sealants; trench closing and openings ordered by the Engineer; and constructing the pavement complete, as specified and as indicated and not specifically included for payment under other items.
- B. METHOD OF MEASUREMENT – The quantity of bituminous base course and bituminous surface course, Type I-1 to be paid for under these item shall be equal to the actual amount of pavement, furnished and installed to the depths indicated, measured by the ton of pavement actually installed, as indicated on the Drawings or as directed by the Engineer.
- C. BASIS OF PAYMENT
 1. The unit price for these items shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:

- a. Cutting and matching clean, sound joints with existing pavement to remain;
- b. Removal and disposal of temporary pavement at an off-site location;
- c. Valve box adjustments to proposed finish pavement grade;
- d. Thoroughly sweeping all surfaces to be paved and proper disposal of all sweepings;
- e. Furnishing and applying required tack coats and emulsions;
- f. Furnishing and installing the pavements, which shall consist of two and a half (2.5) inches of bituminous base course, and two (2) inches of Type I-1 bituminous surface course;
- g. Hand work as necessary for locations where mechanical paving machines cannot be used;
- h. Any and all other work, whether direct or incidental, associated with furnishing and placing bituminous concrete materials.

BID ITEM NO. G12 BIT. CONC TEMPORARY PATCHING**A. METHOD OF MEASUREMENT**

1. The quantity of bituminous concrete temporary patching to be paid for under this item shall be equal to the actual amount of bituminous concrete, furnished and installed to the depths indicated, and measured by the ton to the trench payment limits as indicated on the Drawings.
2. Temporary patching pavement required and installed beyond the specified payment limits shall not be measured for payment.

B. BASIS OF PAYMENT

1. The unit price shall constitute full compensation for furnishing and installing two (2) inch thick Type I-1 temporary bituminous concrete pavement, complete in place as specified and/or detailed on the Drawings.
2. There will be no separate additional payment for the work of removing and disposing of temporary bituminous concrete prior to final pavement restoration.

BID ITEM NO. W13 BITUMINOUS CONCRETE BERM**A. METHOD OF MEASUREMENT**

3. The quantity of bituminous concrete berm to be paid for under this item shall be actual amount of bituminous berm, furnished and installed, measured by the linear foot of the curbing, complete as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Furnishing and installing bituminous concrete berm as detailed on the Drawings and as directed by the Engineer.
 - b. The unit price for this item shall constitute full compensation for saw cutting, excavation, backfill with gravel borrow, and all other work incidental to furnishing and installing new bituminous berm and not specifically included for payment under other items.
2. Bituminous berm damaged during construction operations shall be replaced in kind at no additional expense to the Owner.

BID ITEM NO. G13 CLASS XX PORTLAND CEMENT CONCRETE
BID ITEM NO. W14**A. METHOD OF MEASUREMENT**

1. The quantity of Class XX Portland Cement Concrete to be paid for under this item shall be measured per cubic yard, based on the total number of cubic yards of concrete installed, complete-in-place, 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 and incidentals needed to complete the following:
 - a. Furnishing and installing concrete forming;
 - b. Furnishing and installing reinforcing steel, as directed by the Engineer and as specified;
 - c. Furnishing and placing RIDOT Class XX concrete, regardless of strength, as directed by the Engineer and as specified;
 - d. Furnishing and placing stamped and colored concrete in the locations indicated on the plans and in accordance with the details for same;
 - e. Watering, covering, or otherwise protecting concrete during curing;
 - f. Stripping and stockpiling or disposing of forming upon adequate curing of concrete.
 - g. Any and all other work, whether direct or incidental, associated with furnishing and placing additional concrete not specifically identified herein.
2. No payment shall be made under this item for concrete used as indicated on the Drawings in work for which designated payment items have been provided elsewhere, nor for concrete used to backfill unauthorized excavations made by the Contractor.

BID ITEM NO. G14 F&I CONCRETE-FILLED BOLLARDS**A. METHOD OF MEASUREMENT**

1. The quantity of concrete-filled bollards to be paid for under this item shall be measured per each, based on the actual number of concrete-filled bollards installed, complete-in-place, as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals needed to furnish and install concrete-filled steel bollards, including:
 - a. Excavation;
 - b. Furnishing, placing & compacting gravel borrow base;
 - c. Furnishing and installing Class XX concrete base pedestal;
 - d. Furnishing and installing steel bollard and Class XX concrete fill;
 - e. Painting steel bollard;
 - f. Any and all other work, whether direct or incidental, associated with the installation of the bollards.
2. As an alternative to casting concrete base and/or bollards in-place, Contractor may cast precast bollards (including base and fill) at an off-site location, and transport and install same to project site. Contractor shall provide full access to the Owner and/or its agents to perform inspections of the pre-casting operation, and shall furnish any and all documentation necessary to verify that the required materials have been used and specification standards have been met.

BID ITEM NO. G15 ABANDON STORAGE ROOM DOUBLE DOORS**A. METHOD OF MEASUREMENT**

1. Abandon Storage Room Double Doors shall be paid for on a lump sum basis.

B. BASIS OF PAYMENT

1. The lump sum for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Securing of any and all state or local building permits required for the work;
 - b. Temporary support of existing doorway opening;
 - c. Removal and disposal of existing steel double doors and door frame;
 - d. Repairs to and/or modification of, existing concrete floor/foundation to support proposed wall infill;

- e. Installation of concrete masonry block wall to extent of existing rough doorway opening;
- f. Any and all other work, whether direct or incidental, associated with the removal of the existing steel double doors and replacement with a concrete masonry block wall.

BID ITEM NO. W15	12" REINFORCED CONCRETE PIPE M 170 CLASS III
BID ITEM NO. G16	
BID ITEM NO. G17	4" SDR 35 PVC PIPE
BID ITEM NO. G18	6" SDR 35 PVC PIPE
BID ITEM NO. G19	8" SDR 35 PVC PIPE

A. METHOD OF MEASUREMENT

1. The quantities of gravity drains to be paid for under these items shall be measured by the linear foot along the horizontal projection of the centerline of the completed drain, excluding the length of manholes and catch basins, measured to the limits of the manhole inside diameter or the catch basin inside face of wall.

B. BASIS OF PAYMENT

1. The unit prices for these items shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Furnishing and installing the gravity drains, complete-in-place, including all excavation, disposal of material, furnishing and installing gravel borrow backfill, crushed stone for pipe bedding/backfill material, compacting materials as specified, filter fabric and all incidental work not specifically included for payment under other items;
 - b. Protection and support of existing utilities, maintaining flows of all utilities, and repairing and/or replacing damaged or impacted existing utilities not specifically included for payment under other items;
 - c. Implementing safety precautions, including designing and implementing excavation support;
 - d. Designing, furnishing, installing, operating, maintaining and removing temporary dewatering systems required to lower and control water levels and hydrostatic pressures during construction, as well as the appropriate disposal of pumped water;
 - e. Furnishing and installing tees, cleanouts and other adapters or couplings required to install the system complete-in-place, as specified and indicated on the Drawings;
 - f. Connecting new gravity drains to the existing gravity drain structures or system, including all excavation, modifications to existing structures (including but not limited to form work, coring, cutting, concrete work, masonry and bricks), modifying and/or removing existing pipe (all materials and sizes), and furnishing and installing adapters and couplings;

- g. Any and all other work, whether direct or incidental, associated with the furnishing and installation of the gravity drains not specifically identified herein.

BID ITEM NO. G20 6" UNDERDRAIN PIPE & FITTINGS**A. METHOD OF MEASUREMENT**

1. The quantity of 6" underdrain pipe and fittings to be paid for under this item shall be measured by the linear foot along the horizontal projection of the centerline of the completed pipe.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Furnishing and installing the underdrains, complete-in-place, including all excavation, disposal of material, furnishing and installing gravel borrow backfill, crushed stone for pipe bedding/backfill material, compacting materials as specified, filter fabric and all incidental work not specifically included for payment under other items;
 - b. Protection and support of existing utilities, maintaining flows of all utilities, and repairing and/or replacing damaged or impacted existing utilities not specifically included for payment under other items;
 - c. Implementing safety precautions, including designing and implementing excavation support;
 - d. Designing, furnishing, installing, operating, maintaining and removing temporary dewatering systems required to lower and control water levels and hydrostatic pressures during construction, as well as the appropriate disposal of pumped water;
 - e. Furnishing and installing tees, cleanouts and other adapters or couplings required to install the system complete-in-place, as specified and indicated on the Drawings;
 - f. Connecting new gravity drains to the existing gravity drain structures or system, including all excavation, modifications to existing structures (including but not limited to form work, coring, cutting, concrete work, masonry and bricks), modifying and/or removing existing pipe (all materials and sizes), and furnishing and installing adapters and couplings;
 - g. Any and all other work, whether direct or incidental, associated with the furnishing and installation of the gravity drains not specifically identified herein.

BID ITEM NO. G21 CRUSHED STONE DIAPHRAGM**A. METHOD OF MEASUREMENT**

1. The quantity of crushed stone diaphragm to be paid for under this item shall be measured by the linear foot as measured along the centerline of all Crushed Stone Diaphragms, measured from start to end of diaphragm installed as specified on the Drawings and required by the specifications.

B. BASIS OF PAYMENT

1. The unit prices for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Excavating diaphragm trench areas, furnishing and installing permeable geotextile fabric, furnishing and installing filter stone, handling and management or disposal of excavated soils;
 - b. Any and all other work, whether direct or incidental, associated with the furnishing and installation of the gravity sewers not specifically identified herein.

BID ITEM NO. W16 FRAME & GRATE, RI STANDARD 6.3.2**A. METHOD OF MEASUREMENT**

1. The quantity of frame and grates to be paid for under this item shall be measured per each, based on the actual number of frames and grates installed, complete-in-place, as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for furnishing and installing frame and grate and all materials, labor, equipment, tools, appurtenances and incidentals needed to satisfactorily complete this item of work complete in place.

BID ITEM NO. G22 F&I CATCH BASIN**BID ITEM NO. W17****A. METHOD OF MEASUREMENT**

1. The quantity of F&I Catch Basin to be paid for under this item shall be measured per each, based on the actual number of catch basins installed, complete-in-place, as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Furnishing and installing, complete-in-place, precast concrete catch basins, including sawcutting, temporary excavation support, dewatering, excavation and disposal of material, furnishing and installing crushed stone bedding materials, furnishing and installing catch basin hoods, base sections, risers, cones or flat slab tops (as required), frames and grates, frames and covers (as required), backfill with gravel borrow and all other work and materials required to complete the work as indicated on the Drawings and as specified.
 - b. Connecting existing gravity drain pipes to the new drain structures, including all excavation, modifying and/or removing existing pipe (all materials and sizes), and furnishing and installing adapters and couplings;
 - c. Any and all other work, whether direct or incidental, associated with the construction of the precast concrete catch basins not specifically identified herein.
2. Excavated materials for re-use as backfill material shall meet the specification for gravel borrow.
3. Cost for backfilling with imported gravel borrow shall be included for payment under Gravel Borrow.
4. Cost for excavating and disposing backfill material that does not meet the specification for gravel borrow shall be included for payment under Unclassified/Earth Excavation.

BID ITEM NO. G23 DRY SWALE WQ BMP – 3N
BID ITEM NO. G24 DRY SWALE WQ BMP – 3S

A. METHOD OF MEASUREMENT

1. Dry Swale WQ BMP items 3N and 3S shall both be paid for on a lump sum basis.

B. BASIS OF PAYMENT

1. The lump sum for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Excavation of designated swale area and proper handling and disposal of excavated soils;
 - b. Grading of dry swale subbase;
 - c. Furnishing and installation of impermeable fabric liner (as applicable), gravel sump, 4" perforated underdrain pipe, overflow weir and riser, pea gravel, bioretention media, plantable loam and seed with the specified seed type(s);

- d. Trimming & fine-grading all materials to the lines and grades called for on the plans, sections and applicable details for each item;
- e. Furnishing and installation of biodegradable slope erosion blanket (as directed);
- f. Any and all other work, whether direct or incidental, associated with the construction of the dry swales not specifically identified herein.

BID ITEM NO. G25 INFILTRATION BASIN WQ BMP**A. METHOD OF MEASUREMENT**

1. Infiltration Basin WQ BMP items shall be paid for on a lump sum basis.

B. BASIS OF PAYMENT

1. The lump sum for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Stripping and stockpiling of topsoil at a designated on-site location;
 - b. Excavation of designated infiltration basin area and proper handling and disposal of excavated soils;
 - c. Protection at all times during construction of infiltration basin area from compaction by construction equipment and/or materials by use of signs, temporary barriers/fencing, or other suitable measures;
 - d. Grading of infiltration basin subbase;
 - e. Furnishing and installation of concrete curb sediment forebay overflow weir, infiltration basin overflow riser, and plantable loam and seed with the specified seed type(s);
 - f. Connections to existing drainage pipes as indicated on the plans;
 - g. Trimming & fine-grading all materials to the lines and grades called for on the plans, sections and applicable details for each item;
 - h. Furnishing and installation of biodegradable slope erosion blanket (as directed);
 - i. Any and all other work, whether direct or incidental, associated with the construction of the dry swales not specifically identified herein.

BID ITEM NO. G26 PRECAST SMH, 4' DIAMETER**A. METHOD OF MEASUREMENT**

1. The quantity of precast sewer manhole to be paid for under this item shall be measured per each, based on the actual number of sewer manholes furnished and installed, complete-in-place, as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

1. The unit price for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Furnishing and installing, complete-in-place, precast concrete sewer manholes, including sawcutting, temporary excavation support, dewatering, excavation & disposal of material, furnishing and installing bedding material, construction of inverts, base sections, risers, cones or flat slab tops (as required), watertight frames and covers, backfill with gravel borrow and all other work and materials required to complete the work as indicated on the Drawings and as specified.
 - b. Connecting existing gravity drain pipes to the new drain structures, including all excavation, modifying and/or removing existing pipe (all materials and sizes), and furnishing and installing adapters and couplings;
 - c. Any and all other work, whether direct or incidental, associated with the construction of the sewer manholes not specifically identified herein.
2. Excavated materials for re-use as backfill material shall meet the specification for gravel borrow.
3. Cost for backfilling with imported gravel borrow shall be included for payment under Gravel Borrow.
4. Cost for excavating and disposing backfill material that does not meet the specification for gravel borrow shall be included for payment under Unclassified/Earth Excavation.

BID ITEM NO. G27 ADJUST FRAME & COVER TO GRADE
BID ITEM NO. W18**A. METHOD OF MEASUREMENT**

1. The quantity of Adjust Frame and Cover to Grade to be paid for under this item shall be measured by each, based on the actual number of structure frames adjusted, complete-in-place, 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 and incidentals needed to complete the following:
 - a. Adjusting frames and covers (for manholes, monitoring wells, vaults) or grates (for catch basins) to the proposed grades as called for on the plans;
 - b. Other work associated with adjusting frames and covers to grade, whether direct or incidental, not specifically identified herein.

BID ITEM NO. G28 CLEANING DRAIN PIPES & STRUCTURES
BID ITEM NO. W19**A. METHOD OF MEASUREMENT**

1. Cleaning Drain Pipes & Structure item shall be paid for on a lump sum basis.

B. BASIS OF PAYMENT

1. The lump sum for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Removing the accumulated dirt, refuse, and other debris from each drainage structure in or in close proximity to the project area during and upon completion of the proposed work, including the gutter mouth of curb inlets from drainage pipes to be retained, and disposing of materials so removed.
 - b. At a minimum, cleaning shall be performed once upon completion of the project, but may be required more frequently by the Owner if the Contractor's operations result in the deposition of debris of any kind into any element(s) of the drainage system within or in close proximity to the project area.
 - c. Hoods (or other forms of oil-water separators) shall be removed from all catch basins so equipped prior to cleaning, and shall be properly reset in the structure upon completion of cleaning.
 - d. Hydraulic lift trucks should be used during drainage structure cleaning operations so that the material can be decanted at the site. After material from several drainage structures along the same system is loaded onto the truck, the truck should be elevated so any free flowing liquid may drain back into the drainage structure. Material must arrive at the disposal facility sufficiently dry to pass the Paint Filter Liquids Test (or no liquid drips from it when a handful is taken and squeezed).
 - e. Under no circumstances shall liquids, solids or any other materials resulting from the cleaning operations be dumped onto public property, or into ditches or water courses. All sludge, dirt, sand, gravel and other debris resulting from the cleaning operation shall be removed and legally disposed of at an off-site location.
 - f. All material removed from the drainage structures or pipes shall be properly handled and disposed of by the Contractor, and this must be done in accordance with all Rhode Island Department of Environmental Management (DEM) regulations, policies, and guidance. The responsibility for the proper handling and disposal of this material shall be solely the Contractor's.

BID ITEM NO. G29 PORTLAND CEMENT CONCRETE SIDEWALKS**A. METHOD OF MEASUREMENT**

1. The quantity of Portland Cement Concrete Sidewalk to be paid for under this item shall be measured per cubic yard, based on the total number of cubic yards of concrete sidewalk installed, complete-in-place, 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 and incidentals needed to complete the following:
 - a. Furnishing and installing concrete sidewalks and ADA-compliant wheelchair ramps;
 - b. The unit price for this item shall constitute full compensation for saw cutting, excavation, bedding, concrete, formwork, removal and replacement of gravel backfill, compaction, restoration of bushes, trees and plantings, fences and walls disturbed by the Contractor's operations, to a condition at least equal to a condition which existed prior to construction, as directed by the Engineer, at no additional cost to the Owner, and all other work incidental to furnishing and installing new sidewalks and wheelchair ramps and not specifically included for payment under other items.
 - c. Installation of ADA required detectable warning devices at required locations;
 - d. Resetting or replacement of all signposts and resetting of existing curb boxes and castings in sidewalks;
 - e. Any and all other work, whether direct or incidental, associated with the installation of concrete sidewalks and wheelchair ramps not specifically identified herein.

**BID ITEM NO. G30 GRANITE CURB, QUARRY-SPLIT STRAIGHT
RI STD. 7.3.0****A. METHOD OF MEASUREMENT**

1. The quantity of granite curb to be paid for under this item shall be actual amount of granite curb (including straight curb, circular curb, curb corners, transition curb and apron stones) furnished and installed, measured by the linear foot along the centerline of the curb, complete as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

1. The unit price shall constitute full compensation for furnishing all labor, materials, tools and equipment necessary for furnishing, trimming and installing granite curbing as detailed on the Drawings and as directed by the Engineer.

2. The unit price for this item shall include full compensation for saw cutting, excavation, bedding, concrete, removal and replacement of gravel backfill, compaction, restoration of bushes, trees and plantings, fences and walls disturbed by the Contractor's operations, to a condition at least equal to a condition which existed prior to construction, as directed by the Engineer, at no additional cost to the Owner, and all other work incidental to furnishing and installing new curbing and not specifically included for payment under other items.
3. Curbing damaged during removal or other construction operations shall be replaced in kind at no expense to the Owner.

BID ITEM NO. G31 PRECAST CONCRETE CURBING
BID ITEM NO. W20

A. METHOD OF MEASUREMENT

1. The quantity of concrete curb to be paid for under this item shall be actual amount of precast concrete curb (including straight curb, circular curb, curb corners, transition curb and apron stones) furnished and installed, measured by the linear foot along the centerline of the curb, complete as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

1. The unit price shall constitute full compensation for furnishing all labor, materials, tools and equipment necessary for furnishing, trimming and installing precast concrete curbing as detailed on the Drawings and as directed by the Engineer.
2. The unit price for this item shall constitute full compensation for saw cutting, excavation, bedding, concrete, formwork, removal and replacement of gravel backfill, compaction, restoration of bushes, trees and plantings, fences and walls disturbed by the Contractor's operations, to a condition at least equal to a condition which existed prior to construction, as directed by the Engineer, at no additional cost to the Owner, and all other work incidental to furnishing and installing new curbing and not specifically included for payment under other items.
3. Curbing damaged during removal or other construction operations shall be replaced in kind at no expense to the Owner.

BID ITEM NO. G32 LOAM & SEED
BID ITEM NO. W21

A. METHOD OF MEASUREMENT

1. The quantity of loam and seed shall be measured by the number of square yards of plantable loam and seed installed, complete-in-place, in accordance with the Plans and/or 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 and incidentals needed to complete the following:
 - a. Trimming and fine grading the sub base;
 - b. Furnishing and placing plantable loam and seed;
 - c. Resetting or replacement of all signposts and resetting of curb boxes and castings in loamed and seeded areas;
 - d. Any and all other work, whether direct or incidental, associated with the furnishing and installing loam and seed not specifically identified herein.

**BID ITEM NO. G33 F&I FENCE – “ORSOGRIL” STEEL PLATE PANEL,
BID ITEM NO. W22 INCHBLOCK STYLE, 8’ HIGH****A. METHOD OF MEASUREMENT**

1. The lengths of fence to be paid for under this Item shall be measured by the linear foot of actual fence furnished and installed, complete-in-place, in accordance with the Plans and/or 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 and incidentals needed to complete the following:
 - a. Furnishing and installing fence including posts and post foundations, framework, fabric, hardware and appurtenances;
 - b. Removal and disposal of existing chain link fence, single or double gates (if required);
 - c. Removal and resetting of existing chain link fence, single or double gates (if required);
 - d. Furnishing and installing single or double gates (if required);
 - e. Excavation for, backfill for, concrete for, and installation of post bases;
 - f. Furnishing and installing chain link fence post connection for mounting of chain link fence to top of precast culvert (if required);
 - g. Furnishing and installing privacy slats (if required);
 - h. Any and all other work, whether direct or incidental, associated with the installation of the fence not specifically identified herein.

BID ITEM NO. G34 F&I TREES, VARIOUS SPECIES**BID ITEM NO. W23****BID ITEM NO. G35 F&I SHRUBS, VARIOUS SPECIES****BID ITEM NO. W24****A. METHOD OF MEASUREMENT**

1. The quantity of these items to be paid for shall be measured per each, based on the actual number of each plant (trees & shrubs) furnished and installed, complete-in-place, as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

1. The unit price for these items shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Furnishing and installing plants (trees & shrubs) as indicated on the Drawings;
 - b. Watering and fertilizing all plants as recommended and/or necessary to insure the healthy establishment of same;
 - c. Protecting all plantings until such a time as an acceptable level of plant growth has been established;
 - d. Any and all other work, whether direct or incidental, associated with the plantings not specifically identified herein.

BID ITEM NO. G36 F&I GROUND COVER PLANTINGS**A. METHOD OF MEASUREMENT**

1. The quantity of Ground Cover Plantings shall be measured by the number of square yards, surface measurement, of the area in which the plantings have been installed, complete-in-place, in accordance with the Plans and/or 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 and incidentals needed to complete the following:
 - a. Furnishing and planting ground cover plants as indicated on the Drawings;
 - b. Watering and fertilizing all plants as recommended and/or necessary to insure the healthy establishment of same;
 - c. Protecting all plantings until such a time as an acceptable level of plant growth has been established;
 - d. Any and all other work, whether direct or incidental, associated with the plantings not specifically identified herein.

BID ITEM NO. G37 TRANSPLANT TREES, VARIOUS SPECIES

A. METHOD OF MEASUREMENT

1. The quantity of these items to be paid for shall be measured per each, based on the actual number of each tree transplanted, complete-in-place, as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

1. The unit price for these items shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Transplanting trees as indicated on the Drawings;
 - b. Watering and fertilizing all transplanted trees as recommended and/or necessary to insure the healthy re-establishment of same;
 - c. Protecting all transplanted trees until such a time as an acceptable level of growth has been established;
 - d. Any and all other work, whether direct or incidental, associated with the tree transplantings not specifically identified herein.

BID ITEM NO. G38 ELECTRICAL WORK
BID ITEM NO. W25

A. METHOD OF MEASUREMENT

1. Electrical Work shall be paid for on a lump sum basis.

B. BASIS OF PAYMENT

1. The lump sum for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Removing and properly disposing of any and all electrical elements scheduled for demolition, including but not limited to utility poles, underground conduit, overhead and/or underground wires, panel boxes, etc.;
 - b. Furnishing and installing all electrical system components, including conduits, wiring and/or wire pulls, handholes, service pedestals, electrical panels, traffic gate foundations, traffic loops, and any other components or appurtenances necessary for the proper function of the electrical system;
 - c. Installing Emergency Phones provided by the Owner and furnishing and installing the service pedestal and any other components or appurtenances necessary for the proper function of the phone;
 - d. Making connections to existing electrical panels, wiring, etc. and modifying existing electrical components as needed to accommodate new connections;

- e. Coordinating temporary power shutdown(s) as needed for electrical demolition, connection or installation work, including providing temporary power feeds for the duration of temporary shutdown(s);
- f. Testing of all electrical system components upon completion of installation, as applicable, and correction of any and all defects observed during testing;
- g. Any and all other work, whether direct or incidental, associated with the electrical system not specifically identified herein.

BID ITEM NO. G39 F&I LUMINAIRES
BID ITEM NO. W26

A. METHOD OF MEASUREMENT

- 1. The quantity of this item to be paid for shall be measured per each, based on the actual number of luminaires installed, complete-in-place, as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

- 1. The unit price for these items shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - h. Furnishing and installing luminaires, including concrete pedestals, conduits, wiring, luminaire poles, lighting fixtures, ballast, and any other components or appurtenances necessary for the proper function of the luminaire;
 - i. Installing mow strips around bases of the luminaires;
 - j. Testing of all luminaires upon completion of installation, and correction of any and all defects observed during testing;
 - k. Any and all other work, whether direct or incidental, associated with the luminaires not specifically identified herein.

BID ITEM NO. G40 PARKING SIGNS
BID ITEM NO. W27

A. METHOD OF MEASUREMENT

- 1. The quantity of this item to be paid for shall be measured by the actual number of square feet actually furnished and installed complete-in-place, as indicated on the Drawings or as otherwise directed by the Engineer.

B. BASIS OF PAYMENT

- 1. The unit price for these items shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Furnishing and installing signs, including posts and hardware and all other incidentals required to finish the work, complete in place;

- b. Any and all other work, whether direct or incidental, associated with the parking signs not specifically identified herein.

BID ITEM NO. G41 TRAFFIC MARKINGS

BID ITEM NO. W28

A. METHOD OF MEASUREMENT

1. Traffic Markings shall be paid for on a lump sum basis.

B. BASIS OF PAYMENT

1. The lump sum for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Furnishing and installing epoxy resin pavement markings of variable colors, widths and configurations, including but not limited to parking lines, shoulder lines, double-yellow centerlines, crosswalk lines, ADA parking space symbols, etc., complete in place as indicated on the Drawings and as specified.
 - b. Any and all other work, whether direct or incidental, associated with the traffic markings not specifically identified herein.

**BID ITEM NO. G42 FURNISH AND INSTALL TIMBER GUARDRAIL –
CAMPUS STANDARD**

**BID ITEM NO. W29 FURNISH AND INSTALL TIMBER GUARDRAIL –
MODIFIED CAMPUS STANDARD**

A. METHOD OF MEASUREMENT

1. The lengths timber guardrail to be paid for under this Item shall be measured by the linear foot of actual guardrail furnished and installed, complete-in-place, in accordance with the Plans and/or 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 and incidentals needed to complete the following:
 - a. Furnishing and installing guardrail and fence including posts and post foundations, framework, fabric, hardware and appurtenances;
 - b. Excavation for, backfill for, concrete for, and installation of post bases;
 - c. Any and all other work, whether direct or incidental, associated with the installation of the fence not specifically identified herein.

BID ITEM NO. W30 PAINTING**A. METHOD OF MEASUREMENT**

1. Painting shall be paid for on a lump sum basis.

B. BASIS OF PAYMENT

1. The lump sum for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Cleaning & preparation of exterior surfaces of electrical enclosures (transformers and generators) to be painted;
 - b. Collection, handling and proper disposal of any and all debris generated by the cleaning and preparation operation;
 - c. Painting of cleaned and prepared surfaces with the specified number of paint applications;
 - d. Testing to verify adequate applied paint thickness and adhesion upon completion of painting, and implementation of any measures required to remedy deficiencies in either or both (e.g. repainting or overcoating);
 - e. Touch-ups and/or repainting of all painted surface as required during the warranty period;
 - f. Any and all other work, whether direct or incidental, associated with the installation of the fence not specifically identified herein.

**BID ITEM NO. G43 RESOURCE DEVELOPMENT BUILDING
DEMOLITION AND DISPOSAL****A. METHOD OF MEASUREMENT**

1. Resource Development Building Demolition and Disposal shall be paid for as an allowance.

B. BASIS OF PAYMENT

1. The allowance for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Performing any and all general coordination & communication with the Owner, utility providers, and jurisdictional authorities necessary to perform the work hereunder;
 - b. Performing any and all necessary inspections and/or investigations of the building for the presence of hazardous materials;
 - c. Proper disconnection of any and all existing utility services to the building (whether overhead or underground) in accordance with the applicable standards of the utility providers or entities responsible for the services;

- d. Securing any and all local, state or federal permits necessary to perform the demolition work, and any preparatory work associated therewith;
- e. Taking pre-demolition photographs of all sides of the building;
- f. Demolition and proper disposal of the building structure and building foundation, including any hazardous materials previously identified or discovered in the process of the demolition;
- g. Separation and stockpiling of any building materials designated by the Owner for salvage or re-use;
- h. Restoration of the disturbed building footprint area to match existing adjacent grades with suitable gravel borrow material;
- i. Any and all other work, whether direct or incidental, associated with the demolition and disposal of the existing Resource Development Building not specifically identified herein.

BID ITEM NO. G44 REMOVE AND RELOCATE SHEDS**A. METHOD OF MEASUREMENT**

1. Remove And Relocate Sheds shall be paid for as an allowance.

B. BASIS OF PAYMENT

1. The allowance for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Documenting (with photographs and written reports) the existing conditions of the storage sheds prior to the start of work on this item;
 - b. Disassembling, removing, temporarily storing (if required), relocating and reassembling existing storage sheds to locations designated on the Drawings or as directed by the Owner;
 - c. Repairing any and all damage caused by the Contractor's operations (pre-existing damage documented prior to the disassembly of the sheds shall not be the Contractor's responsibility to repair or remedy);
 - d. Any and all other work, whether direct or incidental, associated with the relocation of the existing sheds not specifically identified herein.

BID ITEM NO. W31 REMOVE AND RELOCATE DUMPSTERS**A. METHOD OF MEASUREMENT**

1. Remove And Relocate Dumpsters shall be paid for as an allowance.

B. BASIS OF PAYMENT

1. The allowance for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:

- a. Removing, temporarily storing (if required), and relocating dumpsters to locations designated on the Drawings or as directed by the Owner;
- b. Repairing any and all damage caused by the Contractor's operations (pre-existing damage documented prior to the relocation of the dumpsters shall not be the Contractor's responsibility to repair or remedy);
- c. Any and all other work, whether direct or incidental, associated with the relocation of the existing dumpsters not specifically identified herein.

BID ITEM NO. W32 REMOVE AND STOCKPILE CONCRETE PYLONS AND CHAINS

A. METHOD OF MEASUREMENT

1. Remove And Stockpile Concrete Pylons and Chains shall be paid for as an allowance.
2. The Owner shall reserve the right to evaluate removed pylon materials, and may instruct that they be disposed of instead of stockpiled. The cost of transportation and disposal of any such materials shall be included in the cost for this item, and no separate or additional compensation for said transportation and disposal shall be made to the Contractor.

B. BASIS OF PAYMENT

1. The allowance for this item shall include full compensation for all labor, equipment, materials and incidentals needed to complete the following:
 - a. Disassembling, removing, and stockpiling the concrete pylons and chains in a location no more than 1/2-mile from the original pylon location as directed by the Owner/Engineer;
 - b. Disposal of removed materials in lieu of stockpiling, if so directed by the Owner;
 - c. Any and all other work, whether direct or incidental, associated with the removal and stockpiling of concrete pylons and chains not specifically identified herein.

BID ITEM NO. G45 MOBILIZATION
BID ITEM NO. W33

A. METHOD OF MEASUREMENT

1. Mobilization shall be paid for as an allowance.
2. The allowance price for this item established in the BID is an estimated figure to facilitate comparison of bids only. The actual amount to be paid under this item shall constitute full compensation for costs associated with the mobilization and

demobilization of the Contractor, as well as various related administrative tasks, as approved by the Owner/Engineer.

3. The purpose of this item is strictly for the Contractor's reimbursement for those services described below which are authorized by the Owner/Engineer.
4. Only one mobilization and demobilization shall be eligible for compensation. Contractor shall not be reimbursed for re-mobilizations (whether to or within the sites or other areas on the campus) during the course of the project.

B. BASIS OF PAYMENT

1. The allowance for this 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, coordinating and attending project meetings, securing of all necessary permits, etc., 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 Proposal;
 - b. Mobilizing all machinery, plant, tools, and other equipment (exclusive of the cost of materials) necessary to carry on and complete the work;
 - c. Establishing and maintaining survey controls for the construction layout of the overall project by a qualified professional, using appropriate means and methods to insure the accuracy of the layout, as specified and/or as directed by the Engineer;
 - d. Protecting and/or re-establishing all benchmarks, concrete bounds, iron pins, and all permanent property boundary markers;
 - e. Coordinating and scheduling the use of uniformed traffic persons, including tracking and verifying hours worked by traffic persons;
 - f. Taking pre-construction still photographs for the entire project area at both locations, as specified;
 - g. Taking pre-construction and post-construction audio video recordings;
 - h. Furnishing and spreading calcium chloride in order to control (minimize) dust at the work areas;
 - i. Demobilizing all machinery, plant, tools, and other equipment used to perform the work upon completion of the project;
 - j. Performing final cleanup of the project area, exclusive of specific restoration work to be paid for under other items.
2. Invoices for work related to the preceding shall be provided to the Contractor, who will include copies of the PAID invoices with his payment requisition.

BID ITEM NO. G46 TESTING OF MATERIALS AND METHODS
BID ITEM NO. W34**A. METHOD OF MEASUREMENT**

1. Under this item, the Contractor shall be reimbursed for certain charges, authorized by the Engineer, associated with testing of in-situ soils and other materials, including but not limited to gravel borrow, concrete, and bituminous concrete.
2. The allowance price for this item established in the BID is an estimated figure to facilitate comparison of bids only. The actual amount to be paid under this item shall constitute full compensation for costs associated with the testing of in-situ soils and other materials, including but not limited to gravel borrow, concrete, and bituminous concrete, as approved by the Owner/Engineer.
3. The purpose of this item is strictly for the Contractor's reimbursement for those services described below which are authorized by the Owner/Engineer.
4. The allowance price for this item shall NOT cover any costs associated with services rendered for testing done at Contractor's request and/or convenience.

B. BASIS OF PAYMENT

1. The Contractor will be paid based on the actual PAID invoiced amount from the testing company in question, plus five (5) percent, as approved by the Engineer. If the total cost for such charges is greater or less than the allowance amount stated under this item of the BID, a debit or credit of the difference in cost shall be to the Owner.
2. The allowance for this item shall include full compensation to complete the following:
 - a. Cost for testing of in-situ soils, materials including but not limited to gravel borrow, crushed stone, concrete, and bituminous concrete
 - b. Any and all other work, whether direct or incidental, associated with the testing of soil, concrete, and asphalt not specifically identified herein.
3. Invoices for work to provide testing shall be provided to the Contractor, who will include copy of the PAID invoice with his payment requisition.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

ATTACHMENT 3
Revised Section 01501

Attachment A - 01501

- A. This project is subject to a RIDEM RIPDES program permit (attached hereto), specifically for the elements of work to be performed at the Greenhouses. The Contractor shall be responsible for complying with all applicable terms and requirements of the RIPDES permit for the full duration of the project.
- B. The RIPDES permit includes a draft Stormwater Pollution Prevention Plan (SWPPP), (attached hereto) which covers construction-period sedimentation and erosion control measures to be implemented at the site. The current SWPPP is a draft document only, and must be formally executed between the Owner (the University of Rhode Island) and the Contractor, who shall be determined upon award of the Contract. The Contractor shall be provided with the digital file of the SWPPP to make the necessary modifications prior to execution.
- C. The final SWPPP must be executed by the Contractor and submitted to the RIPDES program prior to the initiation of any earth-disturbing activities on the site. The Contractor shall be solely responsible for the proper implementation and execution of the SWPPP at all times during construction, and shall agree to hold harmless the Owner from any and all claims, penalties, or other legal actions arising from the failure to properly implement and execute the SWPPP.

END OF ATTACHMENT



RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

May 7, 2013

Jerome Sidio, Director of Facilities
University of Rhode Island
Sherman Building
Kingston RI 02881

RE: Rhode Island Pollutant Discharge Elimination System (RIPDES) General Permit for Stormwater Discharge Associated with Construction Activity (CGP)
URI Greenhouses Parking Lot
University of Rhode Island
Kingston, RI
RIPDES Application No.: RIR101022

Dear Mr. Sidio:

Enclosed is your final authorization to discharge stormwater associated with construction activity under the Rhode Island Pollutant Discharge Elimination System (RIPDES) Program. The Authorization to Discharge should be attached to your copy of the 2008 RIPDES General Permit for Stormwater Discharge Associated with Construction Activity (2008 Construction General Permit), which you already have on file, and be kept on-site as verification of authorization to discharge. All terms and conditions outlined in the 2008 Construction General Permit must be met. Any permit non-compliance constitutes a violation of Chapter 46-12 of the Rhode Island General Laws of 1956, as amended, and is grounds for enforcement. For future references and inquiry, your permit authorization number is **RIPDES No. RIR101022**.

In accordance with Part C.2.d of the RIPDES CGP, this project was automatically authorized upon receipt of a complete application. **Prior to the start of construction, please submit a copy of the Storm Water Pollution Prevention Plan (SWPPP) signed by the operator to the RIPDES Program attention: Eric Beck P.E., Supervising Engineer.**

RIDEM strongly recommends that you obtain written assurances from contractors or subcontractors retained to undertake construction activity that they will comply with all applicable requirements of the 2008 Construction General Permit. Owners and operators of construction sites authorized to discharge under the 2008 Construction General Permit are encouraged to participate in the RIDEM's Voluntary CONSTRUCTION SITE STORMWATER COMPLIANCE PROGRAM. More detailed information about the program can be found on the RIDEM's Office of Customer and Technical Assistance (OCTA) website:

<http://www.dem.ri.gov/programs/benviron/assist/ms4/index.htm>.

Participation in this program will ensure that your construction site is less likely to cause environmental impacts due to erosion or impact the local drainage system and is prepared for regulatory compliance inspections. If you would like to discuss how you might participate in the voluntary program, please call Michelle McCaughey from the RIDEM – Office of Technical and Customer Assistance at (401) 222-6822 ext. 7269 or Brian Lafaille from the RIDEM – Office of Water Resources RIPDES Permitting Program at (401) 222-4700 ext. 7731.

If you have any questions regarding the 2008 Construction General Permit or the contents of this letter, you may contact me at (401) 222-4700, ext. 7202.

Sincerely,



Eric A. Beck, P.E.
Supervising Sanitary Engineer
RIPDES Permitting Program
Office of Water Resources

Enclosure

cc: Traci Pena, RIDEM
Annie McFarland, DEM/OWR
Michael Zavalía, BETA

AUTHORIZATION TO DISCHARGE UNDER THE
RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM
2008 General Permit for Stormwater Discharge Associated with Construction Activity

In compliance with the provisions of Chapter 46-12 of the Rhode Island General Laws, as amended,

University of Rhode Island
Facilities Services
Kingston RI 02881

is authorized to discharge Stormwater Associated with Construction Activity from a facility located at

University of Rhode Island
Greenhouses Parking Lot
Kingston RI 02881

to receiving waters named

White Horn Brook

in accordance with the conditions and requirements set forth in the 2008 General Permit for Stormwater Discharge Associated with Construction Activity.

In accordance with Part I.C.2. of the 2008 General Permit for Stormwater Discharge Associated with Construction Activity, coverage becomes effective upon the date of signature.

Coverage under the General Permit for Stormwater Discharge Associated with Construction Activity and the authorization to discharge should expire at midnight, on September 25, 2013.

The issuance of this authorization does not relieve the permittee from compliance with any other applicable laws or regulations administered by the Department of Environmental Management or any other governmental entity.

Signed this 7th day of May, 2013.



Eric A. Beck, P.E.
Supervising Sanitary Engineer
RIPDES Permitting Program, Office of Water Resources
Rhode Island Department of Environmental Management
Providence, Rhode Island

Stormwater Pollution Prevention Plan

For:

URI North District

Greenhouses Parking Lot

Kingston, RI

Owner:

University of Rhode Island
Office of Capital Projects
Sherman Building
Kingston, RI 02881

Owner Representative:
Paul DePace Director, Capital Projects
401-874-2725

Operator:

**TO BE DETERMINED UPON
CONTRACT AWARD**

Insert CONTRACTOR Name
Insert Name
Insert Address
Insert City, State, Zip Code
Insert Telephone Number

SWPPP Prepared By:

BETA Group, Inc.
Kevin Aguiar, P.E. – Project Manager
6 Blackstone Valley Place
Lincoln, RI 02865
401-333-2382

SWPPP Preparation Date:

January 2013

Estimated Project Dates:

Start Date: May 2013

Completion Date: August 2013

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under the direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I am aware that it is the responsibility of the owner/operator to implement and amend the SWPPP as appropriate in accordance with the requirements of the RIPDES Construction General Permit.

Owner Signature:

Paul M. DePace – Director, Capitol Projects
University of Rhode Island – Kingston Campus

Date

OPERATOR CERTIFICATION

Upon contract award, the OPERATOR must sign this certification statement before construction may begin.

I certify under penalty of law that this document and all attachments were prepared under the direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I am aware that it is the responsibility of the owner/operator to implement and amend the SWPPP as appropriate in accordance with the requirements of the RIPDES Construction General Permit.

Operator Signature:

Date

Contractor Representative: Name (T.B.D.)

Contractor Title: Title (T.B.D.)

Contractor Company Name: Company Name (if applicable) (T.B.D.)

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INTRODUCTION

This Construction Site Stormwater Pollution Prevention Plan (SWPPP) has been prepared for the University of Rhode Island Office of Capital Projects for the “URI North District – Greenhouses Parking Lot” project. In accordance with the RIDEM Rhode Island Pollutant Discharge Elimination System (RIPDES) General Permit for Stormwater Discharge Associated with Construction Activity (RIPDES Construction General Permit), projects that disturb one (1) or more acres require the preparation of a SWPPP. This SWPPP provides guidance for complying with the terms and conditions of the RIPDES Construction General Permit, however, this document does not negate or eliminate the need to understand and adhere to all applicable RIPDES regulations.

The purpose of erosion and sedimentation best management practices (BMPs) is to prevent pollutants from leaving the construction site and entering waterways or environmentally sensitive areas during and after construction. This SWPPP has been prepared prior to the initiation of construction activities to address anticipated worksite conditions. The best management practices (BMPs) depicted on the site plan and described in this narrative should be considered the minimum measures required to control erosion, sedimentation, and stormwater runoff at the site. Since construction is a dynamic process with changing site conditions, it is the operator’s responsibility to manage the site during each construction phase so as to prevent pollutants from leaving the site. This may require the operator to revise and amend the SWPPP during construction to address varying site and/or weather conditions, such as by adding or realigning erosion or sediment controls, to ensure the SWPPP remains compliant with the RIPDES Construction General Permit. Records of these changes must be added to the amendment log attached to the SWPPP, and to the site plans as “red-lined” drawings. *Please Note: **Even if practices are correctly installed on a site according to the approved plan, the site is only in compliance when erosion and sedimentation are effectively controlled throughout the entire site.***

It is the responsibility of the site owner and the site operator to maintain the SWPPP, including all attachments, amendments and inspection records, at the site and to make all records available for inspection by RIDEM during and after construction. (RIPDES Construction General Permit – Section II.A.)

The site owner, the site operator, and the designated site inspector are required to review the SWPPP and sign the Party Certification pages (Section 8). The prime contractor (if different) and all subcontractors (if applicable) involved in earthwork or exterior construction activities are also required to review the SWPPP and sign the certification pages before construction begins.

Any questions regarding the SWPPP, BMPs, inspection requirements, or any other facet of this document may be addressed to the RIDEM Office of Water Resources RIPDES Permitting Program at 401-222-4700.

SECTION 1: SITE DESCRIPTION

RIPDES Construction General Permit – Section IV.E.1

1.1 Project/Site Information

Project/Site Name:

- URI North District – Greenhouses Parking Lot
- Work on the project site includes:
 - Site preparation and installation of construction-period sedimentation and erosion control measures;
 - Demolition of existing site features (including but not limited to buildings, bituminous parking lots and driveways, cement concrete sidewalks and walkways, overhead wires and utility poles, and trees);
 - Excavation to erodible soil and grading;
 - Installation of new bituminous concrete parking lots and driveways;
 - Installation of new cement concrete walkways and sidewalks;
 - Modification of existing and installation of new stormwater management best management practices (BMP's);
 - Installation of underground electrical, communication and security conduit and wiring;
 - Installation of parking lot security lighting;
 - Installation of an automated traffic gate and associated control structures & devices;
 - Installation of landscaping elements (including but not limited to trees, bushes, shrubs, loam & seed, and fencing).

The goal of the project is to construct new 110+ vehicle parking lots at the Greenhouse building on the URI Kingston Campus.

Project Streets/Locations:

- Adjacent to the Greenhouses Building, between Flagg Road to the north, Upper College Road to the east, and Greenhouse Road to the west on the URI Kingston Campus.

1.2 Nature and Sequence of Construction Activity

Provide a narrative describing the nature and estimated timetable for the construction activities, including an anticipated sequence of major activities of the project, and the ultimate intended use of the project. (IV.E.1.b)

- The Contractor shall provide a final schedule of construction activities, and will append said schedule to this document.

Estimated Project Start Date: May, 2013

Estimated Project Completion Date: August, 2013

Estimated Number of Months: Four (4)

1.3 Existing and Proposed Soils, Slopes, Vegetation, and Drainage Patterns

Provide description of pre- and post-construction site conditions

Soil type(s):

Provide a description of the soils at the site and of each soil's erodibility hazard as listed in the U.S. Soil Conservation Service's Soil Survey of Rhode Island (1981). (IV.E.1.e)

According to the Soil Survey of Rhode Island, prepared by the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS), the Soil types present within the Greenhouses Parking Lot project area consist predominantly of Canton-Urban land complex (CB) and Scio very stony silt loams (SdB), 0 to 8 percent slopes.

Both CB and SdB soils are classified as hydrologic soil group "B" soils, and are characterized by fair to good drainage characteristics (moderate infiltration rate when thoroughly wet) and deep (greater than 80 inches for CB) to relatively shallow (approximately 18-24 inches for SdB) water tables. This is generally consistent with the water table indicators observed in the soil evaluations performed on the site.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water; values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Erosion factor K_w (whole soil) indicates the erodibility of the whole soil; the estimates are modified by the presence of rock fragments. Canton Urban soils do not have a specified K_w value, while SdB soils have a K_w Factor of 0.49; therefore, both soil types are assumed to be moderately susceptible to water erosion.

Slopes:

Provide a description of the slopes that will be impacted by construction activities (grading or filling)

The existing topography of the Greenhouses Parking Lot project area is mild, sloping generally from southeast to northwest toward Flagg Road, which borders the project area to the north. Elevations (MSL relative to NAD 1988) in the project area range between 211 (at the northwestern (downgradient) end of the project area) to 220 (at the southeastern (upgradient) end of the project area and at the front of the Greenhouse building); this is an average slope of approximately two and one-half (2.5) percent.

As this is basically a site redevelopment project, regrading and alteration of the existing ground surfaces forms a substantial part of the work. The grades created as a result of the project will remain mild in order to keep the proposed parking area slopes between one (1) and two (2) percent; the grading will match into existing grades adjacent to the project area without need of retaining walls or other structural grade-change features. To the extent possible, native materials shall be cut and filled within the site, although it is anticipated that some additional fill material may be needed in order to achieve the final grading plan.

Vegetation/Impervious Area:

Provide a description of the vegetative and impervious areas that will be impacted by construction activities

Existing: The Greenhouse Parking Lot project area is a currently developed site, with a significant coverage of open space (good condition grass) and a number of individual mature trees in various locations; tree species are predominantly deciduous, and sizes vary from 12" up to 30" caliper. A large portion of the site in front of the Greenhouse Building was recently used as a material stockpile area for another campus building project; the material stockpiles have been removed, and the affected area has been leveled and stabilized.

Existing impervious areas include a bituminous concrete parking lot, a separate bituminous concrete driveway to the greenhouse building from Flagg Road, cement concrete walkways, and the Resources Development Building located near the western end of the project area.

Proposed: Generally, the construction activities will consist of removing the existing parking lot and driveways, walkways and the Resource Development Building, and constructing new, larger bituminous concrete parking lots and driveways and associated improvements (new cement concrete walkways, site lighting, landscaping, and stormwater management features). These improvements will take place partially in currently pervious lawn areas, and there will be an increase in the total impervious area within the project area in order to create the desired number of parking spaces. With the exception of approximately six (6) trees, the design will preserve the majority of the existing mature trees within the project area. The remainder of the site will be restored as open lawn areas.

Drainage Patterns:

Provide a description of the drainage patterns that will be impacted by construction activities

Existing: The existing drainage patterns of the project area generally follow the topography of the land, flowing from south and southeast northwest toward Flagg Road. The majority of stormwater runoff from the project area is collected and conveyed through a conventional pipe and structure drainage system. The following is a brief description of the four subwatersheds which comprise the overall project area:

- The eastern end of the project area (Watershed GH E1) flows to a single existing catch basin in the low point of the separate driveway from Flagg Road, then through a 12" concrete pipe into the drainage system on Flagg Road.
- The north-central portion of the project area (Watershed GH E2) flows directly overland onto Flagg Road, running in the southern gutter before entering the drainage system.
- The south-central portion of the project area (Watershed GH E3) flows to a single catch basin in the northwest corner of the existing parking lot, then through a 12" concrete pipe into the drainage system on Flagg Road.
- The extreme western portion of the project area (Watershed GH E4) flows northerly along Greenhouse Road until it reaches Flagg Road, then runs in the southern gutter before entering the drainage system.

These existing watersheds and the flow rates and volumes generated by each are depicted in detail on the Existing Watersheds Plan, which is included in the Appendices.

With very few exceptions, the drain pipes in Flagg Road run from catch basin to catch basin, and there are no apparent water quality measures either within the collection and conveyance system itself, or in any external (i.e. off-line) locations. There is a single outfall to White Horn Brook at the lower end of Flagg Road; as with the collection and conveyance system, there is no formal water quality treatment at or near the outfall.

Proposed: The drainage patterns of the project area under proposed conditions will generally follow the existing conditions, flowing from south and southeast northwest toward Flagg Road; there will be changes to the interior boundaries between the subwatersheds as a result of the proposed grading, however. The majority of stormwater runoff from the project area will still be collected and conveyed through an on-site pipe and structure drainage system, although flow from Watersheds 1 and 3 will be routed through water quality structures before it is allowed to enter the Flagg Road drainage system: The following is a brief description of the subwatersheds which comprise the overall project area:

- Watershed GH P1 will be approximately 0.14 acres larger than WS GH E1 under proposed conditions, consisting of roughly the eastern half of the proposed parking lots. Runoff from

the watershed will continue to flow to generally the same location, which will be converted to a shallow infiltration basin (BMP GH1) sized to receive and infiltrate in excess of the water quality volume for the subwatershed. Flows in excess of the basin's capacity to infiltrate will pass over an overflow weir and enter the original catch basin (which will have been converted to a drain manhole), then through an upsized 15" concrete pipe into the drainage system on Flagg Road.

- Watershed GH P2 will be approximately 0.18 acres smaller than WS GH E2 under proposed conditions, consisting of a small portion of the site north of the proposed parking lot; the area removed from WS GH E2 will be redirected to watersheds P1 and P3. Runoff from WS GH P2 will continue to flow directly overland onto Flagg Road, running in the southern gutter before entering the drainage system. There are no water quality BMP's proposed in the watershed; it should be noted that the only impervious area in WS GH P2 is a portion of a proposed eight (8) foot wide walkway which is classified as disconnected impervious.
- Watershed GH P3 will be approximately 0.02 acres larger than WS GH E3 under proposed conditions, consisting of roughly the western half of the proposed parking lots. Runoff from the watershed will flow generally northwesterly across the northern and southern sections of the parking lot, and will enter dry swale biofiltration water quality measures which will be constructed along the north side of each section of the parking lot. The dry swales will be sized to provide treatment for the full water quality volume for the subwatershed; outflow from the swales will enter new or retrofit storm drainage along the west side of the parking lot, then through a 12" concrete pipe into the drainage system on Flagg Road.
- Watershed GH P4 will be approximately 0.02 acres larger than WS GH E4 under proposed conditions, still consisting of the westernmost portion of the project area along Greenhouse Road. Runoff from the watershed will continue to flow northerly along Greenhouse Road until it reaches Flagg Road, then runs in the southern gutter before entering the drainage system. There are no water quality BMP's proposed in the watershed, as there are no locations within the watershed where water a quality BMP could be practicable implemented.

1.4 Construction Site Estimates

Provide construction site estimates of the total area of the site and the total area of the site that is expected to undergo soil disturbance (IV.E.1.c) and the calculated pre-construction and post-construction runoff coefficients for the site. (IV.E.1.d)

Total Project Area:	2.80 acres
Construction Site Area to be disturbed:	1.97 acres
Percentage impervious area before construction:	32.0% (0.896 acres)
Runoff coefficient before construction:	0.54 (1.90 acres @ 0.35, 0.90 acres @ 0.95)
Percentage impervious area after construction:	45.3% (1.269 acres)
Runoff coefficient after construction:	0.62 (1.53 acres @ 0.35, 1.27 acres @ 0.95)

1.5 Receiving Waters

List the waterbody(s) that will receive stormwater from the site, including streams, rivers, lakes, coastal waters, and wetlands. Note any stream crossings, if applicable.

List/description of receiving waters:

White Horn Brook – RI0008039R-27B

List the storm sewer system or drainage system that stormwater from the site could discharge to and the waterbody(s) that it ultimately discharges to. (III.A.7)

List/description of storm sewer systems:

Flagg Road Drainage System: URI owned and maintained separate storm drainage system consisting of in-line catch basins, drain manhole junctions, and variable-diameter concrete pipes. The system collects stormwater runoff from Flagg Road and portions of the adjacent lands and conveys same westerly (downhill) to an existing outfall at White Horn Brook on the south side of Flagg Road.

List/description of receiving waterbody(s):

White Horn Brook

If any of the waterbodies above are impaired (303(d) listed) and/or subject to Total Maximum Daily Loads (TMDLs), list the pollutants causing the impairment and any specific requirements in the TMDL(s) that are applicable to construction sites.

Visit <http://www.dem.state.ri.us/programs/benviron/water/quality/rest/index.htm> for more information and a list of Rhode Island impaired waters and TMDL Studies. See also the RIDEM Notice of Intent instructions (Section IV).

List/description of 303(d)/TMDL waters: **White Horn Brook & Tributaries:**
Category 4A - TMDL completed & approved 9/22/11
Cause of Impairment - Enterococcus

1.6 Allowable Non-Storm Water Discharges

Discharges not comprised of storm water are allowed under the RIPDES Construction General Permit but are limited to the following: discharges which result from the washdown of vehicles where no detergents are used; external building washdown where no detergents are used; the use of water to control dust; fire fighting activities; fire hydrant flushings; natural springs; uncontaminated groundwater; lawn watering; potable water sources including waterline flushings; irrigation drainage; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled materials have been removed) and where detergents are not used; and foundation or footing drains where flows are not contaminated with process materials such as solvents, or contaminated by contact with soils where spills or leaks of toxic or hazardous materials has occurred. If any of these discharges may reasonably be expected to be present and to be mixed with storm water discharges, they must be specifically listed here. (IV.E.1.g)

Are there allowable non-storm water discharges on or near the project area?

Yes No

If yes, list the sources of allowable non-storm water discharge.

- Non-detergent vehicle washdowns;
- Uncontaminated groundwater (from dewatering excavation);
- Lawn watering;
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred.

1.7 Existing Data of Known Discharges from Site

List and provide existing data (if available) on the quality of any known discharges from the site (IV.E.1.h).

Are there known storm water discharges from the project area?

Yes No

Describe how this determination was made:

This determination was made through a review of campus base mapping and existing utility plans in the vicinity of the project area.

If yes, list discharges and locations:

Flagg Road Drainage System

12" RCP Drain to Flagg Rd. Catch Basin, 100' east of Greenhouse Road

12" RCP Drain to Flagg Rd. Catch Basin, 180' west of Upper College Road

1.8 Natural Heritage Area Information

Each project authorized under the RIPDES Construction General Permit must determine if the site is within or directly discharges to a Natural Heritage Area (NHA). DEM Natural Heritage Areas include known occurrences of state and federal rare, threatened and endangered species. Review RIDEM NHA maps to determine if there are natural heritage areas on or near the construction site. See the RIDEM Notice of Intent instructions (Section V).

Are there any Natural Heritage Areas being disturbed by the construction activity or will discharges be directed to the Natural Heritage Area as a result of the construction activity?

Yes No

If yes, describe or refer to documentation which determines the likelihood of an impact on this area and the steps that will be taken to address any impacts.

Not Applicable

1.9 Historic Preservation/Cultural Resources

The National Historic Preservation Act, and any state, local and tribal historic preservation laws apply to construction activities. As with endangered species, some permits may specifically require you to assess the potential impact of your stormwater discharges on historic properties. However, whether or not this is stated as a condition for permit coverage, the National Historic Preservation Act and any applicable state or tribal laws apply to you. Contact the Rhode Island Historic Preservation Officer (<http://www.preservation.ri.gov/>) or your Tribal Historic Preservation Officer (http://grants.cr.nps.gov/THPO_Review/index.cfm) for more information.

Are there any historic properties, historic cemeteries or cultural resources on or near the construction site?

Yes No

Describe how this determination was made:

A Historic Property Search on www.preservation.ri.gov/ was performed, and the "Historic and Architectural Resources of Bristol, Rhode Island" report prepared by the RIHPC in 1990 was reviewed.

If yes, describe or refer to documentation which determines the likelihood of an impact on this historic property, historic cemetery or cultural resource and the steps taken to address that impact including any conditions or mitigation measures that were approved by other parties.

There are no listed historic properties in or in the vicinity of the project area.

1.10 Site Features and Sensitive Areas to be Protected

The first goal in the LID site planning and design process is to avoid disturbance of natural features. This includes identification and preservation of natural areas that can be used in the protection of water resources. It is important to understand that minimizing the hydrologic alteration of a site is just as important as stormwater treatment for resource protection. Therefore, describe all site features and sensitive resources that exist at the site such as floodplains, steep slopes (>15%), erodible soils, wetlands, hydric soils, surface waters, and their riparian buffers, specimen trees, natural vegetation, forest areas, stream crossings, historic properties, historic cemeteries or cultural resources that are to be preserved.

Describe unique features and measures to protect them:

Not applicable – there are no site features or sensitive resources from the cited list on or in close proximity to the project area.

1.11 Potential Sources of Pollution

Provide a description of potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the site (i.e. exposed, un-stabilized soil stockpiles, clearing and grubbing operations, vehicle tracking, concrete washouts, diesel fuel, etc.) (IV.E.1.f)

Anticipated on this Project	Operation/ Location	Stormwater Pollutants
X	Clearing, grading, excavating, and unstabilized areas	Sediment; Trash/Debris
X	Construction Entrance	Sediment
X	Soil Stockpiles	Sediment
X	Paving operations	Sediment; Trash/Debris
X	Concrete washout and waste	Heavy metals; pH; Trash/Debris
	Structure construction/ painting/ cleaning	Nutrients; pH; Trash/Debris; Toxic chemicals
X	Demolition and debris disposal	Sediment; Trash/Debris
X	Dewatering operations	Sediment; Nutrients
	Drilling and blasting operations	Sediment; pH; Trash/Debris
X	Material delivery and storage	Sediment; Nutrients; Heavy metals; pH; Pesticides/Herbicides; Oil/Grease; Trash/Debris; Toxic chemicals
X	Material use during building process	Nutrients; heavy metals; pH; pesticides/herbicides; oil/grease; trash/debris; toxic chemicals
	Solid waste/ trash/ debris	trash/debris; toxic chemicals

	Hazardous waste	heavy metals; pH; pesticides/herbicides; oil/grease; toxic chemicals
	Contaminated spills	Nutrients; heavy metals; pH; pesticides/herbicides; oil/grease; toxic chemicals
	Sanitary/septic waste	Nutrients; pH; Bacteria/Viruses; toxic chemicals
X	Vehicle/equipment fueling and maintenance	Oil/Grease; Toxic chemicals
X	Vehicle/equipment use and storage	Oil/Grease; Toxic chemicals
X	Landscaping operations	Sediment; Nutrients; Trash/Debris
	Other:	
	Other:	

1.12 Site Plans

A series of construction phase site maps must be included as part of the SWPPP. Appendix A must contain a General Location Map. Appendix B should ideally contain several maps, the first of which should depict the undeveloped site and its current features. An additional Construction Site Map should be developed which identifies the erosion and sedimentation control BMPs and construction phase pollution prevention BMPs that will be implemented at the site and maintained throughout the active construction phase of the project. In some cases more than one Construction Site Map may be necessary depending on the length and complexity of the project. It is also recommended that a working draft copy of the Construction Site Map be made available as part of the SWPPP so that the operator may document any changes to the BMPs and keep a record of any changes with the SWPPP as required by the RIPDES Construction General Permit. Examples of the types of maps that should be included in the SWPPP are shown in Appendix A and Appendix B of this template.(IV.E.1.a)

At a minimum the SWPPP Site Maps must include all of the following elements:

- SWPPP plan set scale should have no less detail than 1" = 100'
- A minimum contour interval of 2' must be utilized.
- Total area of development and area of soil disturbance
- Pre- and post-development drainage patterns
- Approximate slopes anticipated after the completion of major grading activities
- The location and name of the receiving waters or separate storm sewer system and the ultimate receiving waters, including wetlands
- Direction(s) of stormwater flow
- Location and field verified boundaries of resource protection areas such as freshwater and coastal wetlands, lakes, ponds, coastal shoreline features and required setbacks (e.g. buffers, water supply wells, septic systems) **N/A**
- Location of environmentally sensitive features/areas that will not be disturbed (i.e. endangered species habitats, historic sites, natural heritage areas, Qualified Pervious Areas (QPAs)) **N/A**
- Boundaries of existing predominant vegetation
- Proposed limits of disturbance.
- Construction site property lines. **N/A – ALL CONTAINED WITHIN URI KINGSTON CAMPUS**
- Location of existing and proposed roads, buildings, and other structures.
- The location of all impervious structures
- Location of existing and proposed conveyance systems such as grass channels and swales
- Locations and timing of stabilization measures
- Locations of construction staging and material stockpiling areas **T.B.D.**

- The location of all erosion and sedimentation stormwater control structures and BMPs, including the location of any temporary or permanent retention or detention basins or other water quality control structures*
- Locations of all non-structural BMPs which will address all potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the site (i.e. fueling areas, material storage areas, equipment storage areas, designated concrete washout areas, solid and hazardous waste collection areas, soil stockpiles, etc.)* **T.B.D.**
- Locations of storm drain inlets and outfalls that need to be protected*
- Locations of all graveled access entrance and exit drives and parking areas to reduce the tracking of sediment onto public and private roads.*
- The location of any necessary spill prevention and response equipment* **T.B.D.**

SECTION 2: EROSION AND SEDIMENTATION CONTROLS

RIPDES Construction General Permit – Section IV.E.2.a

The purpose of erosion controls is to prevent sediment from moving onto, around, or off of the construction site. Properly installed and maintained erosion controls are the primary defense against sediment pollution.

Sedimentation controls are a second line of defense against moving sediment. The purpose is to prevent moving sediment from leaving the construction site and entering environmentally important areas.

Runoff controls are used to slow the velocity of concentrated water flows. By intercepting and diverting stormwater runoff to a stabilized outlet or treatment BMP, erosion and sedimentation are reduced.

Provide a description of measures that will be installed before and during the construction project to control pollutants in storm water discharges that will occur at the site. Such measures may include: perimeter controls, stock pile covering, storm drain inlet protection, check dams, and temporary seeding.

Include RIDOT Standard Specification or Standard Detail reference with maintenance requirements.

Please note: The operator should initiate appropriate vegetative practices on all disturbed areas as soon as possible but not more than fourteen (14) days after the construction activity in that area has temporarily or permanently ceased, unless the activity is to resume within twenty one (21) days. Section IV.E.2.a.i

2.1 Minimize Disturbed Area and Protect Natural Features and Soil

As far as is practicable, existing vegetation shall be protected and left in place, in accordance with the clearing limits shown on the approved Plans. Prior to any land disturbance activities commencing on the site, the Contractor shall physically mark limits of disturbance (LOD) on the site and any areas to be protected within the site, so that workers can see the areas to be protected.

Describe the areas that will be disturbed with each phase of construction and the BMPs (signs, fences, etc.) that will be used to protect those areas that should not be disturbed. Plans should highlight measures to prevent soil compaction in areas designated as Qualified Pervious Areas (QPAs) for better infiltration. Describe natural features identified earlier and how each will be protected during construction activity. Also describe how topsoil will be preserved.

The project will be completed in a single construction phase, with all elements of work being carried out concurrently (when possible) or sequentially with no planned breaks or stoppages after initiation until the project is completed. The entirety of the project will take place in one location (the project area) bounded by three existing roadways (Flagg Road, Upper College Road and Greenhouse Road) and the existing Greenhouses building; the nature of the project will require the disturbance of a significant portion of the project area.

The following measures will be taken to minimize disturbed areas and protect natural features and soil:

- Paved areas to be excavated will be sawcut prior to excavation, and the sawcut lines shall serve as defined limits of disturbance within the paved areas;
- Sedimentation & erosion control measures, where installed, shall serve as the limit of disturbance in those locations;
- The limit of disturbance in all other locations without either sawcuts or sedimentation & erosion control measures shall be delineated with clearly marked and highly visible indicators and/or barriers (stakes, flagging, snow fence or other measures as appropriate) for the duration of the work;

- Native (in-situ) material from the site shall be stripped, screened and stockpiled for reuse as fill material on the site to the maximum extent practicable;
- Topsoil from presently grassed areas will be stripped, screened and stockpiled for reuse on the site to the maximum extent practicable;
- Long-term material stockpiles will be placed in defined locations within the project area, and shall be protected as described herein and as shown in the construction details;
- The design has been developed to minimize disturbance to existing vegetation to the maximum extent possible;
- Vegetation (trees, shrubs, etc.) within and/or in close proximity to work areas will be protected from damage during construction, unless specifically designated for removal or limited trimming/limbing.

The project does *not* propose:

- Disturbance or removal of large areas of existing vegetation;
- Significant alteration of the existing stormwater runoff patterns.

2.2 Phase Construction Activity

Proper sequencing of construction activities is essential to maximize the effectiveness of erosion and sediment control measures. Construction sequencing and timing of construction activities will include:

1. Installation of all erosion and sediment controls that are required to be in place and functional before any earthwork begins. This shall be done in accordance with the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended). Upon acceptable completion of site preparation and installation of erosion and sediment controls, site construction activities may commence. Routine inspection and maintenance and/or modification of erosion and sediment controls while earthwork is being done is required.
2. Upon commencement of site construction activities, the operator shall initiate appropriate stabilization practices on all disturbed areas as soon as possible but not more than fourteen (14) days after the construction activity in that area has temporarily or permanently ceased, unless the activity is to resume within twenty one (21) days.
3. Final stabilization of any disturbed areas after earthwork has been completed.

Describe the intended construction sequencing and timing of major activities, including grading activities, road and utility installation, and building phases. The first phase should include all erosion and sediment controls that are required to be in place before earthwork begins. Phase II through III may include erosion and sediment controls required while earthwork is being done. The final phase should include final stabilization BMPs.

- Phase I – BEFORE EARTHWORK
 - Installation of construction period erosion controls (staked hay bales/silt fence & catch basin sedimentation inserts)
 - Installation of tree/vegetation protection measures and trimming, limbing or removal of designated trees
 - Sawcutting of all proposed pavement excavations

Estimated Duration: Two (2) weeks (dates T.B.D.)

- Phase II – DURING EARTHWORK
 - Stormwater management system installation & stabilization prior to completion of other site improvements
 - Protection from compaction of locations of proposed infiltration BMP's

- Disturbed areas to be impervious (paved or concrete) will be cut or filled, graded, compacted, and stabilized with at least one course of bituminous concrete asphalt (in the case of parking areas and driveways) or concrete (in the case of walkways/sidewalks) within three (3) weeks of the initiation of work in that area
- Disturbed areas to be pervious (grassed) will be stabilized with temporary seeding or erosion blanket no later than fourteen (14) days after completion of work in that area
- Maintenance (cleaning and/or replacement) of catch basin sedimentation inserts
- Water application on exposed erodible soils for dust control, as needed

Estimated Duration: Three (3) months (dates T.B.D.)

- Phase III – FINAL STABILIZATION
 - Preparation and final seeding of grassed areas
 - Installation of proposed landscaping plantings
 - Removal of catch basin sedimentation inserts
 - Removal of perimeter sedimentation and erosion controls (hay bales/silt fence)

Estimated Duration: Two (2) weeks (dates T.B.D.)

2.3 Phased Clearing/Grubbing

Only areas that can be reasonably expected to have active construction work being performed within 21-days of disturbance will be cleared/grubbed at any one time. It is NOT acceptable to clear and grub the entire construction site if portions will not be active within the 21-day time-frame. Proper phasing of clearing and grubbing activities shall include temporary stabilization techniques for areas cleared and grubbed that will not be active within the 21 day time frame.

No undisturbed areas shall be cleared of existing vegetation after October 15th of any calendar year or during any period of full or limited winter shutdown. All disturbed soils exposed prior to October 15 of any calendar year shall be seeded or protected by that date. Any such areas that do not have adequate vegetative stabilization, as determined by the resident engineer or environmental inspector, by November 15 of any calendar year, must be stabilized through the use of erosion control matting or hay mulch, in accordance with specifications contained within the RI Soil Erosion and Sediment Control Handbook. If work continues within any of these areas during the period from October 15 through April 15, care must be taken to ensure that only the area required for that Day's work is exposed, and all erodible soil must be re-stabilized within five (5) working days.

Clearing/Grubbing shall not take place during a rain event if erosion is likely to occur; nor shall it occur if a rain event is forecasted and appropriate erosion controls can not be installed prior to the storm.

After clearing, and by the end of each day's grubbing operation, the site operator shall install erosion control measures that are indicated on the Plans or as directed by the Engineer. Such erosion control measures shall be installed in strict accordance with the RI Soil Erosion and Sediment Control Handbook (as amended).

2.4 Monitoring Weather Conditions

Care will be taken to avoid having unstabilized areas exposed during precipitation events. Weather forecasts will be routinely checked, and in the case of an expected precipitation event of over 0.25-inches over a 24-hour period, all BMPs will be inspected, and maintained as necessary, prior to the weather event.

In the case of an extreme weather forecast (greater than one-inch of rain over a 24-hour period), additional erosion/sediment controls will be installed where appropriate.

List the weather gauge station(s) that will be utilized to monitor weather conditions on the construction site. See www.wunderground.com or www.weather.gov for available stations.

The following weather gauge stations may be utilized to monitor weather conditions for the project area:

- Stone Cove Marina, Wakefield, RI (KRIWAKEF4)
- Pettaquamscutt Lake, Saunderstown, RI (KRISAUND3)

Both can be found on www.wunderground.com/.

2.5 Initiating Stabilization Practices

As per RIPDES General Permit (Construction Activity) Section IV.E.2.a: Upon completion and acceptance of site preparation and initial installation of erosion and sediment controls the operator shall initiate appropriate stabilization practices during all phases of construction on all disturbed areas as soon as possible but not more than fourteen (14) days after the construction activity in that area has temporarily or permanently ceased, unless the activity is to resume within twenty one (21) days.

2.6 Control Stormwater Flowing Onto and Through the Project

Structural BMPs are used to divert flows from exposed soils, retain or detain flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site.

BMPs shall be installed as depicted on the approved plan set and in accordance with the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction.

If BMPs fail to control erosion and sedimentation, then alternative control measures &/or methods may be substituted. Additional control measures that may be used, upon approval, include compost filter socks, fiber rolls, gravel bag berms, slope drains, check dams, and riprap.

Describe structural practices (i.e., diversions, berms, ditches, storage basins) including design specifications and details used to divert flows from exposed soils, retain or detain flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site.

- The structural soil & erosion control BMP's shall include staked hay bales and/or silt fence along the downgradient limits of work, as depicted on the plans. Based on the hydrology of the project area (as defined in the watershed analysis), it is not anticipated that there will be additional uncontrolled runoff entering and flowing through the site from off-site locations.
- The Contractor shall provide any alternative structural practices that will be used on this project, if it is determined that any are required during construction.

2.7 Stabilize Soils

Any disturbed areas that will not have active construction activity occurring within twenty one (21) days must be stabilized using the BMPs depicted on the approved plan set and in accordance with applicable measures specified in the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended).

If the stabilization BMPs fail and erosion occurs, then alternative control measures &/or methods may be substituted.

Describe controls (i.e., temporary seeding with native vegetation, hydroseeding, etc.) including design specifications and details that will be implemented to stabilize exposed soils where construction activities have temporarily or permanently ceased. Also describe measures to control dust generation. Use of impervious surfaces for stabilization should be avoided whenever possible.

- Temporary Stabilization - Topsoil stockpiles and disturbed portions of the site where construction activity temporarily ceases for at least 21 days will be stabilized with temporary seed and mulch no later than 14 days from the last construction activity in that area. The temporary seed shall be Rye (grain) applied at the rate of 50 pounds per 1000 sq. ft. After seeding, each area shall be mulched with straw.
- Permanent Stabilization - Disturbed portions of the site where construction activities permanently cease shall be stabilized with permanent seed mix no later than 14 days after the last construction activity. The permanent seed mix shall be as specified in the construction documents, and shall be properly maintained by the contractor until the grass has established an adequate level of growth.
- Other controls that may be utilized include street sweeping, water for dust control and mulching.

2.8 Protect Slopes

Slopes that will have concentrated stormwater flow must be protected using the BMPs depicted on the approved plan set and in accordance with the specifications outlined in the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended).

If the slope stabilization BMPs fail and erosion occurs, then alternative control measures &/or methods may be substituted. Additional control measures that may be used include compost filter socks, fiber rolls, gravel bag berms, erosion control mats/blankets, and temporary vegetative cover.

Describe controls (i.e., erosion control blankets, tackifiers, etc.) including design specifications and details that will be implemented to protect all slopes.

- Slope stabilization controls will generally consist of temporary biodegradable erosion control blankets capable of providing erosion protection on slopes up to 2:1 (e.g. North American Green BioNet S150BN Erosion Control Blanket, or approved equal).

2.9 Protect Storm Drain Inlets

Storm drain inlet protection measures prevent soil and debris from entering storm drain inlets. These measures are usually temporary and are implemented before a site is disturbed. ALL stormwater inlets and/or catch basins that are operational during construction and may receive sediment-laden stormwater flow from the construction site must be protected using any of the BMPs outlined in the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended).

Please note: **Haybale/Silt Fence protection measures DO NOT work on paved roadways.**

Additional control measures that may be used, upon approval, include compost filter socks, fiber rolls, gravel bag berms, or catch basin inserts.

Describe controls (i.e., inserts, rock-filled bags, or block and gravel, etc.) including design specifications and details that will be implemented to protect all inlets receiving stormwater from the project during the entire duration of the project.

- Catch basin inserts will be used during construction to prevent soil and debris from entering storm drain inlets and pipes. Inserts are cone-shaped, made from a high strength, high flow, woven geotextile which retains sediments while allowing water to pass through. Inserts must be cleaned and maintained regularly to avoid sedimentation build-up which blocks the flow of runoff into the catch basin.

2.10 Protect Storm Drain Outfalls

Outfall protection is necessary to prevent scour or severe erosion at discharge points. Outfalls often have high velocity, high volume flows, and require strong materials that will withstand the forces of the water. The function of these BMPs is to protect the soil surface, reduce velocity, and promote infiltration. Storm drain outlet BMPs also offer a last line of protection against sediment entering environmentally sensitive areas.

All stormwater outfalls that may discharge sediment-laden stormwater flow from the construction site must be protected using the BMPs depicted on the approved plan set and in accordance with the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended).

Additional temporary control measures that may be used, upon approval, include compost filter socks or fiber rolls.

Describe controls (i.e., inserts, rock-filled bags, or block and gravel, etc.) including design specifications and details that will be implemented to protect outlets discharging stormwater from the project during the entire duration of the project.

- Disturbed areas receiving flows from storm drain outfalls (whether existing or proposed) shall be protected from scour and erosion by use of temporary or permanent ground protection measures, including but not limited to rip rap pads, rip rap stilling basins, geotextile filter blankets, stone or concrete velocity breaks, etc. which shall serve to disrupt the flows and the reduce the velocities of outfall discharges without completely blocking the passage of said flows.
- Outfalls shall not be allowed to discharge to disturbed areas which have not been adequately stabilized with some form of outfall protection measure.
- Outfalls shall be monitored by the Contractor regularly during construction to insure that outfall protection measures are working as intended; if any measures are observed to be inadequate to prevent scour and erosion, they shall be immediately replaced with an outfall protection measure capable of withstanding the flows discharged by the outfall.

2.11 Establish Perimeter Controls and Sediment Barriers

Perimeter controls shall be installed, and maintained, as depicted on the approved plan set and in accordance with RIDOT Standard Specifications Section 201, 206 – 211, Perimeter Erosion Controls (installation) and Section 212 – Maintenance and Cleaning of Erosion and Pollution Controls (maintenance).

If the Baled Hay &/or Silt Fence erosion checks fail to contain the sediment on-site, then alternative control measures may be substituted. Such measures may include (but are not limited to) compost filter socks or straw wattles (fiber rolls).

Describe structural practices (i.e., silt fences or fiber rolls) including design specifications and details to filter and trap sediment before it leaves the construction site.

- Overall site sedimentation protection will be provided by a combination of staked hay bales/silt fence, catch basin inserts, quick stabilization of disturbed trench areas, and general good housekeeping.

2.12 Retain Sediment On-Site and Control Dewatering Practices

Sediment traps, basins, and barriers are used to retain sediment on the site to protect streams, lakes, drainage systems, and adjacent property. These devices are used at the outlets of channels, diversions, and other runoff conveyance measures to allow sediment-filled water to pool and sediment to settle. These measures are often used as the last line of defense to stop sediment from leaving the site.

A sediment trap or basin shall be installed, and maintained, as depicted on the approved plan set and in accordance with the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended).

The dewatering of non-contaminated non-stormwater (i.e. groundwater) or accumulated precipitation discharge of sediment-laden water into storm drains, streams, lakes or wetlands prior to sediment removal is prohibited. A sediment trap or basin shall be installed, and maintained, as depicted on the approved plan set and in accordance with the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended).

The dewatering of contaminated non-stormwater cannot be discharged without obtaining a Rhode Island Department of Environmental Management RIPDES discharge permit to do so. If dewatering of contaminated water is anticipated at the site, appropriate permits must be obtained in advance.

Describe sediment control practices (i.e., sediment trap or sediment basin), including design specifications and details (volume, dimensions, outlet structure) that will be implemented at the construction site to retain sediments on-site. Describe dewatering practices that will be implemented if water must be removed from an area so that construction activity can continue.

- The Contractor shall be solely responsible for determining the need for dewatering (and by extension dewatering basins), and for developing and implementing the dewatering methods to be used during construction.
- Dewatering basins will be used as needed to prevent sediment generated by dewatering operations from leaving the project site. A typical dewatering basin detail is included in the project plans, and shall be modified by the Contractor as necessary and appropriate to conform to the specific location(s) where dewatering basins are to be implemented. Under no circumstances shall dewatering basins be located within biological wetlands, and they shall only be installed within jurisdictional wetlands if absolutely necessary and with the prior approval of the Engineer.

2.13 Additional BMPs

Describe additional BMPs that may not fit into the above categories.

- No additional construction period erosion and sedimentation control BMP's are proposed for use on this project.

2.14 Construction Site Erosion and Sediment Control BMPs

Complete the following table for each location where Erosion and Sediment Control BMPs will be utilized. This table is to be used as part of the SWPPP Inspection Report – please fill out accordingly.

It is expected that this table will be amended as needed throughout the construction project.

Location/Station	BMP Description/ Standard Spec Ref	Maintenance Requirement	Phase
Perimeter	Staked hay bales and/or silt fence barriers	Weekly or as required by site conditions; remove accumulated sediment when it has reached ½ the height of the hay bales/silt fence	Phase I, II, III
All Catch Basins	Catch Basin Insert	212.03.1 Sediment accumulated greater than half way up insert; break through or significant strain of insert	Phase I, II, III
Street Sweeping/Water for Dust Control	Not Applicable	Weekly or as required by site conditions	Phase II

SECTION 3: GOOD HOUSEKEEPING BMPS

RIPDES Construction General Permit – Section IV.E.2.c

The purpose of good housekeeping is to prevent daily construction activities from causing pollution.

Describe the key good housekeeping and pollution prevention measures that will be implemented to control pollutants in stormwater. Examples BMPs include the proper management of waste, material handling and storage, and equipment/vehicle fueling/washing/maintenance operations.

Where applicable, include RI Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended) specifications.

3.1 Off-site Tracking of Sediments

Each site shall have graveled access entrance and exit drives and parking areas to reduce the tracking of sediment onto public or private roads. IV.E.2.c.i

Any construction site access point must employ the BMPs depicted on the approved plan set and in accordance with the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended). Construction entrances shall be used in conjunction with the stabilization of construction roads to reduce the amount of mud picked up by construction vehicles. All construction access roads shall be constructed prior to any roadway accepting construction traffic.

If a Construction Entrance BMP is not designated on the plans, it is still the responsibility of the Operator to ensure that no sediment is tracked off of the construction site by any vehicles leaving the site. Additional control measures that may be used, upon approval of the site owner, include a vehicle washing station and/or daily street sweeping.

The Operator shall remain responsible for the clean-up of any mud or dirt that is tracked onto streets or paved areas, even with the installation of gravel construction entrances. Inspect access for excessive sediment build up. Remove sediment and rebuild the exit as necessary to retain effectiveness and prevent off-site tracking. Additional street cleaning may be required if unable to retain sediment on site.

Describe location(s) of vehicle entrance(s) and exit(s), procedures to remove accumulated sediment off-site (i.e., vehicle tracking), and stabilization practices (i.e., stone pads and/or wash racks) to minimize off-site vehicle tracking of sediments and discharges to stormwater. IV.E.2.c.i

- Designated construction vehicle entrances shall be located by the Contractor and prepared & maintained in accordance with RIDOT construction entrance details and specifications.
- The paved roadways adjacent to the project area will be swept as needed to remove any excess mud, dirt or rock tracked from the site. Dump trucks hauling material to or from the construction site will be covered with a tarpaulin.

3.2 Waste Disposal

Building materials and other construction site wastes must be properly managed and disposed of to prevent the discharge of solid materials from wind and precipitation. All types of waste generated at the site shall be disposed of in a manner consistent with State Law and/or regulations.

- A waste collection area shall be designated on the site that does not receive a substantial amount of runoff from upland areas and does not drain directly to a waterbody or storm drain.

- All waste containers shall be covered to avoid contact with wind and precipitation.
- Waste collection shall be scheduled frequently enough to prevent containers from overflowing.
- All construction site wastes shall be collected, removed, and disposed of in accordance with applicable regulatory requirements and only at authorized disposal sites.
- Equipment and containers shall be checked for leaks, corrosion, support or foundation failure, or other signs of deterioration. Those that are found to be defective shall be immediately repaired or replaced.

Describe measures (i.e., trash disposal, sanitary wastes, recycling, and proper material handling) to prevent the discharge of solid materials. All types of waste generated at the site shall be disposed of in a manner consistent with State Law and/or regulations. IV.E.2.c.ii

- **Waste Materials** - All construction-generated waste materials will be collected and stored in a securely lidded metal dumpster which shall meet all local Town and any State solid waste management regulations. All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied as needed, and the trash will be hauled off site. No construction waste materials will be buried onsite. All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted in the office trailer, and the individual who manages the day-to-day site operations will be responsible for insuring that these procedures are followed.
- **Hazardous Waste** - Hazardous waste materials, if encountered, will be disposed of in the manner specified by local or State regulation or by the manufacturer. Site personnel will be instructed in these practices and the individual, who manages day-to-day site operations, will be responsible for seeing that these practices are followed.
- **Sanitary Waste** - All sanitary waste will be collected from the portable units a minimum of once a week by a licensed sanitary waste management contractor, as required by local regulation.

3.3 Spill Prevention and Control Plan

Spills and leaks shall be avoided through frequent inspection of equipment and material storage areas. Heavy equipment and other vehicles shall be routinely inspected for leaks and repaired as necessary. Material storage areas shall be routinely inspected for leaky containers, open containers, or improper storage techniques that may lead to spills or leaks. Appropriate cleanup procedures and supplies shall be available on-site and should be clearly marked so that all personnel can locate and access these supplies quickly. IV.E.2.c.iii

Spills shall be cleaned up immediately and following proper response procedures and in accordance with any applicable regulatory requirements. At no time shall spills be cleaned and flushed down storm drains or in to any environmentally sensitive area (i.e. stream, pond, wetland).

Equipment/vehicle fueling and repair/maintenance operations or hazardous material storage shall not take place within regulated wetlands or buffer zone areas. Designated areas shall be approved by the Engineer.

Describe all areas where potential spills can occur, and their accompanying drainage points, and describe the spill prevention and control plan to reduce the chance of spills, stop the source of spills, contain and clean up spills, dispose of materials contaminated by spills, and train personnel responsible for spill prevention and control. IV.E.2.c.iii

- A spill can potentially occur anywhere within the project site. White Horn Brook is the final destination of all drainage points in the project area.
- The following good housekeeping practices will be followed onsite during the construction project:
 - An effort will be made to store on-site only enough products and materials required to perform the anticipated work.
 - All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
 - Products will be kept in their original containers with the original manufacturer's label.
 - Substances will not be mixed with one another unless recommended by the manufacturer.
 - Whenever possible, all of a product will be used up before disposing of the container.
 - Manufacturers' recommendations for proper use and disposal will be followed.
 - The site superintendent will inspect daily to ensure proper use and disposal of materials onsite.
- These practices shall be used to reduce the risks associated with hazardous materials:
 - Products will be kept in original containers unless they are not re-sealable.
 - Original labels and material safety data will be retained; they contain important product information.
 - If surplus product must be disposed of, manufacturers' or local and State recommended methods for proper disposal will be followed.
- In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices shall be followed for spill prevention and cleanup:
 - Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
 - Materials and equipment necessary for spill cleanup will be kept in a storage area onsite. Equipment and materials will include but not be limited to brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
 - All spills will be cleaned up immediately after discovery.
 - The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
 - Spills of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size.
 - The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.
 - The site superintendent responsible for the day-to-day site operations will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel who will receive spill prevention and cleanup training. The individual will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the office trailer onsite.

3.4 Control of Allowable Non-Storm Water Discharges

For the allowable non-stormwater discharge(s) associated with construction industrial activity identified in Section 1.6, describe controls and measures that will be implemented at those sites to minimize pollutant contamination. IV.E.2.c.iv

- Uncontaminated groundwater pumped out of construction excavations will be routed to and through adequately-sized dewatering basins to remove (to the maximum extent possible) sediments contained within the groundwater. The locations and sizes of dewatering basins shall be as needed to receive and treat groundwater when it is encountered during construction, as determined by the Contractor. Under no circumstances will dewatering basins be located where the discharge from same will create a nuisance or hazard (i.e. excavated areas, roadways, private property, etc.); furthermore, the Contractor shall immediately adjust the location or configuration of any dewatering basins which are found to create a nuisance or hazard.

3.5 Establish Proper Building Material Staging Areas

Stock pile management consists of procedures and practices designed to minimize or eliminate the discharge of stockpiled material (soil, topsoil, base material, rubble) from entering drainage systems or water courses.

Stockpiles of any material shall not be located within regulated wetlands or buffer zone areas. They shall have side slopes no greater than 30% and stockpiles of erodible material shall be seeded and ringed with berms, dikes, fiber rolls, compost socks, sandbag, gravel bags or any other equivalent perimeter control specified in the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended).

If soil stockpiles are not stabilized with vegetation, then they must be securely covered at the end of each workday.

All chemicals and/or hazardous waste material must be stored properly and legally in covered areas, with containment systems constructed in or around the storage areas. Areas must be designated for materials delivery and storage. Designated areas shall be approved by the Engineer.

Describe construction materials expected to be stored on-site and procedures for storage of materials to minimize exposure of the materials to stormwater. IV.E.2.c.v

- See Section 3.3 for procedures related to storage of materials to minimize exposure of the same to stormwater.
- The following materials or substances will potentially be present on-site during construction:
 - Fertilizers
 - Petroleum Based Products (Gasoline, Diesel Fuel, Motor Oil)
 - Cleaning Solvents
 - Bituminous Concrete Asphalt
 - Cement Concrete
 - Detergents
 - Wood
 - Liquid Asphalt/Tar

3.6 Designate Washout Areas

Concrete mixer trucks and chutes will be washed in a designated area or concrete wastes will be properly disposed of off-site. Washout areas for concrete, paint or any other material shall be designated on the Approved Plans, or approved of by the Engineer. Any washout area shall not be within regulated wetlands or buffer zone areas, or within 50-feet of the storm drain system.

Temporary concrete washout areas must be constructed and maintained to contain all water and concrete waste generated by washout operations. A sign should be placed at the washout site to inform concrete equipment operators of the facility location. Facilities must be cleaned or replaced when they reach 75% capacity.

At no time shall any material (concrete, paint, chemicals) be washed into storm drains, open ditches, streets, streams, wetlands, or any environmentally sensitive area. The site operator must ensure that construction waste is properly disposed of, to avoid exposure to precipitation, at the end of each working day.

Describe location(s) and controls to minimize the potential for stormwater pollution from washout areas for concrete mixers, paint, stucco, etc. IV.E.2.c.v

- The Contractor shall designate the locations, if any, of concrete washout areas and amend this document accordingly. Under no circumstances will concrete washout areas be located where the discharge from same will create a nuisance or hazard (i.e. excavated areas, roadways, private property, etc.); furthermore, the Contractor shall immediately adjust the location or configuration of any concrete washout areas which are found to create a nuisance or hazard.

3.7 Establish Proper Equipment/Vehicle Fueling and Maintenance Practices

Vehicle fueling shall not take place within regulated wetlands or buffer zone areas, or within 50-feet of the storm drain system. Designated areas shall be depicted on the Approved Plans, or shall be approved by the Engineer.

Vehicle maintenance and washing shall occur off-site, or in designated areas depicted on the Approved Plans or approved of by the Engineer. Maintenance or washing areas shall not be within regulated wetlands or buffer zone areas, or within 50-feet of the storm drain system. Maintenance areas shall be clearly designated, and berms, sandbags, or other barriers shall be used around the perimeter of the maintenance area to prevent storm water contamination.

Construction vehicles shall be inspected frequently for leaks. Repairs shall take place immediately. Disposal of all used oil, antifreeze, solvents and other automotive-related chemicals shall be according to applicable regulations; at no time shall any material be washed down the storm drain or in to any environmentally sensitive area.

Describe equipment/vehicle fueling and maintenance practices that will be implemented to control pollutants to stormwater (e.g., secondary containment, drip pans, spill kits, etc.) IV.E.2.c.v

- All onsite vehicles shall be monitored for leaks and shall receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations.
- The Contractor shall determine locations, if any, for vehicle fueling and maintenance activities, provided that said locations are more than fifty (50) feet from any storm drainage inlet structure.

3.8 Dust Control

Dust control procedures and practices shall be used to suppress dust on a construction site during the construction process, as applicable. Precipitation, temperature, humidity, wind velocity and direction will determine amount and frequency of applications. However, the best method of controlling dust is to prevent dust production. This can best be accomplished by limiting the amount of bare soil exposed at one time. Dust Control measures outlined in the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended) shall be followed.

Other techniques for controlling dust may be utilized upon approval by the Engineer. Other Dust Control methods include surface roughening, wind barriers, walls, and covers.

Describe dust control practices that will be implemented to control pollutants to stormwater. IV.E.2.c.v

- Water for dust control will be applied prior to or during windy conditions (forecasted or actual wind conditions of 20 mph or greater) to all areas of exposed erodible soil. Water shall be spray-applied to avoid ponding or erosion, either by truck (in roadway areas) or manually (in off-road areas).

3.9 Sweeping

Sweeping of streets, roads, highways and parking lots that have accumulated significant amounts of pollutants (construction site sediment, trash, debris) shall be done as necessary, or as directed by the Engineer. When construction exits are not keeping construction site sediment from the roadway, sweeping shall be done on a daily basis. Disposal of collected sweeping material shall be done in a manner consistent with State Law and/or regulations.

Describe sweeping practices and schedule that will be implemented to control pollutants to stormwater. IV.E.2.c.v

- Street sweeping shall be performed weekly at a minimum, or more frequently as needed, to minimize the amount of sediment on or near unpaved trenches in the roadways within the project area.
- If needed, street sweeping will occur prior to a forecast storm event.
- Materials collected during street sweeping will be legally disposed of at an off-site location by the Contractor.

3.10 Additional BMPs

Describe any additional BMPs that don't fit into the above categories. Indicate the problem they are intended to address.

- No additional good housekeeping BMP's are proposed for use on this project.

3.11 Construction Site Good Housekeeping BMPs

Complete the following table for each location where Good Housekeeping BMPs will be utilized. This table is to be used as part of the SWPPP Inspection Report – please fill out accordingly.

It is expected that this table will be amended as needed throughout the construction project.

Location/Station	BMP Description/ Standard Spec Ref	Maintenance Requirement	Phase
Roads	Public roads within the construction site shall be clean at the end of each day 211.01.1	Street Sweep if construction site sediment is visible	Phase I, II, III
Site Wide	Pick-up & proper handling and disposal of construction trash and debris	All loose trash and debris must be disposed of properly at the end of each working day	Phase I, II, III
To Be Determined by Contractor as Needed			

SECTION 4: POST-CONSTRUCTION BMPs

RIPDES Construction General Permit – Section IV.E.2.b

This section details the measures that will be installed to protect permanent or long term BMPs as they are installed so that they will function properly when they are brought online at the end of the construction phase.

Include any applicable specifications from the Rhode Island Soil Erosion and Sediment Control Handbook (as amended), the RIDEM RI Stormwater Design and Installation Standards Manual (as amended), or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended) including any applicable BMP maintenance requirements.

4.1 Post-Construction BMPs

Describe all post-construction stormwater management measures that will be installed during the construction process to control pollutants in stormwater discharges after construction operations have been completed.

After identifying all post-construction stormwater management measures, outline how these measures will be protected during the construction phase of the project to ensure that they will function appropriately once they are brought online.

- [BMP GH 1 – Infiltration Basin](#) – This will be a shallow infiltration basin sized to receive and infiltrate in excess of the water quality volume for the entire subwatershed. Flows entering the basin which exceed the basin's capacity to infiltrate into the underlying soils will pass over an overflow weir within the basin, then enter a converted drain manhole, then pass through a 15" concrete pipe into the drainage system on Flagg Road. Pretreatment of runoff from paved areas will be provided in a combination of a grass channel and a sediment forebay.

[Protection During Construction Phase](#) – Avoiding over-compaction of underlying soils during construction is critical to the proper function of infiltration measures. In this case, the location of the infiltration basin is partially within an area which has already been over-compacted (the existing paved driveway from Flagg Road). Therefore, as part of the construction of the basin, the underlying soils will need to be excavated, aerated, and replaced loosely in the footprint of the infiltration basin. Once this work is completed, the area will be delineated with a highly-visible barrier and appropriate signage to alert equipment operators not to drive over the soils.

[BMP GH 3-N & 3-S – Dry Biofiltration Swales](#) - These will be constructed along the north edge of each western section of the parking lot. The dry swales will be sized to provide treatment for the full water quality volume for the subwatershed; outflow from the swales will enter new or retrofit storm drainage along the west side of the parking lot, then through a 12" concrete pipe into the drainage system on Flagg Road. Pretreatment of runoff from paved areas will be provided by crushed-stone diaphragms to be installed along the entire edge of the parking lot upstream of the swale.

[Protection During Construction Phase](#) – As with infiltration basins, avoiding over-compaction of the biofiltration media in the center of the swales during construction is critical to the proper function of the swales. Therefore, once construction of the swales is completed, the areas will be delineated with a highly-visible barrier and appropriate signage to alert equipment operators not to drive over the swales.

4.2 Low Impact Design Considerations

Low Impact Development (LID) is a stormwater management approach that emphasizes managing stormwater using decentralized micro-scale controls. LID's goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its

source, instead of conveying and managing/ treating stormwater in large, end-of-pipe facilities located at the bottom of drainage areas. LID may not be appropriate for every project; however, LID techniques should be investigated and utilized to the maximum extent practicable. For further information on LID design, visit: <http://www.epa.gov/owow/nps/lid/>

Describe how low impact design (LID) or smart growth considerations have been incorporated into the design.

- This project proposes the use of three small-scale stormwater treatment BMP's, which will treat the runoff from each of the individual subwatersheds tributary thereto (instead of a single large-scale BMP for the entire site).
- The selected BMP's are all vegetated surface features, and will be context appropriate to the site (intended to blend in with their surroundings to the maximum extent possible).
- Existing vegetation (specifically a number of large, mature trees along Flagg Road) will be preserved as part of the project; this decision limited the number of parking spaces which could have potentially been developed if the site were completely denuded and made available.

4.3 Post-Construction BMPs

Complete the following table for each location where post-construction BMPs will be utilized. This table is to be used as part of the SWPPP Inspection Report – please fill out accordingly.

Location/Station	BMP Description/ Standard Spec Ref	Maintenance Requirement	Phase
Watershed GH P1	Infiltration Basin	See O&M Plan for further details	III
Watershed GH P3	Dry Swale Biofiltration	See O&M Plan for further details	III

SECTION 5: MAINTENANCE and INSPECTIONS

RIPDES Construction General Permit – Section IV.E.2.d

5.1 Maintenance

Maintenance procedures for erosion and sedimentation controls and stormwater management structures/facilities are described on the plans and in the Rhode Island Soil Erosion and Sediment Control Handbook.

Construction shall not commence or continue until all specified erosion and pollution controls are in place and properly installed.

Erosion and pollution controls shall be maintained by the site operator to the satisfaction of the site owner. Erosion and pollution controls must be able to prevent, under normal weather conditions, both the movement of soil materials and the intrusion of sediment-laden discharges into environmentally sensitive areas.

Erosion and pollution controls will be cleaned when directed by the site operator; after a rainstorm; and/or whenever maintenance is required for any BMP as specified in the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended).

Erosion control structures shall remain in place until all disturbed earth has been securely stabilized and accepted by the site owner. Before final removal, all accumulated sediment on the upstream side shall be removed and legally disposed of. After removal of structures, disturbed areas shall be regraded and stabilized as necessary.

Note: The contractor is required to have a full-time, on-site designated contact person responsible for working with the Engineer to resolve SWPPP-related issues.

5.2 Inspections

RIPDES Construction General Permit – Section II.B & Section II.D

Minimum Monitoring and Reporting Requirements

All storm water control measures, disturbed areas, areas used for the storage of materials that are exposed to precipitation (including unstabilized soil stockpiles), discharge locations, and locations where vehicles enter or exit the site must be inspected at least once every seven (7) calendar days and within twenty-four (24) hours after any storm event which generates at least 0.25-inches of precipitation per twenty four (24) hour period and/or after a significant amount of runoff or snowmelt. An appropriate rain gauge is identified in Section 2.4 of this SWPPP.

General Notes

- A separate inspection report will be prepared for each inspection.
- The Inspection Reference Number shall be a combination of the RIPDES Construction General Permit No – followed by consecutively numbered inspections.

Example: The inspection reference number for the 4th inspection of a project would be:

RIR100###-4

- Each report will be signed and dated by the Inspector and must be kept onsite as required by Part II.D of the RIPDES Construction General Permit.
- Each report will be signed and dated by the Site Operator and returned to the Inspector within 24 hours of receipt.
- It is the responsibility of the site operator to maintain a copy of the SWPPP, copies of all completed inspection reports, and amendments as part of the SWPPP documentation at the site during construction

5.3 Corrective Actions

RIPDES Construction General Permit – Section II.C

If, in the opinion of the designated site inspector, corrective action is required, the inspector shall note it on the inspection report and shall inform the site operator that corrective action is necessary. The site operator must make all necessary repairs whenever maintenance of the erosion and pollution controls is required.

In accordance with the RIPDES Construction General Permit and the SWPPP, non-compliance issues shall be addressed no later than seven (7) calendar days from the date of inspection.

In accordance with the SWPPP the site operator shall commence with the requisite cleaning and maintenance measures no later than the next consecutive calendar day after receiving notification from the designated site inspector, and shall aggressively and expeditiously perform such cleaning and maintenance work until the original problem is remedied.

The corrective action log contained in each inspection report must be completed, signed, and dated by the site operator once all necessary repairs have been completed.

SECTION 6: Amendments

RIPDES Construction General Permit – Section IV.D

This SWPPP is intended to be a working document. It is expected that amendments will be required throughout the active construction phase of the project. **Even if practices are installed on a site according to the approved plan, the site is only in compliance when erosion and sedimentation are effectively controlled throughout the entire site for the entire duration of the project.**

The SWPPP shall be amended whenever there is a change in design, construction, operation, maintenance or other procedure which has a significant effect on the potential for the discharge of pollutants, or if the SWPPP proves to be ineffective in achieving its objectives (i.e. the selected BMPs are not effective in controlling erosion or sedimentation).

All revisions must be recorded in the Record of Amendments Log Sheet, a copy of which is contained in **Appendix G** of this SWPPP, and dated red-line drawings and/or a detailed written description must be appended to the SWPPP. Inspection Forms must be revised to reflect all amendments. Update the Revision Date and the Version # in the footer of the Report to reflect amendments made.

All SWPPP Amendments, except minor non-technical revisions, must be approved by the site owner and operator.

SECTION 7: Recordkeeping

RIPDES Construction General Permit – Section II.A & Section II.D

It is the site owner and site operator's responsibility to have the following documents available at the construction site and immediately available for RIDEM review upon request:

A copy of the fully signed and dated SWPPP, which includes:

- A copy of the General Location Map
INCLUDED AS APPENDIX A
- A copy of all SWPPP Site Maps & Supporting Documentation
INCLUDED AS APPENDIX B
- A copy of the RIPDES Construction General Permit
INCLUDED AS APPENDIX C
- A copy of any regulatory permits (RIDEM Freshwater Wetlands Permit, CRMC, RIDEM Water Quality, etc.)
INCLUDED AS APPENDIX D ([Not Applicable](#))
- The signed and certified NOI form or permit application form
INCLUDED AS APPENDIX E
- Completed Inspection Reports w/Completed Corrective Action Logs
INCLUDED AS APPENDIX F
- SWPPP Amendment Log
INCLUDED AS APPENDIX G

SECTION 8: Party Certifications

RIPDES Construction General Permit – Section V.G

All parties working at the project site are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that is performed on-site. The site owner, site operator, contractors and sub-contractors are encouraged to advise all employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the following location: _____, or may be obtained by contacting the site owner or site operator.

The site owner and site operator and each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement.

I acknowledge that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the BMPs and practices described in the SWPPP.

Site Owner:

University of Rhode Island
Office of Capital Projects
Kingston, RI 02881
Director: Paul M. DePace
(401) 874-2725

signature/date

Site Operator:

Insert Company or Organization Name
Insert Name & Title
Insert Address
Insert City, State, Zip Code
Insert Telephone Number, Insert Fax/Email

signature/date

Designated Site Inspector:

Insert Company or Organization Name
Insert Name & Title
Insert Address
Insert City, State, Zip Code
Insert Telephone Number, Insert Fax/Email

signature/date

Subcontractor SWPPP Contact:

Insert Company or Organization Name
Insert Name & Title
Insert Address
Insert City, State, Zip Code
Insert Telephone Number, Insert Fax/Email

signature/date

SWPPP APPENDICES

Appendix A - General Location Map

Appendix B - SWPPP Site Maps

Appendix C - Copy of RIPDES Construction General Permit

Appendix D - Copy of Regulatory Permits (Not Applicable**)**

Appendix E - Copy of RIPDES NOI

Appendix F - Inspection Reports and Corrective Action Log

Appendix G - Amendment Log