State of Rhode Island Department of Administration
Division of Purchases

REVISED
November 20, 2013

NOTICE TO VENDORS

Each bid proposal for a *public works project* must include a "public copy" to be available for public inspection upon the opening of bids. **Bid proposals that do not include a copy for public inspection will be deemed nonresponsive.**

The public copy must be submitted in .pdf (portable document file) format on a ***read-only*** CD-R media disc. The disc must include ***all of the documents*** submitted in response to the solicitation concatenated or merged into one file. The file must be named in the following manner:

BidNumber_DateofBid_VendorName_VendorID.pdf

The Bidder Certification Cover Form contains all of the information for the file name. The date of bid must appear as mm-dd-yyyy. The vendor name must appear as one word, with no spaces or punctuation. Underscores must separate the fields.

Example: 7543210_11-08-2013_OceanStateCompanyInc_9867.pdf

The public copy disc must be separately enclosed in a protective cover clearly marked "Public Copy" and include the following information (all available from the Bidder Certification Cover Form): (1) title of solicitation; (2) name of bidder and RIVIP vendor ID number; (3) bid number; and (4) date of bid.

The public copy may redact any trade secrets or commercial or financial information which is of a privileged or confidential nature pursuant to the "Access to Public Records Act," R. I. Gen. Laws §§ 38-2-1 *et seq*.

For further information on how to comply with this statutory requirement, see R. I. Gen. Laws §§ 37-2-18(b) and (j). Also see Procurement Regulation 5.11 accessible at www.purchasing.ri.gov

RI Department of Labor and Training
Workforce Regulation and Safety Division
Professional Regulation - Prevailing Wage

General Contractor Apprenticeship Certification Form

This form MUST be completed and submitted at the time of bidding and is available on the Department of Labor and Training's Website at www.dlt.ri.gov, under Workforce Regulation and Safety, Prevailing Wage, Publications and Forms.

Bid/RFP Number: 7605773

Bid/RFP Title: Greenwich Bay Coastal

RIVIP Vendor ID#: _____

Vendor Name: _____

Address: _____

Telephone: _____

Fax: _____

E-Mail: _____

Contact Person and Title: _____

_____(Company Name & Address) (hereafter "bidder") hereby certifies that bidder meets the general contractor apprenticeship requirements of R. I. Gen. Laws § 37- 13-3.1 because bidder meets one of the following qualifications (check):

A. __Bidder sponsors a current and duly approved Rhode Island Department of Labor and Training Apprenticeship Program and currently employs at least one apprentice per trade/occupation, who will obtain "on the job training" experience in the apprentice's trade by performing on the contract (attach apprenticeship program standards and apprenticeship agreement);

B. _____Bidder sponsors a current and duly registered Rhode Island Department of Labor and Training reciprocal apprenticeship program pursuant to R. I. Gen. Laws § 28-45-16 and currently employs at least one apprentice per trade/occupation, who will obtain "on the job training" experience in the apprentice's trade by performing work on the contract (attach apprenticeship program standards, apprenticeship agreement and Rhode Island Department of Labor and Training Reciprocal Apprenticeship Program Approval);

C. _____Bidder has entered into a current collective bargaining agreement with a duly approved Rhode Island Department of Labor and Training Apprenticeship Program sponsor and, pursuant to the terms of the collective bargaining agreement, will employ at least one apprentice per trade/occupation, who will obtain "on the job training" experience in the apprentice's trade by performing work on the contract (attach relevant section of collective bargaining agreement and signature page);

D. _____Bidder has entered into a current labor agreement with a duly approved Rhode Island Department of Labor and Training Apprenticeship Program sponsor and, pursuant to the terms of the labor agreement, will employ at least one apprentice per trade/occupation, who will obtain "on the job training" experience in the apprentice's trade by performing work on the contract (attach relevant section of labor agreement and signature page);

E. _____Bidder will not perform work on the awarded contract except through subcontractors (non performance);

F. _____Bidder has received approval from the Rhode Island Department of Labor and Training that it satisfies the general contractor requirements of R. I. Gen. Laws §37-13-3.1 for purposes of a particular bid (attach Rhode Island Department of Labor and Training correspondence).

_____ _____

Printed Name and Title of Authorized Representative Date

_____

Signature of Authorized Representative

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Labor and Training
Center General Complex
1511 Pontiac Avenue
Cranston, RI 02920-4407

TTY: Via RI Relay 711

Lincoln D. Chafee
Governor
Charles J. Fogarty
Director

STATE CONTRACT ADDENDUM

RHODE ISLAND DEPARTMENT OF LABOR AND TRAINING

PREVAILING WAGE REQUIREMENTS (37-13-1 ET SEQ.)

The prevailing wage requirements are generally set forth in RIGL 37-13-1 et seq. These requirements refer to the prevailing rate of pay for regular, holiday, and overtime wages to be paid to each craftsmen, mechanic, teamster, laborer, or other type of worker performing work on public works projects when state or municipal funds exceed one thousand dollars ($1,000).

All Prevailing Wage Contractors and Subcontractors are reguired to:

1. Submit to the Awarding Authority a list of the contractor's subcontractors for any part or all of the prevailing wage work in accordance with RIGL § 37-13-4;

2. Pay all prevailing wage employees at least once per week and in accordance with RIGL §37-13-7 (see Appendix B attached);

3. Post the prevailing wage rate scale and the Department of Labor and Training's prevailing wage poster in a prominent and easily accessible place on the work site in accordance with RIGL §37-13-11; posters may be downloaded at www.dlt.ri.gov/pw/Posters.htm .poster/htm or obtained from the Department of Labor and Training, Center General Complex, 1511 Pontiac Avenue, Cranston, Rhode Island;

4. Access the Department of Labor and Training website, at www.dlt.ri.gov on or before July 1st of each year, until such time as the contract is completed, to ascertain the current prevailing wage rates and the amount of payment or contributions for each covered prevailing wage employee and make any necessary adjustments to the covered employee's prevailing wage rates effective July Ist of each year in compliance with RIGL §37-13-8;

5. Attach a copy of this CONTRACT ADDENDUM and its attachments as a binding obligation to any and all contracts between the contractor and any

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Labor and Training
Center General Complex
1511 Pontiac Avenue
Cranston, RI 02920-4407

Telephone; (401) 462-8000
TTY; Via RI Relay 711

Lincoln D. Chafee
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Director

subcontractors and their assignees for prevailing wage work performed pursuant to this contract;

6. Provide for the payment of overtime for prevailing wage employees who work in excess of eight (8) hours in any one day or forty (40) hours in any one week as provided by RIGL §37-13-10;

7. Maintain accurate prevailing wage employee payroll records on a Rhode Island Certified Weekly Payroll form available for download at www.dlt.ri.gov/pw.forms/htm, as required by RIGL §37-13-13, and make those records available to the Department of Labor and Training upon request;

8. Furnish the fully executed RI Certified Weekly Payroll Form to the awarding authority on a monthly basis for all work completed in the preceding month.

9. For general or primary contracts one million dollars ($1,000,000) or more, shall maintain on the work site a fully executed RI Certified Prevailing Wage Daily Log listing the contractor's employees employed each day on the public works site; the RI Certified Prevailing Wage Daily Log shall be available for inspection on the public works site at all times; this rule shall not apply to road, highway, or bridge public works projects. Where applicable, furnish both the Rhode Island Certified Prevailing Wage Daily Log together with the Rhode Island Weekly Certified Payroll to the awarding authority.

10. Assure that all covered prevailing wage employees on construction projects with a total project cost of one hundred thousand dollars ($100,000) or more has a OSHA ten (10) hour construction safety certification in compliance with RIGL § 37-23-1;

11. Employ apprentices for the performance of the awarded contract when the contract is valued at one million dollars ($1,000,000) or more, and comply with the apprentice to journeyperson ratio for each trade approved by the apprenticeship council of the Department of Labor and Training in compliance with RIGL §37-13-3.1;

12. Assure that all prevailing wage employees who perform work which requires a Rhode Island trade license possess the appropriate Rhode Island trade license in compliance with Rhode Island law; and

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Lincoln D. Chafee
Governor

Charles J. Fogarty
Director

13. Comply with all applicable provisions of RIGL §37-13-1, et. seq;

Any questions or concerns regarding this CONTRACT ADDENDUM should be addressed to the contractor or subcontractor's attorney. Additional Prevailing Wage information may be obtained from the Department of Labor and Training at www.dlt.ri.gov/pw.

CERTIFICATION

I hereby certify that I have reviewed this CONTRACT ADDENDUM and understand my obligations as stated above.

By: _____

Title: _____

Subscribed and sworn before me this___day of_____, 20_.

_____
Notary Public
My commission expires:_____

An Equal Opportunity Employer/Program, /Auxiliary aids and services are available upon request to individuals with disabilities.

TTY via RI Relay 711

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Labor and Training
Center General Complex
1511 Pontiac Avenue
Cranston, RI 02920-4407

Telephone: (401) 462-8000

APPENDIX A

TITLE 37
Public Property and Works

CHAPTER 37-13
Labor and Payment of Debts by Contractors

SECTION 37-13-5

§ 37-13-5 Payment for trucking or materials furnished - Withholding of sums due. -A contractor or subcontractor on public works authorized by a proper authority shall pay any obligation or charge for trucking and material which have been furnished for the use of the contractor or subcontractor, in connection with the public works being performed by him or her, within ninety (90) days after the obligation or charge is incurred or the trucking service has been performed or the material has been delivered to the site of the work, whichever is later. When it is brought to the notice of the proper authority in a city or town, or the proper authority in the state having supervision of the contract, that the obligation or charge has not been paid by the contractor or subcontractor, the proper authority may deduct and hold for a period not exceeding sixty (60) days, from sums of money due to the contractor or subcontractor, the equivalent amount of such sums certified by a trucker or materialman creditor as due him or her, as provided in this section, and which the proper authority determines is reasonable for trucking performed or materials furnished for the public works.

APPRENDIX B

TITLE 37
Public Property and Works

CHAPTER 37-13
Labor and Payment of Debts by Contractors

SECTION 37-13-7

§ **37-13-7 Specification in contract of amount and frequency of payment of wages.** -(a) Every call for bids for every contract in excess of one thousand dollars ($1,000), to which the state of Rhode Island or any political subdivision thereof or any public agency or quasi-public agency is a party, for construction, alteration, and/or repair, including painting and decorating, of public buildings or public works of the state of Rhode Island or any political subdivision thereof, or any public agency or quasi-public agency and which requires or involves the employment of employees, shall contain a provision stating the minimum wages to be paid various types of employees which shall be based upon the wages that will be determined by the director of labor and training to be prevailing for the corresponding types of employees employed on projects of a character similar to the contract work in the city, town, village, or other appropriate political subdivision of the state of Rhode Island in which the work is to be performed. Every contract shall contain a stipulation that the contractor or his or her subcontractor shall pay all the employees employed directly upon the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment computed at wage rates not less than those stated in the call for bids, regardless of any contractual relationships which may be alleged to exist between the contractor or subcontractor and the employees, and that the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work; and the further stipulation that there may be withheld from the contractor so much of the accrued payments as may be considered necessary to pay to the employees employed by the contractor, or any subcontractor on the work, the difference between the rates of wages required by the contract to be paid the employees on the work and the rates of wages received by the employees and not refunded to the contractor, subcontractors, or their agents.

(b) The terms "wages", "scale of wages", "wage rates", "minimum wages", and "prevailing wages" shall include:

(1) The basic hourly rate of pay; and

(2)) The amount of:

(A) The rate of contribution made by a contractor or subcontractor to a trustee or to a third person pursuant to a fund, plan, or program; and

(B) The rate of costs to the contractor or subcontractor which may be reasonably anticipated in providing benefits to employees pursuant to an enforceable commitment to carry out a financially responsible plan or program which was communicated in writing to the employees affected, for medical or hospital care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity, or insurance to provide any of the foregoing, for unemployment benefits, life insurance, disability and sickness insurance, or accident insurance, for vacation and holiday pay, for defraying costs of apprenticeship or other similar programs, or for other bona fide fringe benefits, but only where the contractor or subcontractor is not required by other federal, state, or local law to provide any of the benefits; provided, that the obligation of a contractor or subcontractor to make payment in accordance with the prevailing wage determinations of the director of labor and training insofar as this chapter of this title and other acts incorporating this chapter of this title by reference are concerned may be discharged by the making of payments in cash, by the making of contributions of a type referred to in subsection (b)(2), or by the assumption of an enforceable commitment to bear the costs of a plan or program of a type referred to in this subdivision, or any combination thereof, where the aggregate of any payments, contributions, and costs is not less than the rate of pay described in subsection (b)(1) plus the amount referred to in subsection (b)(2).

(c) The term "employees", as used in this section, shall include employees of contractors or subcontractors performing jobs on various types of public works including mechanics, apprentices, teamsters, chauffeurs, and laborers engaged in the transportation of gravel or fill to the site of public works, the removal and/or delivery of gravel or fill or ready-mix concrete, sand, bituminous stone, or asphalt flowable fill from the site of public works, or the transportation or removal of gravel or fill from one location to another on the site of public works, and the employment of the employees shall be subject to the provisions of subsections (a) and (b).

(d) The terms "public agency" and "quasi-public agency" shall include, but not be limited to, the Rhode Island industrial recreational building authority, the Rhode Island economic development corporation, the Rhode Island airport corporation, the Rhode Island industrial facilities corporation, the Rhode Island refunding bond authority, the Rhode Island housing and mortgage finance corporation, the Rhode Island resource recovery corporation, the Rhode Island public transit authority, the Rhode Island student loan authority, the water resources board corporate, the Rhode Island health and education building corporation, the Rhode Island higher education assistance authority, the Rhode Island turnpike and bridge authority, the Narragansett Bay water quality management district commission, Rhode Island telecommunications authority, the convention center authority, the board of governors for higher education, the board of regents for elementary and secondary education, the capital center commission, the housing resources commission, the Quonset Point-Davisville management corporation, the Rhode Island children's crusade for higher education, the Rhode Island depositors economic protection corporation, the Rhode Island lottery commission, the Rhode Island

partnership for science and technology, the Rhode Island public building authority, and the Rhode Island underground storage tank board.

Solicitation #: 7605773
Solicitation Title: Greenwich Bay Coastal

BID FORM

To: The State of Rhode Island Department of Administration
Division of Purchases, 2nd Floor
One Capitol Hill, Providence, RI 02908-5855

Bidder: _____
Legal name of entity

_____
Address (street/city/state/zip)

_____
Contact name Contact email

_____
Contact telephone Contact fax

1. BASE BID PRICE

The Bidder submits this bid proposal to perform all of the work (including labor and materials) described in the solicitation for this Base Bid Price (*including the costs for all Allowances, Bonds, and Addenda)*:

Item No. 1 – Greenwood Creek

$_____
(base bid price *in figures* printed electronically, typed, or handwritten legibly in ink)

_____
(base bid price *in words* printed electronically, typed, or handwritten legibly in ink)

Item No. 2 – Greenwich Cove

$_____
(base bid price *in figures* printed electronically, typed, or handwritten legibly in ink)

_____
(base bid price *in words* printed electronically, typed, or handwritten legibly in ink)

Solicitation #: 7605773
Solicitation Title: Greenwich Bay Coastal

TOTAL BID AMOUNT: Sum of Item Nos. 1 & 2

$_____
(base bid price *in figures* printed electronically, typed, or handwritten legibly in ink)

_____
(base bid price *in words* printed electronically, typed, or handwritten legibly in ink)

- **Allowances** **No Allowances**

The Base Bid Price ***includes*** the costs for the following Allowances:

No. 1: N/A $_____

No. 2: N/A $_____

No. 3: N/A $_____

Total Allowances: $_____

- **Bonds**

The Base Bid Price ***includes*** the costs for all Bid and Payment and Performance Bonds required by the solicitation.

- **Addenda**

The Bidder has examined the entire solicitation (including the following Addenda), and the Base Bid Price ***includes*** the costs of any modifications required by the Addenda.

All Addenda must be acknowledged.

Addendum No. 1 dated: _____

Addendum No. 2 dated: _____

Solicitation #: 7605773
Solicitation Title: Greenwich Bay Coastal

Addendum No. 3 dated: _____

Addendum No. 4 dated: _____

Addendum No. 5 dated: _____

Addendum No. 6 dated: _____

2. **ALTERNATES** (*Additions/Subtractions* to Base Bid Price) No ALTERNATES REQUIRED

The Bidder offers to: (i) perform the work described in these Alternates as selected by the State in the order of priority specified below, based on the availability of funds and the best interest of the State; and (ii) increase or reduce the Base Bid Price by the amount set forth below for each Alternate selected.

Check "Add" or "Subtract."

____ Add ____ Subtract Alternate No. 1: N/A

$_____
(amount *in figures* printed electronically, typed, or handwritten legibly in ink)

_____
(amount *in words* printed electronically, typed, or handwritten legibly in ink)

____ Add ____ Subtract Alternate No. 2: N/A

$_____
(amount *in figures* printed electronically, typed, or handwritten legibly in ink)

_____
(amount *in words* printed electronically, typed, or handwritten legibly in ink)

Solicitation #: 7605773
Solicitation Title: Greenwich Bay Coastal

____ Add ____ Subtract Alternate No. 3: N/A

$_____
(alternate amount *in figures* printed electronically, typed, or handwritten legibly in ink)

_____
(alternate amount *in words* printed electronically, typed, or handwritten legibly in ink)

3. UNIT PRICES – See Basis of Payment-Unit Price (Rock Excavation)

The Bidder submits these predetermined Unit Prices as the basis for any change orders approved in advance by the State. These Unit Prices include ***all*** costs, including labor, materials, services, regulatory compliance, overhead, and profit.

Unit Price No. 1: Rock Excavation $_____

Unit Price No. 2: _____ $_____

Unit Price No. 3: _____ $_____

4. CONTRACT TIME

The Bidder offers to perform the work in accordance with the timeline specified below:

- Start of construction: Upon Notice To Proceed (NTP)
- Substantial completion: September 25, 2020
- Final completion: September 25, 2020

Solicitation #: 7605773
Solicitation Title: Greenwich Bay Coastal

5. LIQUIDATED DAMAGES

The successful bidder awarded a contract pursuant to this solicitation shall be liable for and pay the State, as liquidated damages and not as a penalty, the following amount for each calendar day of delay beyond the date for substantial completion, as determined in the sole discretion of the State: $_1,200.00_____.

_ _ _ _ _ _ _

This bid proposal is irrevocable for 60 days from the bid proposal submission deadline.

If the Bidder is determined to be the successful bidder pursuant to this solicitation, the Bidder will promptly: (i) comply with each of the requirements of the Tentative Letter of Award; and (ii) commence and diligently pursue the work upon issuance and receipt of the purchase order from the State and authorization from the user agency.

The person signing below certifies that he or she has been duly authorized to execute and submit this bid proposal on behalf of the Bidder.

BIDDER

Date:_____

_____
Name of Bidder

_____
Signature in ink

_____
Printed name and title of person signing on behalf of Bidder

#_____
Bidder's Contractor Registration Number

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

DEPARTMENT OF TRANSPORTATION

RHODE ISLAND CONTRACT NO.: 2019-CM-073
RI FEDERAL AID PROJECT NO.: RI-DAII(001)
SOLICITATION NUMBER: 7605773

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)

POST ROAD EXTENSION
OLD FORGE ROAD

CITY OF WARWICK
KENT COUNTY, RI

CONTRACT SPECIFIC DOCUMENTS

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APPENDICES:
TRANSPORTATION MANAGEMENT PLAN
ENVIRONMENTAL PERMITS
STORMWATER POLLUTION PREVENTION PLAN
TEST PIT LOGS
PAVEMENT CORES REPORT
GUIDELINES FOR WORK IN THE VICINITY OF NATIONAL GRID FACILITIES
SPECIFICATIONS – JOB SPECIFIC
PLANS

REQUIRED FORMS

Prepared by
Crossman Engineering
151 Centerville Road
Warwick, RI 02886

May 2020

GENERAL PROVISIONS – CONTRACT SPECIFIC

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GENERAL PROVISIONS – CONTRACT SPECIFIC

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Appendix A – Transportation Management Plan (TMP)

Appendix B – Environmental Permits

Appendix C – Small-Site Stormwater Pollution Prevention Plan (SWPPP)

Appendix D – Test Pit Logs

Appendix E – Pavement Cores Report

Appendix F – Guidelines for work in the vicinity of National Grid facilities

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Appendix H - Plan Files

Appendix I - Required Contract Forms - Must Be Signed and Submitted with Bid Offer

1. BRIEF SCOPE OF WORK

Rhode Island Contract No. 2019-CM-073, RI Federal Aid Project No. RI-DAII (001) is for stormwater treatment retrofits in the city of Warwick at two locations: Post Road Extension and Old Forge Road.

The first location is along the roadside areas adjacent to the Post Road Extension in Warwick, extending from the Main Street overpass bridge, southerly for approximately 3,000 feet. The work will treat stormwater runoff that discharges to Greenwood Creek (RI0007025R-11) and generally includes, but is not limited to: constructing sediment forebays, paved waterways, earthen weirs with riprap, and riprap check dams along a network of existing surface drainage ditches; placing riprap splashpads at ditch outfalls and installing new bituminous berm; removing portions of the paved shoulders and replacing with gravel borrow and loam and seed; removing and replacing light poles, pole foundations, handholes and conduit; cleaning existing drainage structures and ditches; preparing the site and installing temporary erosion controls; providing maintenance and protection of traffic and all other incidentals necessary to complete the work.

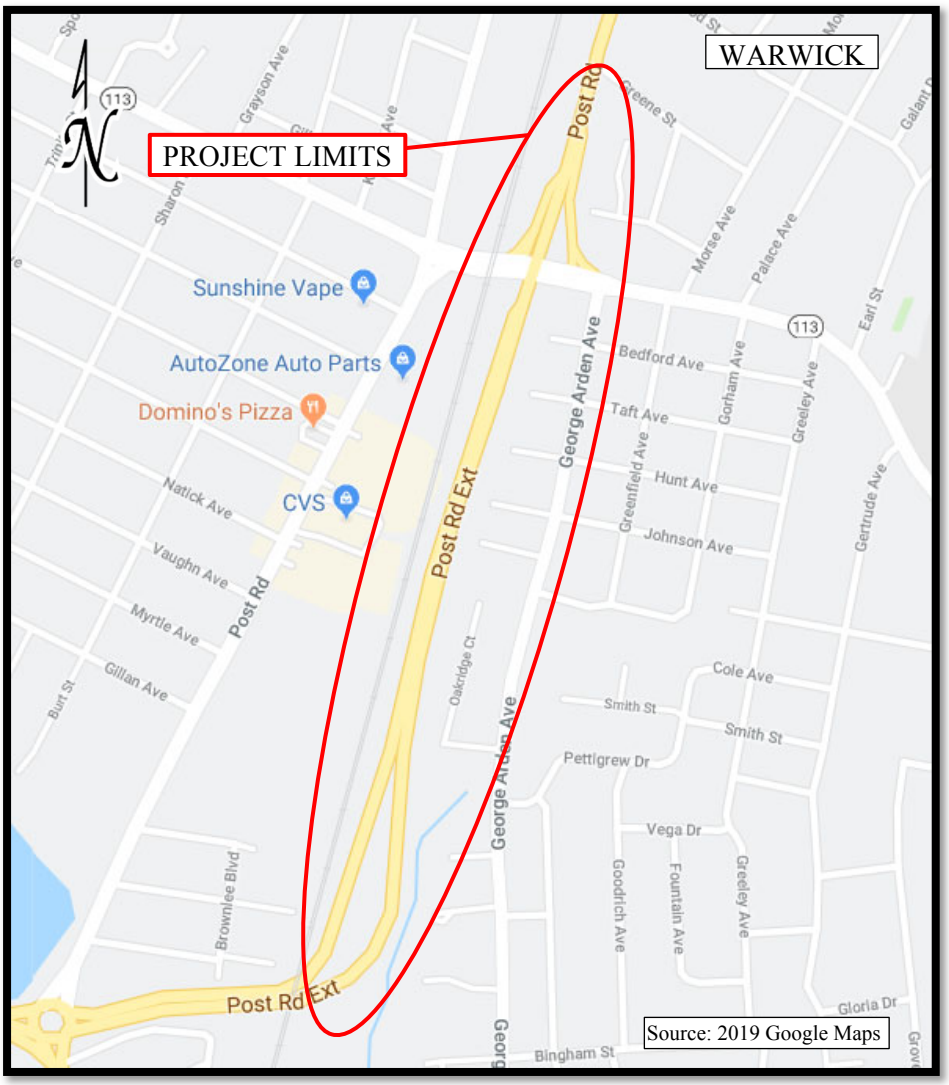
The second location is within the westbound travel lane on the north side of Old Forge Road in Warwick, approximately 400 feet east of the Amtrak railroad overpass bridge. The work will treat stormwater runoff that discharges to Greenwich Cove (RI0007025E-05A), and generally includes, but is not limited to: installing a precast stormwater treatment device, subsurface disposal chambers comprised of perforated pipe, filter fabric and stone dispersal field; excavating with archaeological monitoring; placing new gravel borrow subbase and asphalt; removing and resetting curb; removing and placing sidewalk; installing storm drain structures and pipes to connect into the existing highway stormwater collection system; preparing the site, installing temporary erosion controls, placing soil and seed; providing support of excavation and temporary dewatering systems as needed; constructing a temporary crossover to close the westbound lane and allow two-way traffic within the eastbound lane; and providing additional maintenance and protection of traffic and all other incidentals necessary to complete the work.

2. LIST OF CONTRACT DRAWINGS:

The Contract Documents include one volume of Plans entitled, "Plan of Proposed State Highway Stormwater Treatment Retrofit, Greenwood Creek (RI0007025R-11) and Greenwich Cove (RI0007025E-05A)." The Plans consist of the following drawings:

Drawing No.	Description
1	Cover Sheet
2	Standard Plan Symbols & Standard Legend
3	Standard Notes – 1
4	Standard Notes – 2
5	Job Specific Plan Symbols, Legend, & Notes
6	Key Plan
7 - 12	Drainage & Utility Plan Nos. 1 - 6
13	Cross Section STU-012
14	Cross Section STU-013
15 - 19	Signing & Striping Plan Nos. 1 - 5
20 – 22	Drainage & Utility Detail Plan Nos. 1 – 3

3. PROJECT LOCATION MAPS



Location No. 1 - Greenwood Creek
Post Road Extension
Warwick, Rhode Island

Location No. 2 - Greenwich Cove
Old Forge Road
Warwick, Rhode Island

4. CONTRACT REQUIREMENTS

All work under this Contract shall be performed in accordance with the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction 2004 Edition, (amended March 2018), including all Supplemental Specifications up to the date of Contract advertisement, and these Contract Documents. Compilation of Approved Specifications -September 2018, Compilation of Approved Specifications - June 2019, Rhode Island Standard Details, Rhode Island Bridge Standard Details, General Provisions, Rhode Island Department of Administration Procurement Regulations (latest version)

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All work under this Contract shall be included in the "Lump Sum" price for each location as listed in the Proposal. All items of work shown on the Plans, or otherwise indicated elsewhere within the Contract Documents, and any incidentals required to complete the work shall be considered as part of the Lump Sum bid prices. Any item of work not explicitly noted within the Contract Documents, but required to complete the work, shall be considered part of, and included in, the Lump Sum bid prices.

5. MBE AND TRAINEE REQUIREMENTS

The Minority Business Enterprise (MBE) goal for this Contract is 10 percent. There is no trainee requirement for this Contract.

6. CONTRACT SUBMITTAL LIST (CSL)

Refer to Special Provision Code 105.02 for plan and shop drawing submission requirements. Necessary shop drawings and submittals may be submitted for items including, but not limited to, the following:

- Breakdown of Lump Sum items for each of the locations and as listed in the Proposal
- Stormwater treatment device
- Stone for infiltration system
- Storm drainage and infiltration pipe

In addition, the following shall be submitted within 21 calendar days of substantial completion:

- Certificates of Compliance for all materials used.
- Final record drawings of the project sites are required upon completion of the work. The Contractor shall provide an electronic version of these drawings in both PDF and ACAD format on CD to the Department. These record drawings will not be reviewed by the Department but shall be submitted for the final record. Final payment will not be made until all required shop drawings and submittals have been received.

7. UTILITY AND MUNICIPAL NOTIFICATION AND COORDINATION

The Contractor shall coordinate with the utility companies as part of this project. Existing utilities will remain in-place and undisturbed throughout the construction duration without any disruption to service. The Contractor shall adhere to all clearances and safety requirements of the affected utility company.

The number, type, size, and locations of utilities on the Contract Plans are approximate and based on record plans. The Contractor shall check and verify the exact location of all existing utilities, both overhead and underground, with Dig Safe at (888) DIG-SAFE in Rhode Island. Any damage to utilities resulting from the Contractor's operations shall be the Contractor's responsibility. Costs of such damage shall be borne by the Contractor. No excavation shall be done until all involved utility companies are notified at least three business days in advance. During the progress of the work, the Contractor shall cooperate with the Owners of the utilities and permit their representative's access to the work to determine if their utilities are being endangered in any way. The Contractor shall schedule his construction so as to allow for a coordinated highway and utility effort. Upon award, the Contractor shall notify all utilities relative to the anticipated construction start date. Immediately following the Pre-construction Conference, the Contractor shall initiate any survey layout required for utilities.

Existing utilities have been shown on the Plans using the best available information and are approximate. The Contractor shall check and verify the location of all existing drainage and utilities, both underground and overhead, before any work begins, in accordance with Chapter 39-1.2 of the Rhode Island General Laws entitled "Excavation Near Underground Utility Facilities," with all amendments effective as of November 1, 2009 and, when necessary, by contacting the individual utility companies. All work shall be in accordance with all statutes, ordinances, rules and regulations of any applicable city, town, state or federal agency. The Contractor should be aware that not all utility companies subscribe to the Dig Safe Program. It is the Contractor's responsibility to ensure that all utility companies have been notified and all utilities have been marked prior to commencing their work.

During the progress of the work, the Contractor shall cooperate with the Owners of the utilities and permit their representative's access to the work to determine if their utilities are being endangered in any way.

Contact List:

Rhode Island Department of Transportation
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Warwick Department of Public Works
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Warwick Sewer Authority
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Director
Phone: 401-468-4700
Email: Janine.Burke-Wells@warwickri.com

Warwick Police Department
Colonel Rick Rathbun
Chief of Police
Phone:401-468-4220
Email: WPDchief@warwickri.com

Century Link (Previously Level 3 Communications)
Mike Wiemer
Senior Outside Plant Engineer
Phone: 857-706-6388
Email: mike.wiemer@centurylink.com

Dig Safe

The locations of all utilities as shown on the plans are approximate. The Contractor shall use care when working in or within the vicinity of existing drainage structures and underground utilities. The Contractor shall check and verify the location of all existing utilities and service connections both underground and overhead in accordance with the "Dig Safe Program Law" enacted by Rhode Island Legislation Bill No. 79S-291, which became effective July 1, 1979 and was amended effective November 1, 2009. No excavation shall be done until all involved utility companies and Dig Safe are notified 48 hours in advance. The Contractor must be aware that not all utility companies subscribe to the Dig Safe Program. It is the Contractor's responsibility to ensure that all utility companies have been notified and all utilities have been marked prior to commencing their work. Any damage to existing utilizes marked in the field, or as a result of failing to contact the appropriate utility company, shall be repaired or replaced at no additional cost to the State. The Contractor shall contact Dig Safe (1-888-344-7233) prior to commencing with construction.

8. SEQUENCE OF CONSTRUCTION

Work may be performed concurrently to meet the completion date.

All construction layout, survey and field measurements, as required, will be incidental to this Contract. Any clearing or site preparation required for access shall be considered incidental to the Lump Sum bid price

The Contractor shall be responsible for maintaining drainage and runoff throughout the work area. All materials and work associated with such measures shall be considered incidental to the construction and included as part of the Lump Sum bid price for each location.

The Contractor shall maintain access to all private properties and local businesses during the entire project duration. All curb cuts and openings shall be maintained. In addition, if separate agreements are made with private property owners, the Contractor shall provide to the Engineer copies of any agreements or easements obtained.

The proposed construction staging areas must be coordinated with the Engineer for approval prior to the start of work. There shall be no parking or storage of construction equipment under the drip lines of any trees.

The Contractor shall operate and work in accordance with all applicable permit requirements.

9. SPECIAL REQUIREMENTS FOR TRAFFIC MAINTENANCE AND PROTECTION

The Transportation Management Plan (TMP) for this project is included in Appendix A. The TMP lays out the set of coordinated transportation management strategies that shall be used to manage the work zone safety and mobility impacts of this project. In the event of a discrepancy between information in the TMP and information elsewhere in the Contract Documents, the former shall govern.

The Contractor's attention is called to the applicable sections of Section 100 of the Rhode Island Standard Specifications for Road and Bridge Construction 2004 (amended March 2018 with all supplements), which describes the requirements for the Contractor's designation of a TMP Implementation Manager for the Contract, and also which describes the requirements for the training of all Contractor and Subcontractor personnel involved in work zone design, implementation, operation, inspection, management, and/or enforcement.

The Department's latest Training Guidelines for Personnel Responsible for Work Zone Safety & Mobility are available under the "Training" section at:
http://www.dot.ri.gov/business/contractorsandconsultants.php

In addition to the requirements of the Standard and Supplemental Specifications, and the special requirements of other sections of these Contract Documents, the following requirements shall be undertaken by the Contractor:

The Contractor shall perform the proposed work during the day as specified in this General Provision and in the Transportation Management Plan (TMP). Deviations from the requirements stated herein or detailed in the Contract Plans, as well as any deviation from the approved construction work sequence and time schedule, shall be submitted to the Engineer in writing for approval. Approval of the Engineer shall be obtained before any modified traffic control is put in place.

The Contractor shall sequence the work within all phases of the construction in a manner that utilizes the work zones, right-of-way, and traffic lane configurations, closures and detours established in the Contract Plans and which minimizes disruptions and impacts to vehicular traffic. When work commences in such areas, it shall be expeditiously completed without unnecessary interruptions. Due to the limited available area, multiple traffic persons and flag persons may be required to periodically stop traffic in the work area for access and egress of equipment. It is the Department's intent to keep these interruptions to traffic flow to a minimum. In the event these delays are deemed unacceptable, the Contractor shall be required to re-sequence his construction operations at no additional cost to the Department.

The Contractor is advised that the signs and other traffic control devices shown on the Traffic Control Details in the Contract Documents are minimum requirements, and it is the Contractor's responsibility to supplement signs and other controls if necessary, to ensure public safety. All maintenance and protection of traffic devices must be in place and approved by the Engineer before any construction may commence. All maintenance and protection of traffic shall conform to the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD), with all revisions.

The measurement and payment for all traffic control devices and for the maintenance and movement of traffic protective devices shall be included under the Lump Sum bid price for each location as listed in the Proposal.

The construction operations of this project must be coordinated with the local community public safety officials. In case of any emergency, the Contractor will be required to move equipment, and allow the passage of emergency vehicles. Public safety must be considered all the time.

The Contractor shall always be responsible for maintenance of appropriate construction-related signing. All temporary construction signs not appropriate for the construction activity taking place shall be removed, covered, or otherwise concealed. This includes the period between erecting the signs, and the start of construction, as well as when a construction phase is completed, or suspended. All signs not appropriate for lane closures, speed limits or construction activity taking place at any given time shall be removed or covered to the satisfaction of the Engineer.

Temporary construction signs shall be placed so they do not encroach upon the traveled way nor block sidewalks. Signs shall be trimmed when placed on median barrier to avoid encroaching on open travel lanes. This work shall be considered incidental, and no extra payment will be made. All temporary signs shall be erected so that they are not obstructed by barrels or cones.

The Engineer may require, at his discretion, the use of flag persons to control construction traffic entering and leaving the work areas at no additional cost to the Department.

The Contractor shall make every effort to accommodate school bus drop-off and pick-ups, business deliveries, and emergency vehicle access throughout the duration of the project. The Contractor shall also adhere to the following restrictions:

- The Contractor shall notify the Engineer at least two weeks prior to any closures.
- The Engineer will be responsible to notify the fire, police, school departments, town officials, and, if possible, adjacent property owners, of all periodic road and driveway closures.
- All moving operations (i.e. placement of cones, striping, etc.) shall be in accordance with the latest editions of the Manual on Uniform Traffic Control Devices (MUTCD).
- All full lane closures, splits, or shifts unless approved by the Administrator of Project Management or his designee shall be scheduled to begin on Friday or Saturday night as determined by the TMP to allow motoring public time to adjust to new travel patterns while allowing RIDOT the opportunity to evaluate its success. TMP modifications or revisions may be required in advance to allow for weekend work. All full lane closures, splits or shifts unless approved by the Administrator of Project Management or his designee shall not be installed or remain in place during the winter shutdown period.

10. TRAFFIC FINES IN WORK ZONES

The Traffic Fines in Work Zone Regulatory Signs which are included with the Rhode Island Standard Details, shall be located as shown on the detail whenever construction activities are in process, and construction personnel are present. Signs shall be located at each work zone. When construction activities and personnel are not present, the signs shall either be removed from the site or covered in a manner that satisfies the Engineer.

11. SURVEY LAYOUT NOTES

Prior to removal of existing curb, drainage structures, or gutter line pavement, the Contractor must coordinate with the Engineer. The Contractor's survey crews shall establish all existing curb (where the curb line is not changing), back of sidewalk, and rim elevations. Once these grades have been established, the Contractor may remove curb, drainage structures, or gutter line pavement and then replace or reset them to the original elevations unless otherwise noted on the plans. There will be no separate payment for this type of survey work, as indicated in Section 934 of the Rhode Island Standard Specifications latest edition.

The Engineer will not authorize construction activities to begin until they are satisfied that all appropriate ground control has been established, tied down, and duly recorded in standard field books. It is the Contractor's responsibility to ensure that construction layout is provided in sufficient detail, thereby enabling them to construct the project in conformity with the plans, details and specifications.

12. RIGHT-OF-WAY AND DAMAGE TO PROPERTY

All work shall be completed from within the existing State Right-of-Way. The Contractor shall not use private property for site access or to stage/store equipment or materials without written consent by the property owner(s). If the Contractor desires to use additional areas outside of the Right-of-Way, they shall arrange for such areas at their own expense.

The Contractor shall take adequate precautions to avoid unnecessary damage to pavements, utilities, or private properties. The Contractor shall promptly repair (in kind), at their own expense, any damage attributed to his work to such pavements, utilities, or private property to the satisfaction of the Engineer.

The Contractor shall assume all risk and liability for their equipment left on site during both working and non-working hours.

13. TEST PIT LOGS

Test Pits were taken at various locations throughout the project area. See Appendix D for a copy of the Test Pit logs.

14. PAVEMENT CORES REPORT

Pavement Cores were taken at various locations throughout the project area. See Appendix E for a copy of the Pavement Core report.

15. INCIDENT MANAGEMENT

In the event of an accident, or other unforeseen incident, the Contractor shall positively cooperate with local authorities by providing traffic control devices, personnel, equipment and material as required, both on and off site. The Contractor shall assist in whatever way possible to clear debris from the roadway and maintain traffic flow. Payment for this work shall be on a force account basis. If the personnel are not available on site, they shall be "on call," and able to respond to the site within one hour of notification to the Contractor's appointed representative by phone, or in person to the Department.

16. CONTRACTOR'S RESPONSIBILITY FOR DAMAGED STORM DRAINS

The Contractor shall use care when working within or in the vicinity of existing drainage structures. Any drainage pipe or culverts damaged while carrying out work on this contract shall be the Contractor's responsibility. Any pipe/culvert damaged by the Contractor while carrying out this contract shall be replaced or repaired by the Contractor to the satisfaction of the Engineer at no additional cost to the Department.

17. CONTRACTOR'S RESPONSIBILITY FOR DAMAGED UTILITY FACILITIES

The Contractor shall coordinate with utility companies to provide adequate protection of all overhead and underground facilities. The Contractor shall use care when working within or in the vicinity of existing utilities. The Contractor shall be responsible for any damages to the existing overhead and underground utilities and shall restore the utilities to the satisfaction of the Engineer, at no additional cost to the Department or utility companies.

18. COORDINATION WITH OTHER CONTRACTS

It shall be the Contractor's responsibility to coordinate, cooperate, and schedule his work and all segments thereof with the Engineer, other contractors, property owners, utility owners, and applicable local authorities, so as to minimize impacts to all existing and/or future construction project schedules. Refer to Section 105.07 of the Standard Specifications for additional information.

19. CONSTRUCTION ACCESS

The Contractor shall note that access to the work sites is limited to the existing right-of way. The Contractor shall make a thorough site visit to each location and assess and evaluate size and type of equipment and/or personnel necessary for the construction of this project prior to submitting a bid.

The Contractor shall not encroach upon adjacent private properties and shall operate within the project limits, as shown on the plans.

If the Contractor's proposed means and methods extend beyond the project limits, it shall be responsible for obtaining any and all additional permits as necessary to access any portion of the construction site utilizing the selected means and methods. There will be no additional compensation for costs that may be incurred as a result of any operation necessitated to provide for said access other than those shown in the Contract Documents. Copies of the permit, obtained by the Contractor, including any original stamped plans shall be provided to the Engineer prior to conducting the approved work and will become the property of RIDOT. Any such plans will be kept by the RIDOT personnel for the duration of the project.

All costs associated with additional permits shall be borne by the Contractor. Delays associated with the acquisition of such permits or the respective construction operations will not be considered a basis for schedule adjustments or waiver of liquidated damages.

All costs associated with the Contractor's means and methods for job site access and final site restoration of the site to pre-construction conditions will be considered incidental to the associated Lump Sum items in the proposal; there will be no separate payment for these means and methods.

20. POLICE COMPENSATION

It will be the responsibility of the Resident Engineer to retain the services of the State and local police details for this project. The Contractor will not be required to bid on, nor provide compensation for the services of State and local police.

21. STORMWATER POLLUTION PREVENTION PLAN

Included as Appendix C to these Contract Specific General Provisions is the Small Site Stormwater Pollution Prevention Plan (SWPPP) for this project. It shall be the Contractor's responsibility to adhere to all restrictions as stated or implied by the plan and orders attached hereto and included as part of these Contract Documents.

There will be no special payment for work done to comply with these plans and orders.

22. ENVIRONMENTAL PERMITS AND COORDINATION

The environmental permits for this project are included in Appendix B of these Contract Specific General Provisions. The permits contain conditions and stipulations for the work to which the Contractor shall adhere.

An archaeological monitoring program shall be conducted during the excavation activities along Old Forge Road. The Contractor will not be required to bid on, nor provide compensation for the services of the archaeological monitors; however, the Contractor will be required to alter excavation operations to facilitate the monitoring effort as detailed in these Special Provisions under the Job Specific Specification Code 202.9901, Excavation–Archaeological Monitoring. The Contractor shall notify the Resident Engineer a minimum of two weeks prior to any excavation activity in order to coordinate with the archaeological monitoring program.

APPENDIX A
TRANSPORTATION MANAGEMENT PLAN (TMP)

LEVEL 3 TRANSPORTATION MANAGEMENT PLAN

Project Name:	Stormwater Treatment Retrofit Greenwood Creek (RI0007025R-11) Greenwich Cove (RI0007025E-05A)
RI Design Contract No(s):	2016-EE-054
RI Construction Contract No(s):	2019-CM-073
Submission:	ADV
Date:	4/14/2020

PROJECT INFORMATION

Brief Project Description:

The Greenwood Creek portion of the project, along the Post Road Extension, will consist of removing the paved shoulders and replacing them with grass areas. It also includes improvements to the existing off-road drainage swales. Equipment may include construction vehicles such as loaders, dump trucks and backhoes. It is anticipated that local police details will be used.

The Greenwich Cove portion of the project, along Old Forge Road, will consist of the installation of a stormwater treatment device in the westbound lane of Old Forge Road. The project includes the installation and removal of a temporary short-term crossover. Equipment may include construction vehicles such as loaders, dump trucks, backhoes, pavers and cranes. It is anticipated that local police details will be used.

General Work Limits:

The work on Post Road Extension will take place from the Main Street overpass bridge to approximately 3,000 feet southerly. Traffic restrictions are anticipated to include typical shoulder closures and typical lane closures.

The work on Old Forge Road will take place at a westbound travel lane on the north side of Old Forge Road approximately 400 feet east of the Amtrak railroad overpass bridge. The work will require the closing of the westbound travel lane and constructing a temporary short-term crossover to allow for two-way traffic within the eastbound travel lane. One sidewalk will remain open at all times.

WORK ZONE LOCATIONS

ROADWAY NAME or INTERSECTION	FROM	TO	APPROX. LENGTH
Post Road Extension (US Rte. 1) S-Bound	Main Avenue (Rte. 113)	2,700 ft south of Main Ave	**2,700 ft**
Post Road Extension (US Rte. 1) N-Bound	Main Avenue (Rte. 113)	2,400 ft south of Main Ave	**2,400 ft**
Post Road Extension (US Rte. 1) Median	2,100 ft south of Main Ave. (Rte.113)	3,000 ft south of Main Ave	**900 ft**
Old Forge Road (westbound travel lane)	300 ft east of Amtrak	600 ft east of Amtrak	**300 ft**

General Project Schedule*:

It is anticipated that the work will begin in Spring 2020 and be completed by Fall 2020.

*The information in this section is not intended to and shall not supersede the approved schedule and milestone/completion dates for the project.

TRAFFIC-RELATED WORK RESTRICTIONS

General Restrictions:

See Attachment A - General Restrictions

Holiday Restrictions:

No lane and/or shoulder closure shall be allowed after 13:00 (1:00 PM) on the Friday proceeding a holiday weekend.

EASTER SUNDAY

No lane and/or shoulder closures allowed on Saturday and/or Sunday.

NEW YEARS DAY, INDEPENDENCE DAY, CHRISTMAS DAY

No lane and/or shoulder closures allowed after 13:00 (1:00 PM) on the day before the holiday.

No lane and/or shoulder closures allowed on the holiday.

VETERANS DAY

No lane and/or shoulder closures allowed after 13:00 (1:00 PM) on the day before the holiday.

No lane and/or shoulder closures allowed on the holiday.

DR. MARTIN LUTHER KING JR. DAY, MEMORIAL DAY, VICTORY DAY, LABOR DAY AND COLUMBUS DAY

No lane and/or shoulder closures allowed on Saturday, Sunday and/or Monday.

THANKSGVING DAY

No lane and/or shoulder closures allowed after 13:00 (1:00 PM) on the Wednesday preceding Thanksgiving Day.

No lane and/or shoulder closures allowed on Thanksgiving Day, and/or the following Friday, Saturday, and Sunday.

TEMPORARY TRAFFIC CONTROL PLANS

These RIDOT- and/or Designer-Developed TTC Plans will be used during the work on this project

	RIDOT TYPICAL TTC PLANS	Included in: TMP	Included in: Plan Set
	Mobile Operation		
	Work Beyond the Shoulder		
	Shoulder Closure - Two Lane Road		
√	Shoulder Closure - Limited Access	X	
	1-Side Lane Shift - Two Lane Road		
	2-Side Lane Shift - Two Lane Road		
	Lane Shift - Limited Access		
	Lane Closure - Two Lane Road		
	Lane Closure - Four Lane Road		
√	Lane Closure - Limited Access	X	
	Double Lane Closure - Limited Access		

DESIGNER-DEVELOPED TTC PLANS	Included in: TMP	Included in: Plan Set
TA-28 Sidewalk Detour or Diversion	X	
TA-39 (modified) Median Crossover on a Freeway	X	

PUBLIC INFORMATION PLAN

These strategies will be used to provide information concerning the project to road users and the community

SELECTED STRATEGIES	RESPONSIBILITIES / REQUIREMENTS / SPECIAL CONSIDERATIONS
RIDOT travel advisories news releases	RIDOT TMP Imp. Mngr. to send RIDOT notification form to Communications min. 48 hrs. in advance of restriction
RIDOT travel advisories web site	RIDOT TMP Imp. Mngr. to send RIDOT notification form to Communications min. 48 hrs. in advance of restriction
RIDOT 511 traveler information system	RIDOT TMP Imp. Mngr. to send RIDOT notification form to RIDOT TMC min. 48 hrs. in advance of restrictions.
Changeable message signs (CMS)	To inform motorists of the change in traffic patterns.

TRANSPORTATION OPERATIONS PLAN

These strategies will be used to provide improved transportation operations/safety within project work zones

SELECTED STRATEGIES	RESPONSIBILITIES / REQUIREMENTS / SPECIAL CONSIDERATIONS

PERFORMANCE MONITORING, CHANGES TO TMP, & CONTINGENCIES

The **Contractor's TMP Implementation Manager (if identified below)** is responsible for keeping the portion of the project being used by public traffic in a condition that (1) safely and adequately accommodates such traffic and (2) is in accordance with the Traffic-Related Work Restrictions, the Temporary Traffic Control Plans, and where appropriate, the other transportation management strategies identified above. The **RIDOT TMP Implementation Manager** or his/her responsible designee should (1) inspect the project work zones at initial setup, at the start of each subsequent work day, and just prior to extended breaks in the work (e.g., weekends) for conformance with the Temporary Traffic Control Plans, the *ATSSA Quality Guidelines for Temporary Traffic Control Devices and Features*, and where applicable, the other transportation management strategies identified above and (2) document all work zone-related feedback and complaints that are received from the public.

If at any time (1) a significant deviation from any of the strategies included in the TMP (e.g., the use of an alternate construction sequence) is desired by one or more members of the project implementation team, (2) field observations and/or data suggest that impacts to road users are or will be unacceptable, or (3) one or more performance requirements established in the TMP are not being met in the field, the RIDOT TMP Implementation Manager shall report the situation to his/her supervisor or Division/Section/Unit manager. The supervisor / manager will coordinate with the State Traffic Engineer, the Traffic Management Chief, the TMP Implementation Manager(s), the Chief Engineer, and/or other interested parties as appropriate and/or necessary to consider and determine whether revised and/or alternate strategies should be implemented in an effort to lessen the adverse safety and/or mobility impacts of the project. If the supervisor / manager deems that strategy changes should be implemented, the changes shall be documented in a revised version of the TMP and the Traffic Management Chief, the State Traffic Engineer, and the Chief Engineer must approve of the revised TMP prior to their implementation.

If a significant deviation from any of the strategies included in the TMP is requested by the Contractor, unless directed otherwise by the RIDOT the Contractor is responsible for preparing and submitting to the RIDOT TMP Implementation Manager appropriate documentation (e.g., design calculations, analysis reports, Temporary Traffic Control Plans, etc.) showing that the requested change(s) are (1) feasible and (2) expected to result in safety and mobility impacts that are no more adverse than the impacts resulting from the strategies already included in the latest approved TMP. The RIDOT will review and consider the submittal(s) as described in the preceding paragraph and will determine whether the changes should be implemented. If the requested changes are approved by the RIDOT, unless otherwise directed by the RIDOT the Contractor shall prepare and submit to the RIDOT TMP Implementation Manager a revised version of the latest approved TMP in both printed and electronic (Microsoft® Excel) format that documents all of the approved changes. Work to implement the changes shall not begin until the Traffic Management Chief, the State Traffic Engineer, and the Chief Engineer have approved of the revised TMP.

When unexpected events (e.g., crashes, inclement weather, unforeseen traffic demands, etc.) occur in a project work zone where one or more lanes are closed, the RIDOT TMP Implementation Manager or his/her responsible designee should (1) determine whether or not the lane closure(s) can/should be removed in order to improve traffic operations and/or minimize delays and (2) if deemed appropriate, take action to remove the lane closure(s).

Other Requirements:

TMP APPROVALS

All approvals must be obtained prior to start of work

Administrator, Project Management	STATE TRAFFIC ENGINEER	CHIEF ENGINEER
Signature: N/A	Signature:	Signature:
David W. Fish, P.E.	Steven W. Pristawa, P.E.	Robert Rocchio, P.E.
Date:	Date 4-30-20	Date: 4-30-20

Revision #	Initials	Date	Revision #	Initials	Date	Revision #	Initials	Date

TMP IMPLEMENTATION MANAGERS

Project managers with the primary responsibility & authority for implementation of this TMP

RIDOT		CONTRACTOR (if contract work)	
Name:		Name:	
Title:		Title:	
Unit:		Company/Unit:	
Office Phone:		Office Phone:	
Mobile Phone:		Mobile Phone:	
E-Mail:		E-Mail:	

Level 3 TMP - 2019-CM-073 Stormwater Treatment Retrofit

4/14/2020

TRAFFIC-RELATED WORK RESTRICTIONS

Attachment A - General Restrictions:

Location	Time of Day		MINIMUM NUMBER OF LANES TO REMAIN OPEN TO TRAFFIC[1,2,3,4]						
			Day of Week						
	From	To	SUN	MON	TUE	WED	THUR	FRI	SAT
Post Road Extension and Old Forge Road	0:00	7:00	1L	1L	1L	1L	1L	1L	1L
	7:00	19:00	1L	1L	1L	1L	1L	1L	1L
	19:00	0:00	1L	1L	1L	1L	1L	1L	1L

LEGEND

1L — A minimum of one travel lane shall remain open to traffic in each direction.
At Old Forge Road, a temporary crossover is proposed to help meet this requirement.

NOTES:

1 The set-up and break-down of temporary traffic control devices within a traveled way shall be construed as a closure of that traveled way.

2 The provisions noted herein shall not free the contractor from his responsibility to conduct all work in such a manner that safely assures the least possible obstruction to traffic.

3 At locations with a sidewalk(s), a minimum of one sidewalk on one side of the roadway shall remain open to pedestrians at all times, where applicable.

4 Access to and egress from all side streets, driveways, buildings, and other pedestrian pathways intersecting the project work zones shall be maintained at all times unless otherwise indicated on plans.

RIDOT Typical TTC Plans

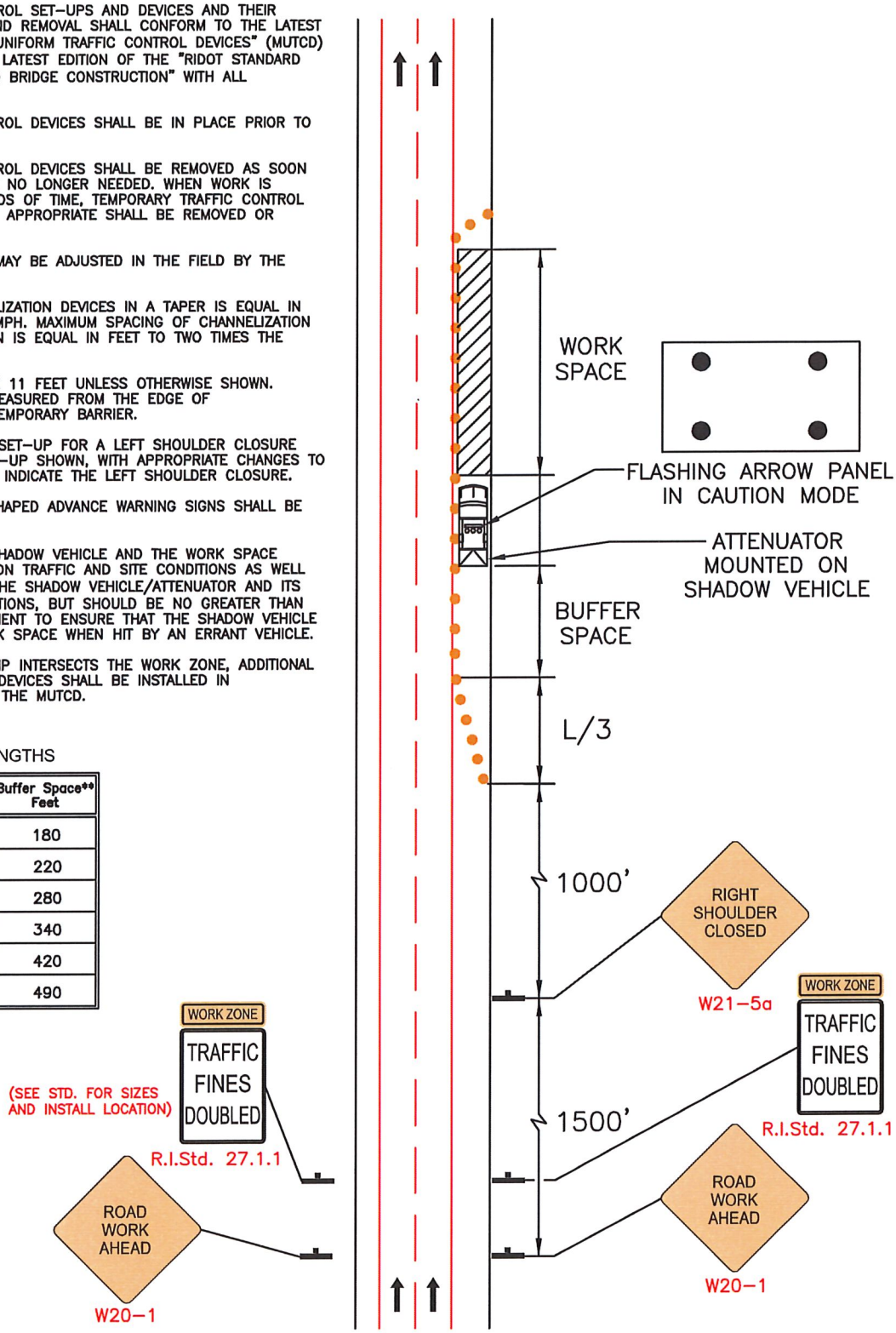
NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL SET-UPS AND DEVICES AND THEIR INSTALLATION, MAINTENANCE, AND REMOVAL SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) WITH ALL REVISIONS, AND THE LATEST EDITION OF THE "RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" WITH ALL REVISIONS.
2. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK.
3. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED AS SOON AS PRACTICAL WHEN THEY ARE NO LONGER NEEDED. WHEN WORK IS SUSPENDED FOR SHORT PERIODS OF TIME, TEMPORARY TRAFFIC CONTROL DEVICES THAT ARE NO LONGER APPROPRIATE SHALL BE REMOVED OR COVERED.
4. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
5. MAXIMUM SPACING OF CHANNELIZATION DEVICES IN A TAPER IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH. MAXIMUM SPACING OF CHANNELIZATION DEVICES IN A TANGENT SECTION IS EQUAL IN FEET TO TWO TIMES THE SPEED LIMIT IN MPH.
6. MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF CHANNELIZATION DEVICES OR TEMPORARY BARRIER.
7. TEMPORARY TRAFFIC CONTROL SET-UP FOR A LEFT SHOULDER CLOSURE SHALL BE SIMILAR TO THE SET-UP SHOWN, WITH APPROPRIATE CHANGES TO SIGNS AND OTHER DEVICES TO INDICATE THE LEFT SHOULDER CLOSURE.
8. THE SIZES OF ALL DIAMOND SHAPED ADVANCE WARNING SIGNS SHALL BE 48" X 48".
9. THE DISTANCE BETWEEN THE SHADOW VEHICLE AND THE WORK SPACE SHOULD BE SELECTED BASED ON TRAFFIC AND SITE CONDITIONS AS WELL AS THE CHARACTERISTICS OF THE SHADOW VEHICLE/ATTENUATOR AND ITS MANUFACTURER'S RECOMMENDATIONS, BUT SHOULD BE NO GREATER THAN THE MINIMUM DISTANCE SUFFICIENT TO ENSURE THAT THE SHADOW VEHICLE WILL NOT ROLL INTO THE WORK SPACE WHEN HIT BY AN ERRANT VEHICLE.
10. WHERE A SIDE STREET OR RAMP INTERSECTS THE WORK ZONE, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH PART 6 OF THE MUTCD.

TAPER AND BUFFER LENGTHS

Speed Limit	Taper Length* (L) Feet	Buffer Space** Feet
40 MPH	320	180
45 MPH	540	220
50 MPH	600	280
55 MPH	660	340
60 MPH	720	420
65 MPH	780	490

* Required
** Suggested



RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

TEMPORARY
TRAFFIC CONTROL PLAN

TYPICAL SHOULDER CLOSURE ON FREEWAY OR EXPRESSWAY

NOT TO SCALE

DATE: 12-23-08

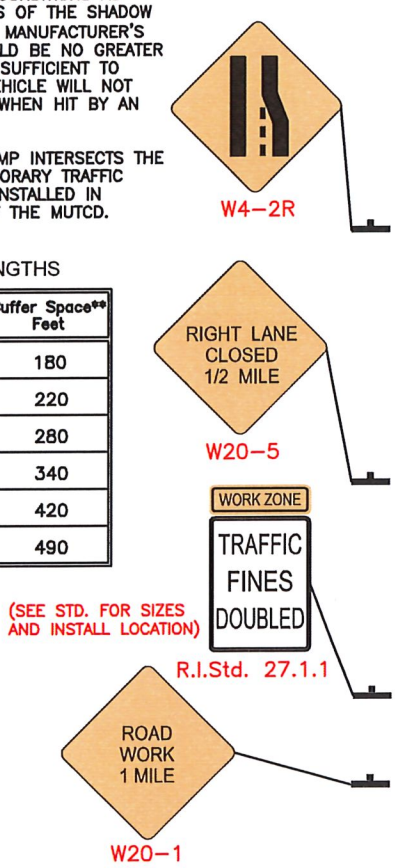
NOTES:

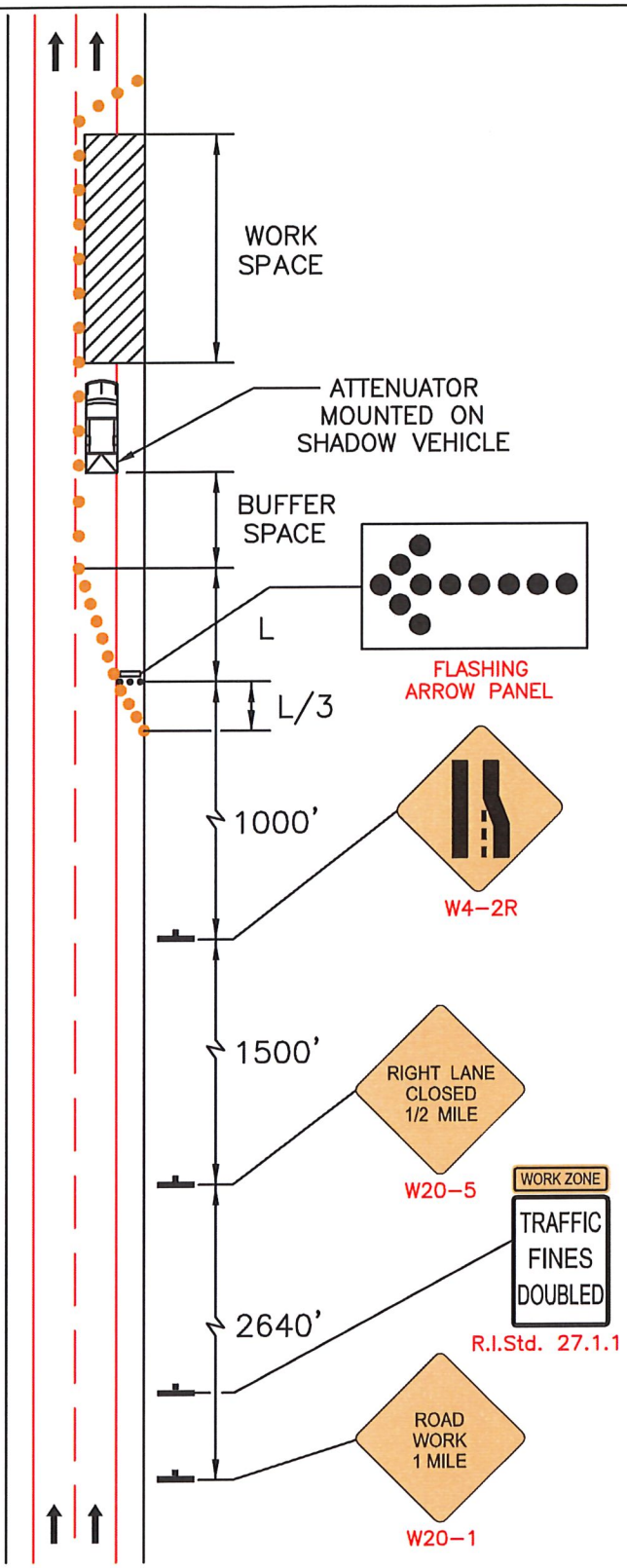
1. ALL TEMPORARY TRAFFIC CONTROL SET-UPS AND DEVICES AND THEIR INSTALLATION, MAINTENANCE, AND REMOVAL SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) WITH ALL REVISIONS, AND THE LATEST EDITION OF THE "RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" WITH ALL REVISIONS.
2. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK.
3. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED AS SOON AS PRACTICAL WHEN THEY ARE NO LONGER NEEDED. WHEN WORK IS SUSPENDED FOR SHORT PERIODS OF TIME, TEMPORARY TRAFFIC CONTROL DEVICES THAT ARE NO LONGER APPROPRIATE SHALL BE REMOVED OR COVERED.
4. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
5. MAXIMUM SPACING OF CHANNELIZATION DEVICES IN A TAPER IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH. MAXIMUM SPACING OF CHANNELIZATION DEVICES IN A TANGENT SECTION IS EQUAL IN FEET TO TWO TIMES THE SPEED LIMIT IN MPH.
6. MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF CHANNELIZATION DEVICES OR TEMPORARY BARRIER.
7. TEMPORARY TRAFFIC CONTROL SET-UP FOR A LEFT LANE CLOSURE SHALL BE SIMILAR TO THE SET-UP SHOWN, WITH APPROPRIATE CHANGES TO SIGNS AND OTHER DEVICES TO INDICATE THE LEFT LANE CLOSURE.
8. THE SIZES OF ALL DIAMOND SHAPED ADVANCE WARNING SIGNS SHALL BE 48" X 48".
9. THE DISTANCE BETWEEN THE SHADOW VEHICLE AND THE WORK SPACE SHOULD BE SELECTED BASED ON TRAFFIC AND SITE CONDITIONS AS WELL AS THE CHARACTERISTICS OF THE SHADOW VEHICLE/ATTENUATOR AND ITS MANUFACTURER'S RECOMMENDATIONS, BUT SHOULD BE NO GREATER THAN THE MINIMUM DISTANCE SUFFICIENT TO ENSURE THAT THE SHADOW VEHICLE WILL NOT ROLL INTO THE WORK SPACE WHEN HIT BY AN ERRANT VEHICLE.
10. WHERE A SIDE STREET OR RAMP INTERSECTS THE WORK ZONE, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH PART 6 OF THE MUTCD.

TAPER AND BUFFER LENGTHS

Speed Limit	Taper Length* (L) Feet	Buffer Space** Feet
40 MPH	320	180
45 MPH	540	220
50 MPH	600	280
55 MPH	660	340
60 MPH	720	420
65 MPH	780	490

* Required
** Suggested





RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

TEMPORARY
TRAFFIC CONTROL PLAN

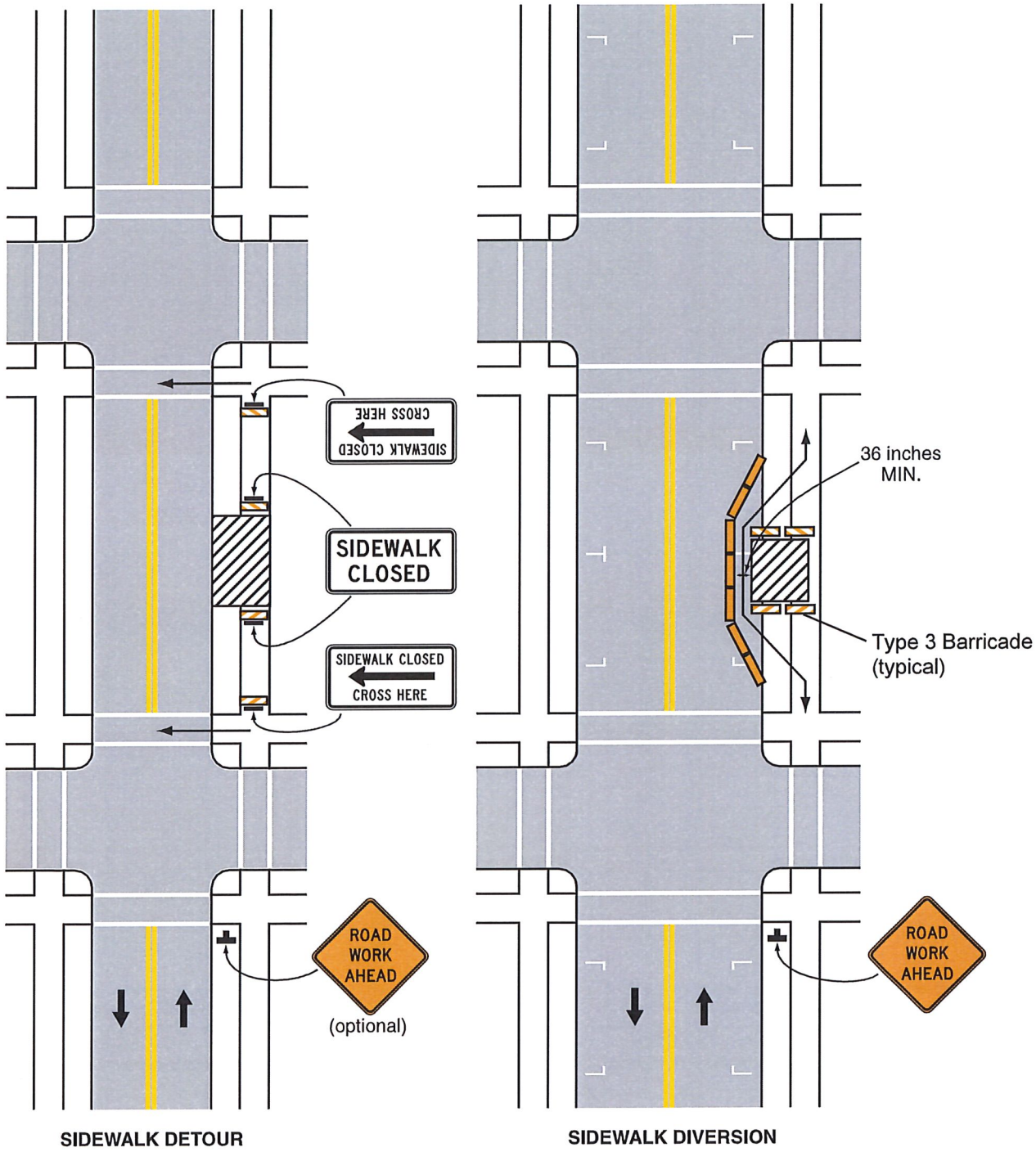
TYPICAL LANE CLOSURE ON FREEWAY OR EXPRESSWAY

NOT TO SCALE

DATE: 12-23-08

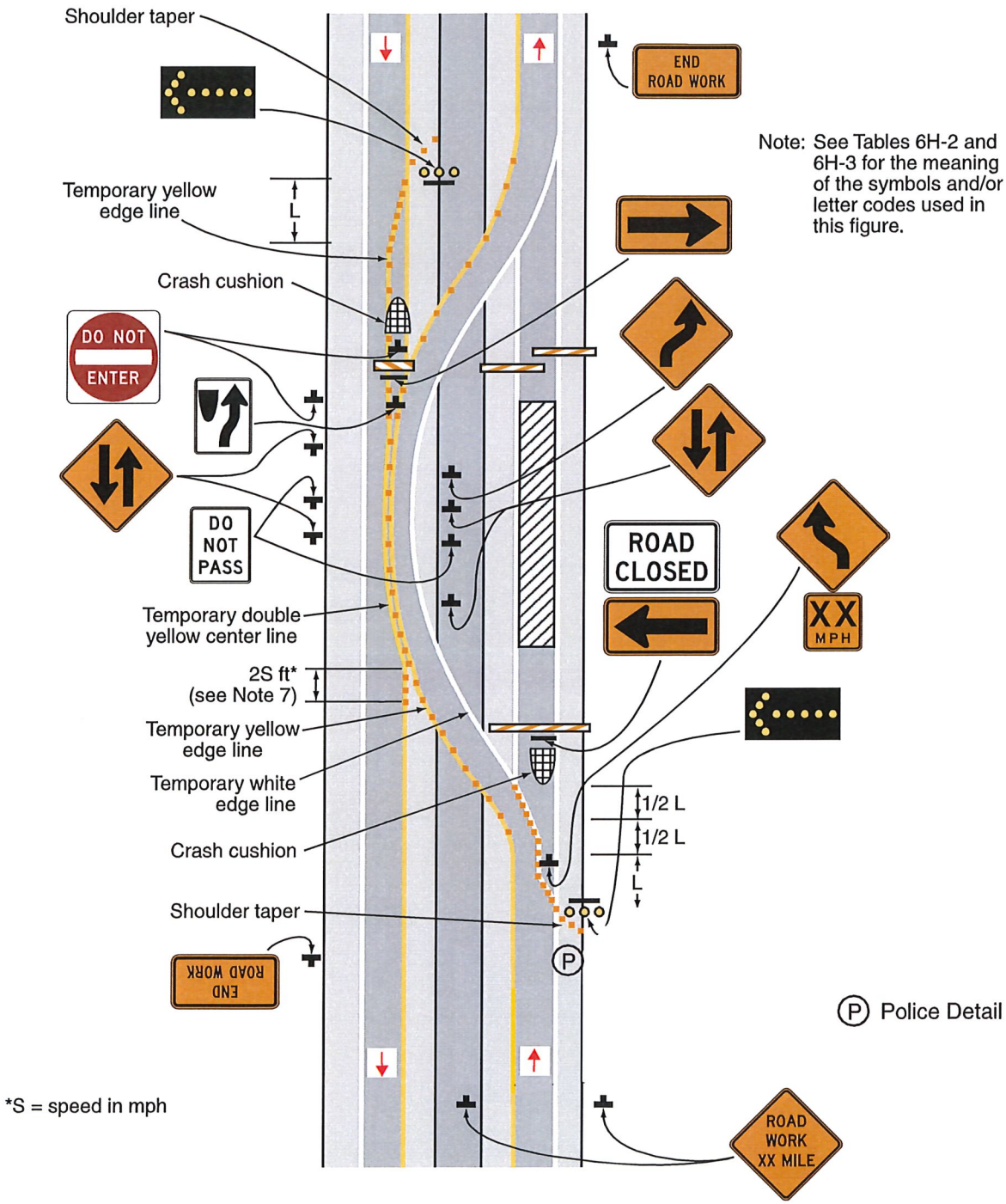
Designer-Developed TTC Plans

Figure 6H-28. Sidewalk Detour or Diversion (TA-28)



Typical Application 28

Figure 6H-39. Median Crossover on a Freeway (TA-39)



Typical Application 39
(Modified)

APPENDIX B
ENVIRONMENTAL PERMITS

State of Rhode Island and Providence Plantations
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 116
Wakefield, RI 02879-1900

(401) 783-3370
Fax (401) 783-2069

ASSENT

CRMC File No.: 2019-07-056 CRMC Assent No.: A2019-07-056

Whereas, **RI Department of Transportation**
of **360 Lincoln Ave**
Warwick, RI 02888

has applied to the Coastal Resources Management Council for assent to: installation of an underground infiltration system, drainage manholes, & a pretreatment system. This structural treatment unit is being implemented as part of a stormwater control plan for Greenwich Cove, and represents that they are the owner(s) of the riparian rights attached to the property involved and submitted plans of the work to be done.

Now, said Council, having fully considered said application in accordance with all the regulations as set forth in the Administrative Procedures Act does hereby authorize said applicant, subject to the provisions of Title 46, Chapter 23 of the General Laws of Rhode Island, 1956, as amended, and all laws which are or may be in force applicable thereto: **installation of an underground infiltration system, drainage manholes, & a pretreatment system. This structural treatment unit is being implemented as part of a stormwater control plan for Greenwich Cove**; located at Old Forge Road, Warwick, RI, in accordance with said plans submitted to this Council and approved by this Council. All work being permitted must be completed on or before **August 6, 2022** after which date this assent is null and void, (unless written application requesting an extension is received by CRMC sixty (60) days prior to expiration date).

Applicant agrees that as a condition to the granting of this assent, members of the Coastal Resources Management Council or its staff shall have access to applicant's property to make on-site inspections to insure compliance with the assent.

Licensee shall be fully and completely liable to State, and shall waive any claims against State for contribution or otherwise, and shall indemnify, defend, and save harmless State and its agencies, employees, officers, directors, and agents with respect to any and all liability, damages (including damages to land, aquatic life, and other natural resources), expenses, causes of action, suits, claims, costs (including testing, auditing, surveying, and investigating costs), fees (including attorneys' fees and costs), penalties (civil and criminal), and response, cleanup, or remediation costs assessed against or imposed upon Licensee, State, or the Property, as a result of Licensee's control of the Property, or Licensee's use, disposal, transportation, generation and/or sale of Hazardous Substances or that of Licensee's employees, agents, assigns, sublicensees, contractors, subcontractors, permittees, or invitees.

Nothing in this assent shall be construed to impair the legal rights of this granting authority or of any person. By this assent the granting authority by no manner, shape, or form assumes any liability or responsibility implied, or in fact, for the stability or permanence of said project; nor by this assent is there any liability implied or in fact assumed or imposed on the granting authority. Further, the granting authority by its representatives or duly authorized agents shall have the right to inspect said project at all times including, but not limited to, the construction, completion, and all times thereafter.

This Assent is granted with the specific proviso that the construction authorized therein will be maintained in good condition by the owner thereof, his heirs, successors, or assigns for a period of fifty (50) years from the

ATTENTION: ALL STRUCTURES AND FILLED AREAS IN THE TIDAL, COASTAL, OR NAVIGABLE WATERS OF THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS ARE SUBJECT TO:

1. The Superior Property Rights of the State of Rhode Island and Providence Plantations in the Submerged and Submersible Lands of the Coastal, Tidal, and Navigable Waters;
2. The Superior Navigation Servitude of the United States;
3. The Police Powers of the State of Rhode Island and the United States to regulate Structures in the Tidal, Coastal, or Navigable Waters.

THE SUBMERGED AND SUBMERSIBLE LANDS OF THE TIDAL, COASTAL, AND NAVIGABLE WATERS OF THE STATE ARE OWNED BY THE STATE AND HELD IN TRUST FOR THE PUBLIC. CONVEYANCE OF THESE LANDS IS ILLEGAL; TITLES PURPORTING TO TRANSFER SUCH LANDS ARE VOID. ASSENTS THAT INVOLVE THE FILLING OR USE OF THE STATES SUBMERGED LANDS ARE GRANTED WITH THE PROVISO THAT IT IS SUBJECT TO THE IMPOSITION OF A USAGE FEE TO BE ESTABLISHED BY THE COASTAL RESOURCES MANAGEMENT COUNCIL.

The lands adjacent to tidal waters and/or access to these lands may be impacted or rendered unusable in the future due to sea level rise, storm surge, and shoreline erosion. Online resources including STORMTOOLS, Shoreline Change Maps, and Sea Levels Affecting Marshes Model (SLAMM) Maps can be accessed through the CRMC website (www.crmc.ri.gov). The Council recommends the use of these resources to evaluate the flood extent and inundation from sea level rise, storm surge and erosion and damages to land, aquatic life, loss of public access and other natural resources on and near the site of the above assent. The project life may be shortened by these processes and may require additional adaptation measure up to and including relocation of the project. By issuing this assent the granting authority neither explicitly nor implicitly assumes any liability or responsibility for the stability or permanence of said project under future climate and shoreline conditions.

SPECIFIC STIPULATIONS OF APPROVAL

General Stipulations

A. For the purpose of this permit, the coastal feature shall be the coastal wetland backed by coastal bluff; and the inland edge of the coastal feature shall be the inland edge of the coastal bluff.

B. The approved plans shall be those entitled "STATE OF RHODE ISLAND, STORMWATER TREATMENT RETROFIT, GREENWOOD CREEK, GREENWICH COVE…" sheets 1-12 of 20, designed by Crossman Engineering, stamped by Steven M. Cabral, P.E. and dated June 2019. Except as stipulated or modified herein, all details and specifications thereon shall be strictly adhered to. Any and all changes require written approval from this office.

Earthwork Stipulations

A. The approved Soil Erosion and Sediment Control Plan (SESCP) shall be that contained on the CRMC approved site plan (referenced herein).

B. Prior to conducting earthwork and other land disturbing activities, the erosion, runoff and sediment control measures shown on the approved plan and/or those measures specified herein shall be installed and maintained in accordance with good engineering practices including the applicable details found in the manufacturer's specifications and/or in the Rhode Island Soil Erosion and Sediment Control Handbook (as amended). These measures must be maintained until the site is stabilized through the establishment of vegetative cover and/or construction of the approved facilities (buildings, roadways, parking areas, etc.) has stabilized soils sufficiently to prevent erosion and sedimentation.

Building Stipulations

A. All pertinent requirements of the RI State Building Code as administered by the local building official shall be strictly adhered to.

Stormwater Stipulations

A. The permittee shall construct and maintain the stormwater management practices in accordance with the CRMC approved plans.

B. The permittee shall construct and maintain all erosion and sediment control practices in accordance with the CRMC approved plans and SWPPP dated May 30, 2019.

C. All stormwater management practices shall be operated and maintained in accordance with the Operation and Maintenance (O & M) Plan dated June 2019 entitled "LONG TERM OPERATION AND MAINTENANCE PLAN FOR STORMWATER TREATMENT RETROFIT – GREENWICH COVE, OLD FORGE ROAD, WARWICK RI…" by Crossman Engineering.

In Witness Whereof, said Coastal Resources Management Council has hereto set their hands and seal this **6th day of August in the year two-thousand-and-nineteen.**

Jeffrey M. Willis, Deputy Director
Coastal Resources Management Council

/ajt

State of Rhode Island and Providence Plantations

COASTAL RESOURCES MANAGEMENT COUNCIL

NOTICE OF

ASSENT

CRMC Assent No.: A2019-07-056 Date: August 6, 2019

This certifies that **RI Department of Transportation**
has permission to installation of an underground infiltration system, drainage manholes, & a pretreatment system. This structural treatment unit is being implemented as part of a stormwater control plan for Greenwich Cove

situated at Old Forge Road
Plat No. _____ Lot No. _____

Said construction operations to be done in accordance with an approved assent on file in the Offices of the Coastal Resources Management Council and subject further to all the provisions of the building ordinances of the :

City/Town of **Warwick**

and to all the applicable State, Local and Federal provisions. This assent shall expire three (3) years from the date of this assent.

Amanda Turco
Official Designee
Coastal Resources Management Council

THIS CARD MUST BE DISPLAYED IN A CONSPICUOUS PLACE ON THE PREMISES.
FAILURE TO DISPLAY WILL RESULT IN LEGAL ACTION.

RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 Promenade Street, Providence, Rhode Island 02908-5767

September 16, 2019

Rhode Island Department of Transportation (RIDOT)
Ms. Alisa Richardson
360 Lincoln Avenue
Warwick, RI 02888

RE: Greenwich Cove SCP Priority 1 STU
Old Forge Road
Warwick, RI
WQC / STW File No. 19-142; UIC File No. 001930

Dear Ms. Richardson:

The RIDEM Office of Water Resources has reviewed the above referenced project for compliance with the RIDEM Stormwater Management, Design and Installation Rules (250-RICR-150-10-8), and the RIDEM Groundwater Discharge (GWD)/Underground Injection Control (UIC) Program (Groundwater Discharge Rules: 250-RICR-150-05-4).

Purpose: The purpose of the project is to construct and maintain a stormwater treatment unit (STU) to reduce stormwater generated pollutants from reaching Greenwich Cove to improve water quality. This STU infiltrates 100% of the water quality volume generated from approximately 4 acres of impervious roads and residential properties. This STU consist of two separate underground infiltration systems (UIS) each enclosed within washed crushed stone beds; the first system contains 9 ADS N-12 36" perforated pipe chambers with a total system length of 70ft and the second system contains 18 ADS N-12 36" perforated pipe chambers with a total system length of 130ft. The STU also contains one CONTECH VORTECH 2000 to provide pre-treatment, and all stormwater generated for storms greater than 1.2" of precipitation will by-pass the STU.

This office has reviewed the subject application and site plans entitled "Rhode Island Department of Transportation Plan of Proposed State Highway Stormwater Treatment Retrofit Greenwich Cove (RI0007025E-025A), Old Forge Road, City of Warwick, County of Kent," Sheets 1 though 8, dated June 2019, stamped by: Steven M. Cabral, P.E. of Crossman Engineering, 151 Centerville Road, Warwick, RI 02886.

It has been determined that the proposed project is in compliance with the regulations administered by the Office of Water Resources, provided the Applicant complies with the application material and the following conditions:

1) You must notify this Office in writing of the anticipated start date, and of your contractor's contact information, by submitting the Notice of Start of Construction Form prior to commencement of any permitted site alterations or construction activity. You must also notify this Office in writing upon completion of the project, including (if applicable) submittal of the Notice of Termination Form. The Start of Construction Form and the Notice of Termination can be found on the webpage: dem.ri.gov/stormwaterconstruction.

2) Prior to construction, you **shall** erect or post a sign resistant to the weather and at least twelve (12) inches wide and (eighteen) inches long, which boldly identifies the initials "DEM" and the application number(s) assigned to this permit. The sign must be maintained at the site in a conspicuous location until such time that the project is complete.

3) All fill material **shall** be clean and free of matter that could cause pollution of the waters of the State.

4) The stormwater collection and treatment system approved herein is for the discharge of stormwater only. Any other discharge is prohibited.

5) Any alterations, additions or modifications to the stormwater system from that approved herein, including permanent closure **must** be reviewed and approved by RIDEM prior to being affected.

6) Within 30 days after completion, a Notice of Completion of Construction and Installation (or Notice of Termination for the CGP) confirming that construction and installation has been completed in accordance with the approved plans **shall** be submitted to the DEM Office of Water Resources. If modifications were made in the field that have more than a minimal impact on the functions of the stormwater system, as-built drawings must be provided with the Notice of Completion/Termination.

7) The property owner is responsible to periodically inspect, clean, and maintain the stormwater collection and treatment system for the life of the system to ensure proper performance of all components as specified by the Applicant in the Stormwater Operation and Maintenance Plan entitled "Long Term Operation and Maintenance Plan for Stormwater Treatment Retrofit – Greenwich Cove, Old Forge Road, Warwick, RI," Dated: June 2019, Prepared by: Crossman Engineering, 151 Centerville Road, Warwick, RI 02886.

This UIC/GWD Registration will expire 4 years from the date of issuance if the stormwater discharge system has not been constructed and installed. Once a registration is expired, a new application must be submitted for any proposed activity subject to the Groundwater Discharge Rules.

In addition to any necessary enforcement actions stemming from the violation of any of the terms or conditions of this permit, issuance of this permit does not bar the Department, or any of its various Divisions, from instituting any investigation and/or enforcement actions that it may deem necessary for violations of any and all applicable statutes, regulations and/or permits, including but not limited to violations of the terms or conditions of any previous permit issued to you as an applicant or for this site.

This permit does not relieve your obligation to obtain any other applicable local, state and federal permits

prior to commencing construction. This permit has the full force and effect of a permit issued by the Director. If you have any questions regarding the contents of the permit, you may contact Mr. Tim Stagnitta, M.S., E.I.T. at 401-222-4700, Ext. 7243.

Sincerely,

Nicholas A. Pisani P.E.

Nicholas A. Pisani, P.E.
Supervising Sanitary Engineer
Construction Stormwater Engineering, Floodplain and 401 Permitting
Office of Groundwater and Wetlands Protection

NAP/TS/cam

ec: Alisa Richardson P.E. / RIDOT
Steven Cabral P.E. / Crossman Engineering
Neal Personeus RI DEM / Water Resources
Nicholas A Pisani P.E. RI DEM / Water Resources
Tim Stagnitta, E.I.T. RI DEM / Water Resources

RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 Promenade Street, Providence, Rhode Island 02908-5767

September 24, 2019

Rhode Island Department of Transportation (RIDOT)
Ms. Alisa Richardson
360 Lincoln Avenue
Warwick, RI 02888

RE: Stormwater Treatment Retrofit – Greenwood Creek
Post Road Extension
Warwick, RI
WQC File No. 19-154, RIPDES File No. RIR101936

Dear Ms. Richardson:

The RIDEM Office of Water Resources has reviewed the above referenced project for compliance with the RIDEM Stormwater Management, Design and Installation Rules (250-RICR-150-10-8) and the Rhode Island Pollutant Discharge Elimination System Construction General Permit (CGP).

Purpose: The purpose of the project is to construct and maintain three stormwater treatment units (STU) to reduce stormwater generated pollutants from reaching Greenwood Creek to improve water quality. RIDEM stormwater water quality standards are met by removing approximately one acre of existing impervious area. In addition, this project proposes three infiltration practices to provide additional water quality treatment for impervious areas associated with adjacent residential properties and roadway surfaces.

This office has reviewed the subject application and site plans entitled "Rhode Island Department of Transportation Plan of Proposed State Highway Stormwater Treatment Retrofit Greenwood Creek (RI0007025R-11), Post Road Extension, City of Warwick, County of Kent," Sheets 1 through 21, dated August 2019, stamped by: Steven M. Cabral, P.E. of Crossman Engineering, 151 Centerville Road, Warwick, RI 02886.

It has been determined that the proposed project is in compliance with the regulations administered by the Office of Water Resources, provided the Applicant complies with the application material, the Construction General Permit (if RIPDES #RIR101936) and the following conditions:

1) You must notify this Office in writing of the anticipated start date, and of your contractor's contact information, by submitting the Notice of Start of Construction Form prior to commencement of any permitted site alterations or construction activity. You must also notify this Office in writing

upon completion of the project, including (if applicable) submittal of the Notice of Termination Form. The Start of Construction Form and the Notice of Termination can be found on the webpage: dem.ri.gov/stormwaterconstruction.

2) Prior to construction, you **shall** erect or post a sign resistant to the weather and at least twelve (12) inches wide and (eighteen) inches long, which boldly identifies the initials "DEM" and the application number(s) assigned to this permit. The sign must be maintained at the site in a conspicuous location until such time that the project is complete.

3) As stated in the CGP, a copy of this permit, any inspection records, and a signed and updated SESC Plan, **must** be kept at the site at all times during site preparation, construction, and final stabilization. Copies of this permit must be made available for review by any DEM or City/Town representative upon request.

4) All fill material **shall** be clean and free of matter that could cause pollution of the waters of the State.

5) The stormwater collection and treatment system approved herein is for the discharge of stormwater only. Any other discharge is prohibited.

6) Any alterations, additions or modifications to the stormwater system from that approved herein, including permanent closure **must** be reviewed and approved by RIDEM prior to being put into effect.

7) Within 30 days after completion, a Notice of Completion of Construction and Installation (or Notice of Termination for the CGP) confirming that construction and installation has been completed in accordance with the approved plans **shall** be submitted to the DEM Office of Water Resources. If modifications were made in the field that have more than a minimal impact on the functions of the stormwater system, as-built drawings must be provided with the Notice of Completion/Termination.

8) The RIDOT is responsible to periodically inspect, clean, and maintain the stormwater collection and treatment system for the life of the system to ensure proper performance of all components as specified by the Applicant in the Stormwater Operation and Maintenance Plan entitled "Long Term Operation and Maintenance Plan for Stormwater Treatment Retrofit – Greenwood Creek, Post Road extension, Warwick, RI," Dated: July 2019, Prepared by: Crossman Engineering, 151 Centerville Road, Warwick, RI 02886.

Please be aware that the RIDEM's Rules and Regulations Governing the Establishment of Various Fees require that RIPDES CGP permit holders to pay an Annual Fee of $100.00. An invoice will be sent to the owner on record in May/June of each year if the construction was still active as of December 31st of the previous year. The owner will be responsible for the Annual Fee until the construction activity has been completed, the site has been properly stabilized, and a completed Notice of Termination (NOT) has been received by the RIPDES Program. A copy of the NOT can be found attached to the CGP on the web page referenced above.

Your authorization to discharge expires at midnight, on September 25, 2020. If construction has not been completed by that date, there will be measures in place for you to reauthorize. Please be mindful prior to

this date to follow all instructions provided by this Department regarding reauthorization.

In addition to any necessary enforcement actions stemming from the violation of any of the terms or conditions of this permit, issuance of this permit does not bar the Department, or any of its various Divisions, from instituting any investigation and/or enforcement actions that it may deem necessary for violations of any and all applicable statutes, regulations and/or permits, including but not limited to violations of the terms or conditions of any previous permit issued to you as an applicant or for this site.

This permit does not relieve your obligation to obtain any other applicable local, state and federal permits prior to commencing construction. This permit has the full force and effect of a permit issued by the Director. If you have any questions regarding the contents of the permit, you may contact Mr. Tim Stagnitta, M.S., E.I.T. at 401-222-4700, Ext. 7243.

Sincerely,

Nicholas A. Pisani P.E.

Nicholas A. Pisani, P.E.
Supervising Sanitary Engineer
Construction Stormwater Engineering, Floodplain and 401 Permitting
Office of Groundwater and Wetlands Protection

NAP/cam

ec: Alisa Richardson P.E. / RIDOT
Steven Cabral P.E. / Crossman Engineering
Neal Personeus RI DEM / Water Resources
Nicholas A Pisani P.E. RI DEM / Water Resources
Tim Stagnitta, E.I.T. RI DEM / Water Resources

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
HISTORICAL PRESERVATION & HERITAGE COMMISSION
Old State House • 150 Benefit Street • Providence, R.I. 02903-1209
TEL (401) 222-2678 FAX (401) 222-2968
TTY / Relay 711 Website www.preservation.ri.gov

STATE OF RHODE ISLAND
DEPT. OF TRANSPORTATION
FEB 2020
ENVIRONMENTAL RECEIVED
STATE OF RHODE ISLAND
DEPT. OF TRANSPORTATION
FEB 12 2020
ENVIRONMENTAL RECEIVED

11 February 2020

Jacob Begin
Supervising Historic Preservation Specialist
Cultural Resources Unit
Rhode Island Department of Transportation
Room 370A
Providence, Rhode Island 02903-1124

Re: Stormwater Treatment Retrofit- Greenwood Creek & Greenwich Cove
Warwick, Rhode Island
RIC No. 2016-EE-058A
Project Notification

Dear Mr. Begin:

The Rhode Island Historical Preservation and Heritage Commission (RIHPHC) staff has received the project notification for Stormwater Treatment Retrofit - Greenwood Creek and Greenwich Cove. The project will include installation and maintenance of sedimentation and erosion controls; installation, operation, maintenance and subsequent removal of temporary dewatering systems; maintenance and protection of traffic and protection of overhead and underground utilities.

The Rhode Island Department of Transportation (RIDOT) has identified two sites within the Area of Potential Effect (APE) that are listed on the National Register of Historic Places: the Greenwich Cove Site (RI-WK-6) and Elizabeth Spring. The Greenwich Cove site contains two known Narragansett burials, and it is possible that additional burials could be present beneath the road surface.

It is our understanding that the existing road was constructed on approximately four feet of fill, and that the proposed stormwater structures will require excavation of approximately four to six feet beneath the existing road surface. As archaeological testing in advance of construction is not feasible, archaeological monitors should be on site during construction, and when the original ground surface is reached, a flat-bladed excavator should be used to scrape the ground surface to determine if any burials or other subsurface cultural resources are present.

These comments are provided in accordance with the Rhode Island Historic Preservation Act (RIGL 42-45 et seq.) and the Procedures of the Rhode Island Historical Preservation and Heritage Commission ("Procedures for the Registration and Protection of Historic Properties"). If the project changes and Federal funding, licensing, permitting or approvals become involved, our office should be notified and the review process will need to be reestablished under Section 106 of the National Historic Preservation Act of 1966. If you have any questions, please contact Michaela Jergensen, RIDOT Project Review Coordinator of this office.

Very truly yours,
Michaela A. Jergensen

FOR J. Paul Loether
Executive Director
State Historic Preservation Officer

200211.01mahj

APPENDIX C

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Stormwater Pollution Prevention Plan

For:

Stormwater Treatment Retrofit – Greenwood Creek
Post Road Extension
Warwick, Rhode Island

Owner:	**RI DEPARTMENT OF TRANSPORTATION** Brian Moore, PE 360 Lincoln Avenue Warwick, RI 02888 401-734-4829
Operator:	(To be determined upon contract award)
Estimated Project Dates:	Start Date: Spring 2020 Completion Date: Fall 2020
SWPPP Prepared By:	Crossman Engineering Steven Cabral, PE 151 Centerville Road Warwick, RI 02886 (401)-738-5660
SWPPP Preparation Date:	July 2019

OWNER CERTIFICATION

RIPDES Construction General Permit – Section V.G

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: Date

Owner Name: **Brian Moore, P.E.**

Owner Title: **Administrator of Stormwater Management**

Company Name: **Rhode Island Department of Transportation**

OPERATOR CERTIFICATION

RIPDES Construction General Permit – Section V.G

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: TBD

Contractor Title: TBD

Contractor Company Name: TBD

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INTRODUCTION

This Construction Site Storm Water Pollution Prevention Plan (SWPPP) has been prepared for the State of Rhode Island Department of Transportation (RIDOT) pursuant to the Rhode Island Department of Environmental Management (RIDEM) Rhode Island Pollutant Discharge Elimination System (RIPDES) Program regulations (amended February 5, 2003). Pursuant to Rule 32 of the RIPDES Regulations, projects proposing to discharge storm water must seek authorization under a RIPDES General Permit. In accordance with the General Permit for Storm Water Discharge Associated with Construction Activity (General Permit), projects that disturb one (1) or more acres require the preparation of a SWPPP and RIDEM authorization following RIPDES review of a Notice of Intent (NOI). This SWPPP provides guidance for complying with the terms and conditions required under the 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 the construction phases so as to prevent pollutants from leaving the site. This may require the owner or 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 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.

The RIDOT Resident Engineer and designated Inspector are required to review the SWPPP and sign the Party Certification pages (Section 8). The prime contractor and all subcontractors involved in earthwork or exterior construction activities are also required to review the SWPPP and sign the certification pages before construction begins.

It is the responsibility of the RIDOT Resident Engineer to maintain the SWPPP, including all attachments, amendments and inspection records, at the project field office and to make all records available for inspection by RIDEM during construction. (RIPDES Construction General Permit – Section II.A.)

Any questions regarding the SWPPP, BMPs, inspection requirements, or any other facet of this document may be addressed to the RIDOT Natural Resources Unit at 401-222-2023.

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.

ADDITIONAL RESOURCES

Rhode Island Department of Transportation
Natural Resources Unit
2 Capitol Hill, Room 368
Providence, RI 02903
401-222-2023
http://www.dot.ri.gov/programs/stormwater/index.asp

Rhode Island Department of Environmental Management
Office of Water Resources
235 Promenade Street
Providence, RI 02908
(401) 222-3961
http://www.dem.state.ri.us/programs/benviron/water/index.htm

RIDEM RIPDES website
http://www.dem.state.ri.us/programs/benviron/water/permits/ripdes/index.htm

RIDEM Water Quality website (for 303(d) and TMDL listings)
http://www.dem.ri.gov/programs/benviron/water/quality/index.htm

RIDEM Rhode Island Natural Heritage Program
http://www.dem.ri.gov/programs/bpoladm/plandev/heritage/index.htm

RIDEM Geographic Data Viewer – Environmental Resource Map
http://www.dem.ri.gov/maps/index.htm

RIDEM RI Stormwater Design and Installation Standards Manual (as amended)
http://www.dem.state.ri.us/programs/benviron/water/permits/ripdes/stwater/t4guide/desman.htm

RIDEM, USDA Soil Conservation Service, and RI State Conservation Committee *Soil Erosion and Sediment Control Handbook* (as amended)
http://www.dot.ri.gov/documents/enviro/stormwater/Soil_Erosion_Sediment_Control_Handbook.pdf

Rhode Island Department of Transportation *Standard Specifications for Road and Bridge Design and Other Specifications* and *Standard Details*
http://www.dot.ri.gov/engineering/standards/index.asp

Natural Resources Conservation Service - Rhode Island Soil Survey Program
http://www.ri.nrcs.usda.gov/technical/soils.html

EPA NPDES SWPPP website
http://cfpub.epa.gov/npdes/stormwater/swppp.cfm#guide

EPA National Menu of Stormwater Best Management Practices
http://cfpub.epa.gov/npdes/stormwater/menuofbmps

SECTION 1: SITE DESCRIPTION

RIPDES Construction General Permit – Section IV.E.1

1.1 Project/Site Information

Project/Site Name:

- Stormwater Treatment Retrofit – Greenwood Creek
- Installation of Priority 1 Stormwater Treatment Units (STU) at Post Road Extension as part of the Greenwood Creek SCP. The STUs includes one infiltration basin and two infiltration swales.

Project Street/Location:

- Post Road Extension

1.2 Nature and Sequence of Construction Activity

RIPDES Construction General Permit – IV.E.1.b

Estimated Project Start Date:	SPRING 2020
Estimated Project Completion Date:	FALL 2020
Estimated Number of Months:	5

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

Soil type(s):
RIPDES Construction General Permit – IV.E.1.e

- Refer to the existing and proposed Watershed Map as well as the Soil Evaluation forms in the Drainage Report for information pertaining to the soil types present on site.

Slopes:

- Existing: Slopes vary throughout the site with different grass and/or vegetated areas within the Post Road Extension.
- Proposed: Proposed slopes shall maintain existing slope conditions to the greatest extent practicable. Portions of the existing drainage ditches shall be deepened.

Vegetation/Impervious Area:

- Existing: Grass and/or vegetated areas surrounding Post Road Extension.
- Proposed: Proposed vegetative cover shall maintain existing cover to the greatest extent practicable. Overall impervious area will be reduced through the Post Road Extension.

Drainage Patterns:

- Existing: Post Road Extension drains to the RIDOT drainage system. The City of Warwick's MS4 system ties into RIDOT's from the residential neighborhoods east of Post Road Extension. RIDOT's drainage system discharges to Greenwood Creek, south of Post Road Extension.
- Proposed: The drainage pattern will be kept the same. Check dams will be added to add storage volume to the existing drainage ditches, which are proposed to be infiltration swales.

1.4 Construction Site Estimates

RIPDES Construction General Permit – IV.E.1.c & IV.E.1.d

The following are estimates of the construction site:

Total Project Area	5.10 acres
Construction Site Area to be disturbed	4.00 acres

1.5 Receiving Waters

Receiving waters:

RIPDES Construction General Permit – III.A.7

List/description of receiving waters:

- Greenwood Creek (WBID RI0007025R-11)

Storm sewer systems:

RIPDES Construction General Permit – III.A.7

Will construction site stormwater flow to any separate storm sewer systems?

☒ Yes ☐ No

If yes, list the separate storm sewer systems and if permits/permission is required: RIDOT MS4

303(d)/TMDL waters:

RIPDES Construction General Permit – Section IV

Will project site stormwater flow to any 303(d) listed or TMDL water body (include both active construction and post-construction flow)?

☒ Yes ☐ No

If yes, list & provide description of 303(d)/TMDL waters and applicable TMDL requirements:

- Fecal Coliform

Special Resource Protection Waters (SRPWs):

Will construction site stormwater flow to any Special Resource Protection Waters (include both active construction and post-construction flow)?

☐ Yes ☒ No

If yes, list & provide description of Special Resource Protection Waters: N/A

Cold Water Fisheries:

Will construction site stormwater flow to any cold water fishery water body (include both active construction and post-construction flow)?

☐ Yes ☒ No

If yes, list & provide description of Cold Water Fisheries: N/A

1.6 Allowable Non-Storm Water Discharges

RIPDES Construction General Permit – IV.E.1.g

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

☐ Yes ☒ No

List of allowable non-stormwater discharges: N/A

- Are there any known or contaminated discharges, including dewatering operations, on or near the project area?

☐ Yes ☒ No

If yes, list the discharges and the RIPDES individual permit number(s) or RIPDES Remediation General Permit Authorization number(s) associated with these discharges.

- RIPDES individual permit number : N/A
- RIPDES Remediation General Permit Authorization number: N/A

1.7 Existing Data of Known Discharges from Site

RIPDES Construction General Permit – IV.E.1.h

Are there known storm water discharges from the project area?

☒ Yes ☐ No

Describe how this determination was made:

- Existing conditions survey and review of previous RIDOT plans of record

If yes, list discharges and locations:

- Greenwood Creek

Is there existing data on the quality of the known storm water discharges?

☐ Yes ☒ No

If yes, provide data: N/A

1.8 Endangered Species Certification/Natural Heritage Areas

RIPDES Construction General Permit – 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.

- N/A

1.9 Historic Preservation/Cultural Resources

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

☐ Yes ☒ No

Describe how this determination was made and summarize RIDOT-CRU review comments:

- Existing conditions survey and site observations

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.

- N/A

1.10 Site Features and Sensitive Areas to be Protected

Sensitive areas and measures that will be implemented to protect them:

- Steep slopes and existing drainage infrastructure are essential to preserve. Perimeter erosion controls and catchbasin silt sacks shall be installed project wide in order to preserve these site features and the stormwater runoff quality to the greatest extent practicable.

1.11 Potential Sources of Pollution

RIPDES Construction General Permit – IV.E.1.f

Anticipated on this Project	Operation/ Location	Stormwater Pollutants
Y	Clearing, grading, excavating, and unstabilized areas	Sediment; Trash/Debris
Y	Construction Entrance	Sediment
Y	Soil Stockpiles	Sediment
Y	Paving operations	Sediment; Trash/Debris
N	Concrete washout and waste	Heavy metals; pH; Trash/Debris
Y	Structure construction/ painting/ cleaning	Nutrients; pH; Trash/Debris; Toxic chemicals
Y	Demolition and debris disposal	Sediment; Trash/Debris
N	Dewatering operations	Sediment; Nutrients
N	Drilling and blasting operations	Sediment; pH; Trash/Debris
Y	Material delivery and storage	Sediment; Nutrients; Heavy metals; pH; Pesticides/Herbicides; Oil/Grease; Trash/Debris; Toxic chemicals
Y	Material use during building process	Nutrients; heavy metals; pH; pesticides/herbicides; oil/grease; trash/debris; toxic chemicals
Y	Solid waste/ trash/ debris	trash/debris; toxic chemicals
N	Hazardous waste	heavy metals; pH; pesticides/herbicides; oil/grease; toxic chemicals
N	Contaminated spills	Nutrients; heavy metals; pH; pesticides/herbicides; oil/grease; toxic chemicals
N	Sanitary/septic waste	Nutrients; pH; Bacteria/Viruses; toxic chemicals
Y	Vehicle/equipment fueling and maintenance	Oil/Grease; Toxic chemicals
Y	Vehicle/equipment use and storage	Oil/Grease; Toxic chemicals
Y	Landscaping operations	Sediment; Nutrients; Trash/Debris
N	Off-site LUHPPL run-on	Industrial toxins; oil/grease; heavy metals; fuel; salt; hazardous materials
N	Other:	

1.12 Site Plans

RIPDES Construction General Permit – IV.E.1.a

TITLE & DATE OF PLAN SET(S): State of Rhode Island Department of Transportation Plan of Proposed State Highway Stormwater Treatment Retrofit – Greenwood Creek (RI0007025R-11) – Post Road Extension Dates August 2019.

Plan/Sheet #(s)	Required Information
Drainage & Utility Plan No.s 1-5	Total Project Area, including all grading and/or excavation, and a defined Limit of Disturbance.
Drainage & Utility Plan No.s 1-5, Drainage Report	Pre- and post-development **drainage patterns** including (but not limited to): **sub-watershed** limits, direction(s) of **stormwater flow,** locations of storm drain **inlets and outfalls**, existing and proposed **conveyance systems** (i.e. grass channels, swales, closed drainage system)
Drainage & Utility Plan No.s 1-5, Drainage Report	The location and name of the **receiving waters** &/or separate storm sewer system and the ultimate receiving waters (i.e. name of major watershed basin)
Drainage & Utility Plan No.s 1-5,	Location of **resource protection areas** including waters of the State, wetlands lakes, ponds, coastal shoreline features and required setbacks (e.g. buffers, water supply wells, septic systems). Indicate below whether or not the areas have been verified in the field.
Drainage & Utility Plan No.s 1-5,	Location of **environmentally sensitive features**/areas to be preserved &/or protected (i.e. endangered species habitats, historic sites, natural heritage areas, Qualified Pervious Areas (QPAs)) (Section 1.10)
Drainage & Utility Plan No.s 1-5,	Boundaries of **existing vegetation** to remain undisturbed
Drainage & Utility Plan No.s 1-5,	The location of all **impervious structures** (existing and proposed roads, buildings, and other structures)
Drainage & Utility Plan No.s 1-5,	Locations and timing of **stabilization measures** including phased clearing and grubbing based on scheduled activities
Drainage & Utility Plan No.s 1-5,	The location of all **structural** erosion, sediment and runoff control **BMPs** (i.e. sediment basins, outlet protection, etc.)
Drainage & Utility Plan No.s 1-5,	Locations of all **non-structural BMPs** (i.e. perimeter controls, check dams, storm drain protection, etc.)
Drainage & Utility Plan No.s 1-5,	The location of all permanent **post-construction BMPs** (i.e. WVTS, filtration systems, etc)
	Constraint Map, indicating areas within the project limits which are unsuitable for material storage areas, equipment storage areas, designated concrete washout areas, dumpsters, stockpiles, fueling locations, etc. (i.e. locations where these activities will not occur, and recommendations of where they may occur) **(RECOMMEND SEPARATE PLAN SHEET)** Designated areas will not be within regulated wetlands, or within 50-feet of the storm drain system.
	The location of spill prevention and response equipment

FIELD VERIFICATION INFORMATION	
Date: 05/13/2019	**By**: Jason Schwartz / Applied Bio-Systems, Inc.
Verified by DEM: ☒ N/A ☐ No ☐ Yes	**Wetland Permit Issued**: ☐ No ☐ Yes # _____

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.

Please note: **Even if practices are correctly installed on a site according to the approved plan, the site is only in compliance when sediment and pollutants are effectively controlled throughout the entire site. If controls are repeatedly failing, it is the responsibility of the Resident Engineer and Construction Contractor to develop a corrective action plan that may include different controls than is depicted on the Approved Plan Set.**

2.1 Minimize Disturbed Area and Protect Natural Features and Soil

As far as is practicable, existing vegetation will 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 will 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.

2.2 Phase Construction Activity

Proper sequencing of construction activities is essential to maximize the effectiveness of erosion and sediment control measures. The purpose is to reduce the amount and duration of soil exposed to erosion by wind, rain, runoff, and vehicle tracking.

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 will be done in accordance with Sections 201, 206 through 211 of the RIDOT Standard Specifications.
2. 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.
3. Final stabilization of any disturbed areas after earthwork has been completed.

2.3 Control Stormwater Flowing Onto and Through the Project

Structural BMPs will be used to prevent stormwater flow from coming onto the project area, and to divert and slow on-site stormwater flow from exposed soils to limit erosion, runoff, and the discharge of pollutants from the site.

Control measures &/or methods that may be used include diversion ditches or berms, compost filter socks, fiber rolls, gravel bag berms, slope drains, check dams, and riprap.

2.4 Stabilizing Soils

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 disturbed portions will not be active within the 21-day time-frame.

Clearing/Grubbing will not take place during a rain event if erosion is likely to occur; nor will it occur if a rain event is forecasted and appropriate erosion controls can not be installed prior to the storm and in accordance with section 201, 206 through 211 of the RIDOT standard specifications.

No undisturbed areas will 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 will 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 (as amended). 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 restabilized within 5 working days.

As per RIDOT Standard Specification 201.03.1 – Clearing and Grubbing: After clearing, and by the end of each day's grubbing operation, the Contractor will install erosion control measures that are indicated on the Plans or as directed by the Engineer. Such erosion control measures will be installed in strict accordance with the requirements of **SECTIONS 206, 207,** and **208** of these Specifications, **PERIMETER EROSION CONTROLS, CHECK DAMS**, and **TEMPORARY DEWATERING BASINS**, respectively.

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 will 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.

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 RIDOT Standard Specifications Section L.02 – Seeding, Section L.05 - Seed Stabilizers and Section M.18 – Landscape Materials (M.18.08 – Mulch and M.18.09 – Seed Stabilizer Materials).

Maintaining Stabilization

Controls and methods that may be used to maintain soil stabilization include the placement of geotextiles, erosion control blankets/mats, and temporary seeding. If the stabilization BMPs fail and erosion occurs, then alternative control measures &/or methods may need to be substituted, with approval of the RIDOT Resident Engineer and the RIDOT Natural Resources Unit.

2.5 Protect Slopes

Controls will be used to protect slopes from erosion from concentrated stormwater flow.

Slopes that will have concentrated stormwater flow will be protected using the BMPs depicted on the approved plan set and in accordance with RIDOT Standard Specifications Sections 202, 206 – 211, or any method approved of by the RIDOT Resident Engineer and the RIDOT Natural Resources Unit.

Control measures &/or methods that may be used to protect slopes include pipe slope drains, compost filter socks, fiber rolls, gravel bag berms, erosion control mats/blankets, and temporary vegetative cover.

- Erosion control blankets and jute netting shall be utilized on an as needed basis. If/when evidence of erosion is present along these slopes (disturbed or undisturbed from construction) erosion control blankets and jute netting shall be installed as deemed necessary by the designated site inspector or RIDOT Resident Engineer.

2.6 Protect Storm Drain Inlets

Storm drain inlet protection measures will be used to 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 &/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 RIDOT Standard Specifications Section 209 – Storm Drain Protection, or any method approved of by the RIDOT Resident Engineer and the RIDOT Natural Resources Unit.

Control measures &/or methods that may be used include compost filter socks, fiber rolls, gravel bag berms, or catch basin inserts.

- Storm drain inlets shall be protected with silt sacks, and any additional measures as deemed necessary by the designated site inspector or RIDOT Resident Engineer. These erosion control devices shall be maintained as required throughout the construction process.

2.7 Protect Storm Drain Outfalls

Outfall protection will be used 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.

Control measures &/or methods that may be used include compost filter socks, fiber rolls, gravel bag berms, or hay bales/silt fence.

- No storm drain outfall protection measures are proposed with this project due to the utilization of existing outfalls. All outfalls affected by this project discharge to a wetland and will be protected further upstream.

2.8 Establish Perimeter Controls and Sediment Barriers

Perimeter controls will be used to prevent soil erosion and stop sediment from leaving the site. Perimeter controls will 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).

Control measures &/or methods that may be used include compost filter socks, fiber rolls, gravel bag berms, or hay bales/silt fence.

- Silt fence or filter sock shall be installed along the site perimeter where shown on the Soil Erosion and Sediment Control Plans. In addition, inlet sediment control devices shall be installed in the existing catchbasins within the project limits.

2.9 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.

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.

The dewatering of contaminated non-stormwater cannot be discharged without prior notice and approval from the Rhode Island Department of Environmental Management (RIDEM) or the Coastal Resources Management Council (CRMC). Should dewatering of contaminated water be occurring on this construction project, appropriate permits will have been obtained, and will be included as part of the Contract Documents.

- Great care and attention shall be made to the inlet sediment control devices and perimeter erosion controls to prevent sediment and debris from leaving the construction site and entering the existing drainage systems.

2.10 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.

https://www.wunderground.com/weather/us/ri/warwick

2.11 Additional BMPs

- N/A

2.12 Construction Site Erosion and Sediment Control BMPs

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
Site Wide	Silt Fence R.I. Standard 9.2.0	Inspection should be made after each storm event or 1/week and repair should be made promptly as needed.	All Phases
Site Wide	Silt sacks	Inspect and maintain inlet protection devices after every storm event and/or weekly as required. Sediment should be removed when 50% of the storage volume is achieved. Dispose of sediment properly.	All Phases
Construction Entrance	Construction Entrance R.I. Standard 9.9.0	Inspect construction entrances on a weekly basis to determine if entrance redressing is required to minimize the likelihood of sedimentation tracked off site. Clean and sweep adjacent paved areas on a weekly basis	All Phases

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.

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

3.1 Off-site Tracking of Sediments

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

Any construction site access point will employ the BMPs depicted on the approved plan set and in accordance with RIDOT Standard Specifications Section 211 – Construction Accesses, or any method approved of by the RIDOT Resident Engineer and the RIDOT Natural Resources Unit. Construction accesses will be used in conjunction with the stabilization of construction roads to reduce the amount of mud picked up by construction vehicles. All RI STD 9.9.0 Construction Access roads will be constructed prior to any roadway accepting construction traffic.

If a Construction Access 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, include a vehicle washing station and daily street sweeping.

The Operator will 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.

3.2 Waste Disposal

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

Building materials and other construction site wastes will 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 will be disposed of in a manner consistent with State Law and/or regulations.

- The waste collection area will not be within any of the constraint areas located on the “Constraint Map” (Section 1.12) and will be approved by the RIDOT Resident Engineer.
- All waste containers will be covered to avoid contact with wind and precipitation.
- Waste collection will be scheduled frequently enough to prevent containers from overfilling.
- All construction site wastes will be collected, removed, and disposed of in accordance with applicable regulatory requirements and only at authorized disposal sites.

- Equipment and containers will be checked for leaks, corrosion, support or foundation failure, or other signs of deterioration. Those that are found to be defective will be immediately repaired or replaced.

- Waste Disposal is not a significant element of the project scope

3.3 Spill Prevention and Control Plan

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

Spills and leaks will be avoided through frequent inspection of equipment and material storage areas. Heavy equipment and other vehicles will be routinely inspected for leaks and repaired as necessary. Material storage areas will be routinely inspected for leaky containers, open containers, or improper storage techniques that may lead to spills or leaks. Appropriate cleanup procedures and supplies will be available on-site.

Spills will be cleaned up immediately and following proper response procedures and in accordance with any applicable regulatory requirements. At no time will 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 will not take place within any of the constraint areas located on the “Constraint Map” (Section 1.12) and will be approved by the RIDOT Resident Engineer.

3.4 Control of Allowable Non-Storm Water Discharges

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

Non-storm water discharges must also be controlled to reduce the likelihood of contamination of the ‘clean’ water. Allowable discharges should be kept separate from stormwater flow through the use of BMPs.

For contaminated non-stormwater discharge(s), the requirements and regulations of the associated RIPDES individual permit or RIPDES Remediation General Permit must be adhered to at all times.

3.5 Establish Proper Building Material Staging Areas

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

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.

Stock piles will not be located within any of the constraint areas located on the “Constraint Map” (Section 1.12) and will be approved by the RIDOT Resident Engineer. They will have side slopes no greater than 30% and stockpiles of erodible material will be seeded and ringed with RI STD 9.1.0 to stabilize (or RIDOT approved equivalent: berms, dikes, fiber rolls, compost socks, sandbag, gravel bags).

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 will not be located within any of the constraint areas located on the "Constraint Map" (Section 1.12) and will be approved by the RIDOT Resident Engineer.

- A potential staging and stockpile area is depicted on the Soil Erosion and Sediment Control Plans and shall be protected with the required pollution prevention measures.

3.6 Designate Washout Areas

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

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 will not be within any of the constraint areas located on the "Constraint Map" (Section 1.12) and will be approved by the RIDOT Resident Engineer.

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 will 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 and legally disposed of, to avoid exposure to precipitation, at the end of each working day. Designated areas will not be located within any of the constraint areas located on the "Constraint Map" (Section 1.12) and will be approved by the RIDOT Resident Engineer.

3.7 Establish Proper Equipment/Vehicle Fueling and Maintenance Practices

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

Vehicle fueling, maintenance and/or washing will occur off-site, or in designated areas. Designated areas will not be located within any of the constraint areas located on the "Constraint Map" (Section 1.12) and will be approved by the RIDOT Resident Engineer.

Areas will be clearly designated, and berms, sandbags, or other barriers will be used around the perimeter of the maintenance area to prevent storm water contamination.

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

- Equipment/Vehicle fueling and maintenance area is depicted on the Soil Erosion and Sediment Control Plans with the require pollution prevention measures.

3.8 Dust Control

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

Dust control procedures and practices will 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. RIDOT Standard Specifications Section 907 – Dust Control – will be followed.

Dust Control methods may include watering, surface roughening, wind barriers, walls, and covers.

- Water for dust control will be used on an as needed basis and in accordance with the Rhode Island Soil Erosion and Sediment Control Handbook and RIDOT Standard Specifications.

3.9 Sweeping

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

Sweeping of streets, roads, highways and parking lots that have accumulated significant amounts of pollutants (construction site sediment, trash, debris) will be done as necessary, or as directed by the RIDOT Resident Engineer. When construction exits are not keeping construction site sediment from the roadway, sweeping will be done on a daily basis. Disposal of collected sweeping material will follow RIDOT Standard Specifications Section 931 – Cleaning and Sweeping Pavement.

- The contractor shall sweep the Post Road Extension on a weekly basis as required in the contract.

3.10 Additional BMPs

- N/A

3.11 Construction Site Good Housekeeping BMPs

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
Construction Site Entrance/Exit	Rock/RipRap entrance pad **211.03/9.9.0**	Replenish/Replace aggregate if it becomes clogged with sediment and is no longer effectively preventing sediment from being tracked into street	All Phases
Adjacent Roads	Public roads adjacent to a construction site will be clean at the end of each day **211.01.1**	Street Sweep if construction site sediment is visible	All Phases
Site Wide	Pick up of construction trash and debris	All loose trash and debris must be disposed of properly at the end of each working day	All Phases

SECTION 4: POST-CONSTRUCTION BMPs

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

Post-Construction Best Management Practices are BMPs that are installed during the Construction Phase of a project to manage storm water flow after the construction project is completed.

Measures must be installed during the construction project 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.

Such long-term BMPs may include: infiltration basins, open vegetated swales and natural depressions, vegetated buffer strips, and detention/ retention structures. Controls may also be needed to prevent or minimize erosion at outfall locations or along the length of vegetated channels to reduce velocity flow from the structure to the receiving waters.

Control measures that may need to be implemented during the construction phase typically include measures to ensure proper installation of the long-term BMPs. Examples include: ensuring proper material staging areas, equipment routing (i.e. do not allow construction equipment to compact areas where infiltration BMPs will be installed), and final cleaning of structural BMPs before construction finalization.

4.1 Post-Construction BMPs

Refer to the Long Term Operations and Maintenance Plan for the required inspection and maintenance requirements of the proposed stormwater BMPs.

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, in **Section 212** of the RHODE ISLAND DEPARTMENT OF TRANSPORTATION *Standard Specifications for Road and Bridge Construction* 2004 EDITION (as amended), and in the Stormwater Management Analysis documentation.

As cited:

> **212.03 CONSTRUCTION METHODS**. Erosion and pollution controls will be maintained by the Contractor to the satisfaction of the Engineer. 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.
>
> Construction will not commence or continue until all specified erosion and pollution controls are in place, properly installed and accepted by the Engineer.
>
> Erosion and pollution controls will be routinely inspected by the Engineer. The Engineer will notify the Contractor immediately if problems develop. <u>The Contractor will commence cleaning and maintenance measures no later than the next consecutive calendar day after receiving a directive from the Engineer to perform such measures.</u> The Contractor will aggressively and expeditiously perform such cleaning and maintenance work until the original problem is remedied to the complete satisfaction of the Engineer. In the event of a weekend storm, the Contractor must have resources available to restore, and, if necessary, to replace any damaged controls.

The Contractor is required to have a full-time, on-site designated contact person responsible for working with the RIDOT Resident Engineer and the RIDOT designated Inspector 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 (as identified in Section 2.4 of this SWPPP)) will be utilized for the determination of the storm events.

It is the responsibility of the RIDOT Resident Engineer to coordinate with the designated SWPPP Inspector listed in SECTION 8 of this document to initiate site inspections. Inspections will begin as soon as the Contractor is mobilized and on site.

General Notes

- The RIDOT Designated Inspector will prepare a separate inspection report for each inspection.
- The Inspection Reference Number will be a combination of the Construction Contract Number - consecutively numbered inspections.
  ex/ Inspection reference number for the **4**th inspection of a project would be:
  2011-AA-BBB-**4**
- Each report will be signed and dated by the Inspector and forwarded to the Engineer within 24 hours of the inspection.
- Each report will be signed and dated by the Engineer and forwarded to the Contractor's designated representative.
- Each report will be signed and dated by the Contractor upon receipt.
- If Corrective Actions are required, the Contractor will initiate appropriate measures within 24 hours of receiving of the inspection report.
- It is the responsibility of the RIDOT Resident Engineer to maintain a copy of the SWPPP, copies of all completed inspection reports, and amendments as part of the SWPPP documentation at the project field office during construction.

Submitting Reports to NRU

The Inspector will submit all Inspection Reports to:

RIDOT Natural Resources Unit
Two Capitol Hill, Rm. 323
Providence, RI 02903

At a minimum, the inspection reports must be submitted on a monthly basis, and must include:

- A copy of each completed, dated, and signed inspection report
- Associated photos – each photo should be dated and have a unique identification # and written description indicating where it is located within the project area. If a close up photo is required, it should be preceded with a photo including both the detail area and some type of visible fixed reference point. Photos should be annotated with Station numbers and other identifying information where needed.
- A copy of the daily rainfall summary data for the month as reported by the selected rain gauge.

One copy of the monthly inspection report will be printed double-sided (except for photo or plan sheet pages), and forwarded to the NRU by no later than the 10th of the month following the end of the reporting period.

Content, frequency, &/or submission format of inspection reports may be changed with approval of the applicable Natural Resources Unit personnel for the Project.

A copy of the inspection report is provided in the list of attachments.

5.3 Corrective Actions

RIPDES Construction General Permit – Section II.C

If, in the opinion of the Engineer, corrective action is required, the Engineer will note it on the inspection report and will notify and direct the Contractor to take corrective action and make all necessary repairs whenever maintenance of the erosion and pollution controls is required.

In accordance with the SWPPP and Section 212 of the RIDOT Standard Specifications, the Contractor will commence with the requisite cleaning and maintenance measures no later than the next consecutive calendar day after receiving such a directive from the Engineer, and will aggressively and expeditiously perform such cleaning and maintenance work until the original problem is remedied to the complete satisfaction of the Engineer.

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

If the Engineer decides on any given day that those erosion and pollution controls specified in the Contract are not in place or have not been adequately maintained as specified in this Section, the daily charge set forth in **Special Provision Code 212.1000** will be deducted from monies due the Contractor as a charge for failure to comply with this Specification. Moreover, the stated daily charge will continue each consecutive calendar day thereafter until the deficiencies noted have been corrected to the complete satisfaction of the Engineer.

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 construction 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.**

The SWPPP will 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 within the 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 Resident Engineer.

A copy of the Amendment log is included in the list of attachments

SECTION 7: Recordkeeping

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

It is the RIDOT Resident Engineer's responsibility to have the following documents at the Field Office and immediately available for RIDEM review upon request:

- A copy of the fully signed and dated SWPPP, which includes:
  - The signed and certified NOI form or permit application form
    INCLUDED AS ATTACHMENT _____
  - A copy of the RIPDES General Permit
    INCLUDED AS ATTACHMENT _____
  - A copy of any regulatory permits (RIDEM Freshwater Wetlands Permit, CRMC, RIDEM Water Quality, etc)
    INCLUDED AS ATTACHMENT _____
  - SWPPP Amendment Log
    INCLUDED AS ATTACHMENT _____

- Copies of <u>all</u> signed and dated Inspection reports

SECTION 8: Party Certifications

RIPDES Construction General Permit – Section V.G

All parties working for the Rhode Island Department of Transportation are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that is performed on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. 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 RIDOT Field Office, or may be obtained from the RIDOT Natural Resources Office by calling (401) 222-2023.

The prime contractor 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.

RIDOT Resident Engineer:

_____
signature/date

RIDOT SWPPP Inspector:

_____
signature/date

Contractor SWPPP Contact:
To Be Determined

_____
signature/date

SubContractor SWPPP Contact:
To Be Determined

_____
signature/date

SWPPP APPENDICES

Attach the following documentation to the SWPPP:

Attachment A – General Location Map

Attachment B – Site Plans

Attachment C – Copy of RIPDES General Permit

Attachment D – Copy of RIPDES NOI

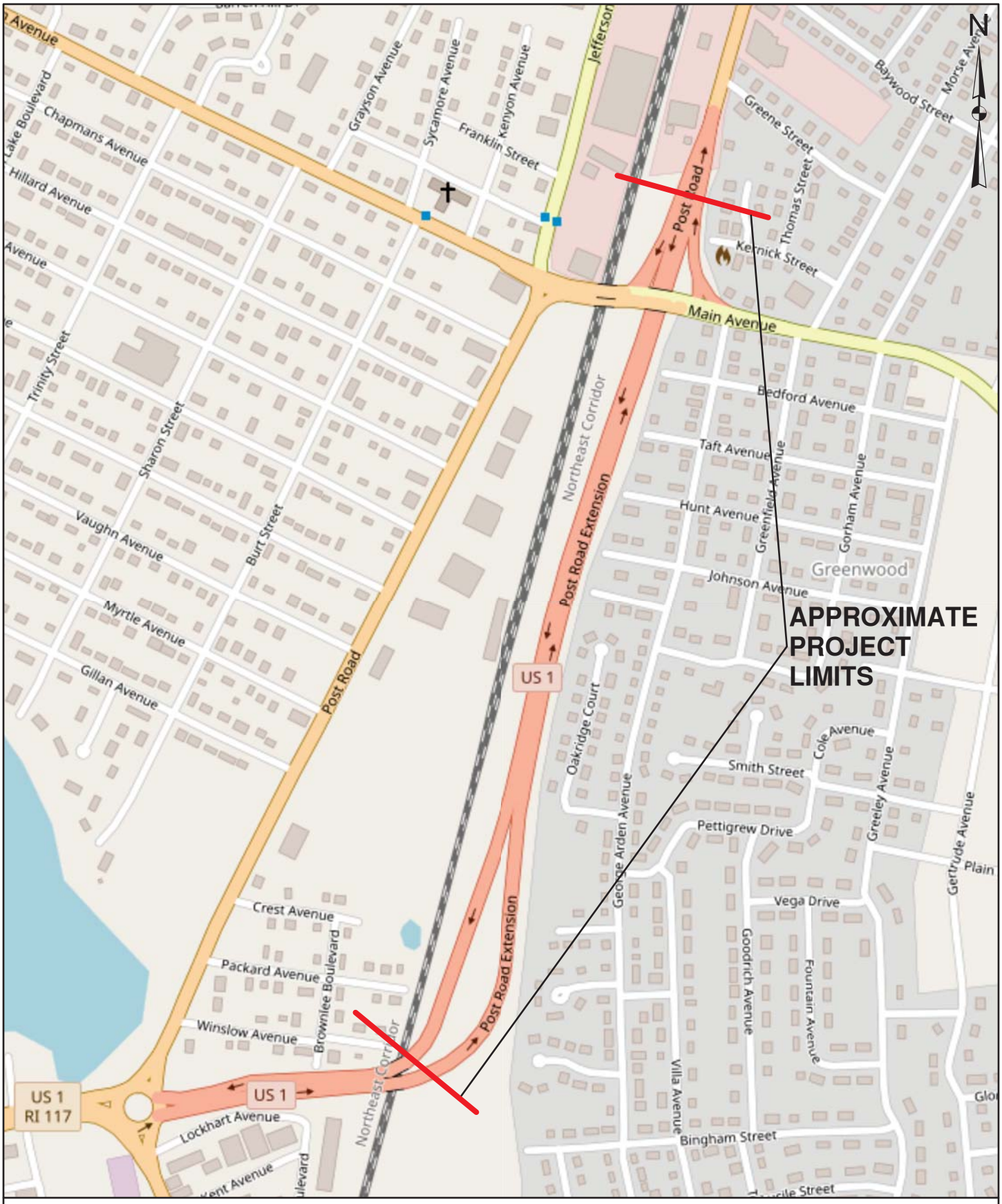
Attachment E – Copy of Regulatory Permits

Attachment F – Inspection Form

Attachment G – Amendments Log

Attachment H – Additional Information (i.e. documentation)

ATTACHMENT A – GENERAL LOCATION MAP



STORMWATER CONTROL PLAN
GREENWOOD CREEK (RI0007025R-11)
LOCUS MAP
WARWICK, RHODE ISLAND

0 200 400 800
Feet

ATTACHMENT B – SITE PLANS

(REFER TO CONTRACT DOCUMENTS FOR PROJECT PLANS)

ATTACHMENT C – COPY OF RIPDES GENERAL PERMIT

A digital copy of RIPDES CGP can be obtained online at the following link:
http://www.dem.ri.gov/pubs/regs/regs/water/ripdesca.pdf

ATTACHMENT D – COPY OF RIPDES NOI

Not required for MS4 applications

ATTACHMENT E – COPY OF REGULATORY PERMITS

(REFER TO CONTRACT DOCUMENTS)

ATTACHMENT F – INSPECTION FORM

SWPPP Inspection Report

Project Information			
Name/Location	Greenwood Creek Priority 1 STUs (Post Road Extension)		
RIDOT Project Manager		RIDOT Resident Engineer	
Contractor		SWPPP Contact	
E&S Sub-Contractor		SWPPP Contact	

Inspection Information			
Inspector			
Inspection Date		Start/End Time	
Inspection Type ❑ Weekly ❑ Pre-storm event ❑ During storm event ❑ Post-storm event ❑ Violation			

Weather Information
Rain Gauge:
Last Rain Event Date: Duration (hrs): Approximate Rainfall (in):
Current Weather at time of this inspection:
Weather Forecast at time of this inspection: (when is next precipitation or wind event anticipated?)

Certification Statements		
Inspector: (check one) ☐ I, as the designated Inspector, certify that this site has been inspected and is in compliance with the site-specific SWPPP. ☐ I, as the designated Inspector, certify that this site has been inspected and I have made the determination that the site requires corrective actions before it will be compliant with the site-specific SWPPP. The required corrective actions are noted within this inspection report.		
Print Name:	Signature:	Date:
Resident Engineer: I, the RIDOT Resident Engineer, acknowledge the receipt of this SWPPP inspection report, and understand the requirements set forth in the RIDOT Standard Specifications and the Contract Documents regarding the implementation and maintenance of erosion and sedimentation controls.		
Print Name:	Signature:	Date:
Contractor: I, the designated Contractor representative, acknowledge the receipt of this SWPPP inspection report, and understand the requirements set forth in the RIDOT Standard Specifications and the Contract Documents regarding the implementation and maintenance of erosion and sedimentation controls.		
Print Name:	Signature:	Date:

Site-specific BMPs

	Location/Station	BMP Description	Installed & Operating Properly?	Assoc. Photo/ Figure #	Corrective Action
1	Throughout Site	Silt Fence	❑Yes ❑No		
2	Throughout Site	Catchbasin Silt Sack	❑Yes ❑No		
3	Throughout Site	Construction Entrance	❑Yes ❑No		
4	Throughout Site	Pavement Sweeping	❑Yes ❑No		
5	Throughout Site	Trash and Debris Removal	❑Yes ❑No		
6			❑Yes ❑No		
7			❑Yes ❑No		
8			❑Yes ❑No		
9			❑Yes ❑No		
10			❑Yes ❑No		
11			❑Yes ❑No		
12			❑Yes ❑No		
13			❑Yes ❑No		
14			❑Yes ❑No		
15			❑Yes ❑No		

Overall Site Issues

EROSION AND SEDIMENTATION BMP INSPECTION		Installed & Operating correctly?	Assoc. Photo/ Figure #	CORRECTIVE ACTION
2.1	Are **Limits of Disturbance** clearly marked?	❑Yes ❑No ❑ N/A		
2.1	Are **natural resource areas** (e.g., streams, wetlands, trees, etc.) protected with barriers or similar BMPs?	❑Yes ❑No ❑ N/A		
2.2	Is construction sequencing being followed?	❑Yes ❑No ❑ N/A		
2.3	Are **structural BMPs** properly installed to control stormwater flow on the construction site?	❑Yes ❑No ❑ N/A		
2.4	Is **clearing/grubbing** only occurring in areas that will have active work within 21-days?	❑Yes ❑No ❑ N/A		
2.4	Is **clearing/grubbing** taking place inside the Apr 15 - Oct 15 window?	❑Yes ❑No ❑ N/A		
2.4	Do **unstabilized areas** have appropriate controls in place?	❑Yes ❑No ❑ N/A		
2.5	Are all **slopes** protected from concentrated stormwater flow?	❑Yes ❑No ❑ N/A		
2.6	Are storm drain **inlets** properly protected?	❑Yes ❑No ❑ N/A		
2.7	Are storm drain **outfalls** properly protected?	❑Yes ❑No ❑ N/A		
2.8	Are **perimeter controls** and sediment barriers adequately installed and maintained?	❑Yes ❑No ❑ N/A		
2.9	Are discharge points and **receiving waters** free of sediment deposits?	❑Yes ❑No ❑ N/A		
2.10	Is **weather** forecast being checked regularly?	❑Yes ❑No ❑ N/A		
Notes on Erosion and Sediment Controls:				

RIC NO: INSPECTION REF #:

GOOD HOUSEKEEPING BMP INSPECTION		Installed & Operating correctly?	Assoc. Photo/ Figure #	CORRECTIVE ACTION
3.1	Are BMPs effectively limiting **sediment** from being tracked into the street?	❑Yes ❑No ❑ N/A		
3.2	Is **trash/litter** from work areas collected and placed in covered containers regularly?	❑Yes ❑No ❑ N/A		
3.3	Are on-site **equipment**, vehicles, containers, and storage areas free from leaks?	❑Yes ❑No ❑ N/A		
3.3	Are **materials** that are potential stormwater contaminants stored inside or under cover?	❑Yes ❑No ❑ N/A		
3.4	Are **non-storm water discharges** free from contamination?	❑Yes ❑No ❑ N/A		
3.5	Are **stockpiles** covered (either with temporary vegetation or tarps), ringed with barrier BMPs, and located at least 50 feet away from natural resources and storm drains?	❑Yes ❑No ❑ N/A		
36	Are **washout facilities** (e.g. paint, concrete) available, clearly marked, and maintained and located at least 50-feet away from natural resources and storm drains?	❑Yes ❑No ❑ N/A		
3.7	Are **vehicle and equipment** fueling, cleaning, and maintenance areas free from leaks and located at least 50-feet away from natural resources and storm drains?	❑Yes ❑No ❑ N/A		
3.8	Is **dust** being controlled on-site?	❑Yes ❑No ❑ N/A		
3.9	Is **sweeping** being used to keep sediment off roads and parking lots?	❑Yes ❑No ❑ N/A		

PROCEURAL BMP INSPECTION		Installed & Operating correctly?	Assoc. Photo/ Figure #	Corrective Action
4.1	Are **permanent BMPs** being protected during the active construction phase?	❑Yes ❑No ❑ N/A		
5.1	Are all **structural BMPs** being maintained in accordance with RIDOT Standard Spec Section 212?	❑Yes ❑No		
5.2	Are **inspections** taking place every 7-days & after storm events?	❑Yes ❑No		
5.3	Have previous **Corrective Actions** been initiated & completed by the Contractor?	❑Yes ❑No ❑ N/A		
6.0	Are SWPPP **Amendments** being logged?	❑Yes ❑No ❑ N/A		
7.0	Are the SWPPP and ALL inspection **reports** being kept at the RIDOT Field Office?	❑Yes ❑No		

Photo Log:

Photo #:	Station:
	Description:

Photo #:	Station:
	Description:

Photo #:	Station:
	Description:

Photo #:	Station:
	Description:

Photo #:	Station:
	Description:

Photo #:	Station:
	Description:

RIC NO: INSPECTION REF #:

General Field Comments:

NOTICE TO CONTRACTOR	
This SWPPP Inspection Report, completed by a RIDOT-designated inspector, indicates that this construction site is:	
☐ COMPLIANT	☐ No immediate actions are required, other than keeping up the good work! ☐ Work is required to maintain Site compliance
☐ NON-COMPLIANT	This document serves as your RIDOT directive to proceed with corrective actions that have been outlined above. The SWPPP, Construction Contract documents, and the RIDOT Standard Specifications state that non-compliance issues shall be addressed no later than (7) seven calendar days from date of inspection. In accordance with the SWPPP and Section 212 of the RIDOT Standard Specifications, the contractor shall commence with the requisite cleaning and maintenance measures no later than the next calendar day after receiving such a directive from the engineer.
	Date work to begin:
	Date work to be completed:
R.E. initials: _____ R.E. Comments: Date: _____	

ATTACHMENT G – AMENDMENT LOG

Rhode Island Department of
Transportation

AMENDMENT LOG

ALL AMENDMENS MUST BE APPROVED BY RIDOT RESIDENT ENGINEER

Describe amendment to be made to SWPPP, the date, and the person/title making the amendment. ALL amendments must be approved by the RIDOT Resident Engineer.

Amendment Number	Date	Description of Amendment	Amended by: Person/Title	R.E. initials
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				

ATTACHMENT H – ADDITIONAL INFORMATION
(I.E. DOCUMENTATION)

(NOT APPLICABLE)

SMALL-SITE
Stormwater Pollution Prevention Plan

For:

Stormwater Treatment Retrofit – Greenwich Cove

Old Forge Road

Warwick, Rhode Island

Owner:	**RI DEPARTMENT OF TRANSPORTATION** Brian Moore, PE 360 Lincoln Avenue Warwick, RI 02888 401-734-4829
Operator:	(To be determined upon contract award)
Estimated Project Dates:	Start Date: Spring 2020 Completion Date: Fall 2020
SWPPP Prepared By:	Crossman Engineering Steven Cabral, PE 151 Centerville Road Warwick, RI 02886 (401)-738-5660
SWPPP Preparation Date:	May 2019

OWNER 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.

_____

Owner Signature: Date

Owner Name: **Brian Moore, P.E.**

Owner Title: **Administrator of Stormwater Management**

Company Name: **Rhode Island Department of Transportation**

OPERATOR 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.

_____

Operator Signature: Date

Contractor Representative: TBD

Contractor Title: TBD

Contractor Company Name: TBD

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INTRODUCTION

This Small-Site Storm Water Pollution Prevention Plan (SWPPP) has been prepared for the State of Rhode Island Department of Transportation (RIDOT) for a construction project that has less than one (1) acre of soil disturbance. This document provides general guidance for the installation and maintenance of erosion and sediment controls on small projects.

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 the construction phases 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.

It is the responsibility of the RIDOT Resident Engineer to maintain the SWPPP, including all attachments, amendments, and inspection records, at the project field office and to make all records available for inspection by RIDEM during construction.

The RIDOT Resident Engineer and designated Inspector are required to review the SWPPP and sign the Party Certification pages (Section 8). The prime contractor and all subcontractors 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 RIDOT Office of Stormwater Management at 401-734-4892.

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.

SECTION 1: SITE DESCRIPTION

1.1 Project/Site Information

- Stormwater Treatment Retrofit – Greenwich Cove – Priority 1 STU
- Installation of an underground infiltration system and pretreatment system, located underneath existing pavement of the northbound travel lane of Old Forge Road as part of the Greenwich Bay (A) Stormwater Control Plan (SCP).

Project Street/Location:

- Old Forge Road

1.2 Nature and Sequence of Construction Activity

The construction will implement an underground infiltration system in a section of Old Forge Road. The sequence of activities may proceed as follows:

- Site preparation consisting of installing erosion controls, saw cutting and traffic control, including installation of warning signs.
- Drainage additions consisting of installing drainage manholes, vortechs 2000 pretreatment unit, underground infiltration system, sidewalks, backfilling and compacting.
- Outfall repairs consisting of removing and disposing pipe, clearing and grubbing, installation of new pipe end section, and installation of new rip-rap outlet protection.
- Installation of new bituminous concrete pavement for the roadway.
- Installation of new cement concrete sidewalks in areas disturbed.
- Installation of final pavement markings.
- After construction is complete and upon approval of owner, remove all erosion controls.

Estimated Project Start Date:	SPRING 2020
Estimated Project Completion Date:	FALL 2020
Estimated Number of Months:	5

1.3 Construction Site Estimates

The following are estimates of the construction site:

Total Project Area	0.25 acres
Construction Site Area to be disturbed	0.25 acres
Percentage impervious area <u>before</u> construction	100%
Percentage impervious area <u>after</u> construction	100%

1.4 Potential Discharges

Environmentally Sensitive Areas	Construction Site Discharges to: (Yes / No)	List discharge points &indicate how determination was made
Waters of the State	No	Per RIDEM environmental resource map
Wetlands (Coastal or Upland)	Yes	Coastal wetland per RIDEM environmental resource map & wetlands letter by Applied Bio-systems
Separate Storm Sewer System	Yes	RIDOT MS4 & Warwick MS4
303(d) Impaired Waters	Yes	Greenwich Cove (A): fecal coliform, dissolved oxygen, and total nitrogen per RIDEM stormwater impacted waters map
TMDL Waters	Yes	Per RIDEM stormwater impacted waters map
Special Resource Protection Waters (SRPWs)	No	Per RIDEM stormwater impacted waters map
Cold Water Fisheries	No	Per RIDEM environmental resource map
Natural Heritage Areas	Yes	Per RIDEM environmental resource map
Historic/Cultural Areas	No	Per RIDEM environmental resource map
Permanent Stormwater Structures (swales, outfalls, treatment units, etc.)	Yes	Existing outfall to be repaired

1.5 Allowable Non-Storm Water Discharges

RIPDES Construction General Permit – IV.E.1.g

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

☒ Yes ☐ No

List of allowable non-stormwater discharges:

- Water for dust control

Are there any known or contaminated discharges, including dewatering operations, on or near the project area?
☐Yes ☒ No

If yes, list the discharges and the RIPDES individual permit number(s) or RIPDES Remediation General Permit Authorization number(s) associated with these discharges.

- RIPDES individual permit number: N/A
- RIPDES Remediation General Permit Authorization number: N/A

1.6 Potential Sources of Pollution

Anticipated on this Project (Y/N)	Operation/ Location	Stormwater Pollutants
Y	Clearing, grading, excavating, and unstabilized areas	Sediment; Trash/Debris
N	Construction Entrance	Sediment
N	Soil Stockpiles	Sediment
Y	Paving operations	Sediment; Trash/Debris
Y	Concrete washout and waste	Heavy metals; pH; Trash/Debris
Y	Structure construction/ painting/ cleaning	Nutrients; pH; Trash/Debris; Toxic chemicals
Y	Demolition and debris disposal	Sediment; Trash/Debris
N	Dewatering operations	Sediment; Nutrients
N	Drilling and blasting operations	Sediment; pH; Trash/Debris
Y	Material delivery and storage	Sediment; Nutrients; Heavy metals; pH; Pesticides/Herbicides; Oil/Grease; Trash/Debris; Toxic chemicals
Y	Material use during building process	Nutrients; heavy metals; pH; pesticides/herbicides; oil/grease; trash/debris; toxic chemicals
Y	Solid waste/ trash/ debris	trash/debris; toxic chemicals
N	Hazardous waste	heavy metals; pH; pesticides/herbicides; oil/grease; toxic chemicals
N	Contaminated spills	Nutrients; heavy metals; pH; pesticides/herbicides; oil/grease; toxic chemicals
N	Sanitary/septic waste	Nutrients; pH; Bacteria/Viruses; toxic chemicals
Y	Vehicle/equipment fueling and maintenance	Oil/Grease; Toxic chemicals; fuel
Y	Vehicle/equipment use and storage	Oil/Grease; Toxic chemicals
N	Landscaping operations	Sediment; Nutrients; Trash/Debris
N	Off-site LUHPPL run-on	Industrial toxins; oil/grease; heavy metals; fuel; salt; hazardous materials
	Other:	

1.7 Site Plans

TITLE & DATE OF PLAN SET(S): Stormwater Treatment Retrofit – Greenwich Cove (RI0007025E-05A)- Old Forge Road Dated June 2019

- ☒ Total area of development
- ☒ Total area of soil disturbance
- ☒ Areas that will not be disturbed
- ☒ The location of all erosion and sediment controls
- ☒ Locations of storm drain inlets and outfalls
- ☒The location and name of the receiving waters or separate storm sewer system and the ultimate receiving waters
- ☒Location and name of all waters of the State, including wetlands
- ☒Location of environmentally sensitive features/areas to be protected (Section 1.4)
- ☒ Constraint locations of material storage areas, equipment storage areas, concrete washouts, dumpsters, stockpiles, fueling locations etc.
  (i.e. locations where these activities will not occur)

SECTION 2: EROSION AND SEDIMENTATION CONTROLS

What is a BMP?

Erosion and Sedimentation controls are Best Management Practice (BMP) devices, practices, or methods for preventing storm water pollutants from leaving the construction site and reaching environmentally sensitive areas. The most common BMPs are silt fence, hay bales, and filter socks, but a BMP can also be a policy or procedure like construction sequencing and street sweeping. The objectives of erosion and sediment controls are to minimize the potential for erosion and sedimentation during construction activities.

If BMPs are not depicted on the approved plan set, but erosion or sedimentation is occurring, appropriate BMPs must be installed as directed by the RIDOT Resident Engineer.

☒ *2.1 Minimize Disturbed Area and Protect Natural Features*

As far as is practicable, existing vegetation will 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 will 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. Topsoil will be preserved where possible, in accordance with stock pile management specifications

☒ 2.2 Phase Construction Activity

At a minimum, construction sequencing and timing of construction activities will include:

1. Before any earthwork begins, erosion and sediment controls will be installed as depicted on the Approved Plans, and in accordance with all applicable sections of the RIDOT Standard Specifications. Upon acceptable completion of site preparation and installation of erosion and sediment controls, site construction activities may commence.

2. While earthwork is being done, routine inspection and maintenance and/or modification of erosion and sediment controls will be performed.

3. Final stabilization of any disturbed areas after earthwork has been completed.

☒ 2.3 Control Stormwater Flowing Onto & Through Project

Structural BMPs will be 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 will be installed as depicted on the approved plan set and in accordance with applicable RIDOT Standard Specifications.

Control measures that may be used, upon approval, include hay bales/silt fencing, compost filter socks, fiber rolls, gravel bag berms, slope drains, check dams, and riprap.

☒ 2.4 Stabilizing Soils

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 disturbed portions will not be active within the 21-day time-frame.

Clearing/Grubbing will not take place during a rain event if erosion is likely to occur; nor will it occur if a rain event is forecasted and appropriate erosion controls cannot be installed prior to the storm and in accordance with section 201, 206 through 211 of the RIDOT standard specifications.

No undisturbed areas will 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 will 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 by erosion control matting or mulch, in accordance with specifications contained within the RI Soil Erosion and Sediment Control Handbook (as amended). 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 restabilized within 5 working days.

As per RIDOT Standard Specification 201.03.1 – Clearing and Grubbing: After clearing, and by the end of each day's grubbing operation, the Contractor will install erosion control measures that are indicated on the Plans or as directed by the Engineer. Such erosion control measures will be installed in strict accordance with the requirements of **SECTIONS 206, 207,** and **208** of these Specifications, **PERIMETER EROSION CONTROLS, CHECK DAMS**, and **TEMPORARY DEWATERING BASINS**, respectively.

Initiating Stabilization Practices

Upon completion and acceptance of site preparation and initial installation of erosion and sediment controls the operator will 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.

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 RIDOT Standard Specifications Section L.02 – Seeding, Section L.05 - Seed Stabilizers and Section M.18 – Landscape Materials (M.18.08 – Mulch and M.18.09 – Seed Stabilizer Materials).

Maintaining Stabilization

Controls and methods that may be used to maintain soil stabilization include the placement of geotextiles, erosion control blankets/mats, and temporary seeding. If the stabilization BMPs fail and erosion occurs, then alternative control measures &/or methods may need to be substituted.

☒ 2.5 Protect Slopes

Structural BMPs will be used to temporarily conduct concentrated stormwater runoff safely down the face of a cut or fill slope without causing erosion on or below the slope.

BMPs will be installed as depicted on the approved plan set and in accordance with applicable RIDOT Standard Specifications.

Control measures that may be used, upon approval, include temporary slope drains, compost filter socks, fiber rolls, gravel bag berms, erosion control mats/blankets, and temporary vegetative cover.

☒ 2.6 Protect Storm Drain Inlets

Structural BMPs will be used to protect ALL stormwater inlets &/or catchbasins that may receive sediment-laden stormwater flow.

BMPs will be installed as depicted on the approved plan set and in accordance with applicable RIDOT Standard Specifications.

Control measures that may be used, upon approval, includecatch basin inserts, compost filter socks, fiber rolls, and gravel bag berms.

☒ 2.7 Protect Storm Drain Outfalls

Structural BMPs will be used to protect ALL stormwater outfalls that may discharge sediment-laden stormwater flow.

BMPs will be installed as depicted on the approved plan set and in accordance with applicable RIDOT Standard Specifications.

Control measures that may be used, upon approval, include compost filter socks, fiber rolls, gravel bag berms, and rip-rap.

☒ 2.8 Establish Perimeter Controls and Sediment Barriers

Structural BMPs will be used to establish perimeter barriers that will stop sediment-laden stormwater flow from leaving the construction site.

BMPs will be installed as depicted on the approved plan set and in accordance with applicable RIDOT Standard Specifications.

Control measures that may be used, upon approval, include baled hay &/or silt fence, compost filter socks, fiber rolls, and gravel bag berms.

☒ *2.9 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.

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.

The dewatering of contaminated non-stormwater cannot be discharged without prior notice and approval from either the Rhode Island Department of Environmental Management (RIDEM) or the Coastal Resources Management Council (CRMC). Should dewatering of contaminated water be occurring on this construction project, appropriate permits will have been obtained, and will be included as part of the Contract Documents.

- Great care and attention shall be made to the inlet sediment control devices and perimeter erosion controls to prevent sediment and debris from leaving the construction site and entering the existing drainage system.

☒ 2.10 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.

https://www.wunderground.com/weather/us/ri/warwick

SECTION 3: GOOD HOUSEKEEPING BMPS

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

☒ 3.1 Off-site Tracking of Sediments

Any construction site access point must employ the BMPs depicted on the approved plan set and in accordance with RIDOT Standard Specifications Section 211 – Construction Accesses, or any method approved of by the RIDOT Resident Engineer and the RIDOT Office of Stormwater Management. Construction accesses will be used in conjunction with the stabilization of construction roads to reduce the amount of mud picked up by construction vehicles. All RI STD 9.9.0 Construction Access roads will be constructed prior to any roadway accepting construction traffic

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

The Operatorwill 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.

☒ 3.2 Waste Disposal

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

- The waste collection area willnot be within any of the constraint areas located on the “Constraint Map” (Section 1.7) and will be approved by the RIDOT Resident Engineer.
- All waste containers will be covered to avoid contact with wind and precipitation.
- Waste collection will be scheduled frequently enough to prevent containers from overfilling.
- All construction site wastes will be collected, removed, and disposed of in accordance with applicable regulatory requirements and only at authorized disposal sites.
- Equipment and containers will be checked for leaks, corrosion, support or foundation failure, or other signs of deterioration. Those that are found to be defective will be immediately repaired or replaced.

☒ 3.3 Spill Prevention and Control Plan

Spills and leaks will be avoided through frequent inspection of equipment and material storage areas. Heavy equipment and other vehicles will be routinely inspected for leaks and repaired as necessary. Material storage areas will be routinely inspected for leaky containers, open containers, or improper storage techniques that may lead to spills or leaks. Appropriate cleanup procedures and supplies will be available on-site.

Spills will be cleaned up immediately and following proper response procedures and in accordance with any applicable regulatory requirements. At no time will 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 will not take place within any of the constraint areas located on the "Constraint Map" (Section 1.7) and will be approved by the RIDOT Resident Engineer.

☒ 3.4 Control of Allowable Non-Storm Water Discharges

Non-storm water discharges will be controlled to reduce the likelihood of contamination. Allowable discharges will be kept separate from stormwater flow with BMPs.

For contaminated non-stormwater discharge(s), the requirements and regulations of the associated RIPDES individual permit or RIPDES Remediation General Permit will be adhered to at all times.

☒ 3.5 Establish Proper Building Material Staging Areas

Stock piles will not be located within any of the constraint areas located on the "Constraint Map" (Section 1.7) and will be approved by the RIDOT Resident Engineer. They will have side slopes no greater than 30% and stockpiles of erodible material will be seeded and ringed with RI STD 9.1.0 to stabilize (or RIDOT approved equivalent: berms, dikes, fiber rolls, compost socks, sandbag, gravel bags).

If soil stockpiles are not stabilized with vegetation, then they will 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 willnot be located within any of the constraint areas located on the "Constraint Map" (Section 1.12) and will be approved by the RIDOT Resident Engineer.

☒ 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 will not be within any of the constraint areas located on the "Constraint Map" (Section 1.12) and will be approved by the RIDOT Resident Engineer.

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 will 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 and legally disposed of, to avoid exposure to precipitation, at the end of each working day.Designated areas willnot be located within any of the constraint areas located on the "Constraint Map" (Section 1.12) and will be approved by the RIDOT Resident Engineer.

☒ 3.7 Establish proper equipment/vehicle fueling & maintenance practices

Vehicle fueling, maintenance and/or washing will occur off-site, or in designated areas. Designated areas willnot be located within any of the constraint areas located on the "Constraint Map" (Section 1.7) and will be approved by the RIDOT Resident Engineer.

Areas will be clearly designated, and berms, sandbags, or other barriers will be used around the perimeter of the maintenance area to prevent storm water contamination.

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

☒ 3.8 Dust Control

Dust control procedures and practices will 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. RIDOT Standard Specifications Section 907 – Dust Control – will be followed.

Dust Control methods may include watering, surface roughening, wind barriers, walls, and covers.

☒ 3.9 Sweeping

Sweeping of streets, roads, highways, and parking lots that have accumulated significant amounts of pollutants (construction site sediment, trash, debris) will be done as necessary, or as directed by the RIDOT Resident Engineer. When construction exits are not keeping construction site sediment from the roadway, sweeping will be done daily. Disposal of collected sweeping material will follow RIDOT Standard Specifications Section 931 – Cleaning and Sweeping Pavement.

SECTION 4: POST-CONSTRUCTION BMPs

Post-Construction Best Management Practices are BMPs that are installed during the Construction Phase of a project to manage storm water flow after the construction is completed.

Measures must be used during the construction project 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.

Such long-term BMPs may include: infiltration basins, open vegetated swales and natural depressions, vegetated buffer strips, and detention/ retention structures. Controls may also be needed to prevent or minimize erosion at outfall locations or along the length of vegetated channels to reduce velocity flow from the structure to the receiving waters.

Control measures that may need to be implemented during the construction phase typically include measures to ensure proper installation and/or long term functioning of the long-term BMPs. Examples include: ensuring proper material staging areas and equipment routing to avoid compaction of soil in areas meant for permanent BMPs, and final cleaning of structural BMPs before construction finalization.

4.1 Post-Construction BMPs

Location	Post-Construction BMP	Protective Measures
Along north side of road	Underground Infiltration System	Ensure proper installation per plans
Along north side of road	Vortechs 2000	Ensure proper installation per plans; clean/flush before final acceptance

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 approved planset and in Section 212 of the RHODE ISLANDDEPARTMENT OF TRANSPORTATION Standard Specifications for Road and Bridge Construction 2004 EDITION (and Amendments).

The Contractor will maintain erosion and pollution controls to the satisfaction of the Engineer. 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.

Construction will not commence or continue until all specified erosion and pollution controls are in place, properly installed and accepted by the Engineer.

Erosion and pollution controls will be cleaned when sediment deposits reach the heights indicated in the table provided in Section 212.03.1 of the RIDOT Standard Specifications, after a rainstorm as necessary; and/or when directed by the RIDOT Resident Engineer.

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

BMPs will be maintained in effective operating condition by appropriate means. Upon identification of BMPs that are not operating effectively, maintenance and/or appropriate means will be performed as soon as practicable.

Timely maintenance of the control measures identified in this SWPPP will be ensured by weekly and post-storm event site inspections. These site inspections are a condition and requirement of the RIDOT Stormwater Management Program Plan.

Please Note: The contractor is required to have a full-time, on-site designated contact person responsible for working with the RIDOT Resident Engineer and the RIDOT designated Environmental Compliance Manager (EMC) to resolve SWPPP-related issues.

5.2 Inspections

Minimum Monitoring and Reporting Requirements

The construction 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 (as may be found on www.wunderground.com or www.nws.noaa.gov (or similar sites)) must be identified and utilized for the determination of the storm events.

General Notes

- The RIDOT Designated Inspector will prepare a separate inspection report for each inspection.
- The Inspection Reference Numberwill be a combination of the
  Construction Contract Number - consecutively numbered inspections.
  ex. Inspection reference number for the **4**th inspection of a project would be:
  2011-AA-BBB-**4**
- Each report will be signed and dated by the Inspector and forwarded to the Engineer within 24 hours of the inspection.
- Each report will be signed and dated by the Engineer and forwarded to the Contractor's designated representative.
- Each report will be signed and dated by the Contractor upon receipt.
- If Corrective Actions are required, the Contractor will initiate appropriate measures within 24 hours of receiving of the inspection report.
- It is the responsibility of the RIDOT Resident Engineer to maintain a copy of the SWPPP, copies of all completed inspection reports, and amendments as part of the SWPPP documentation at the project field office during construction.

ATTACHMENT A: Inspection Report Instructions and Template

5.3 Corrective Actions

If, in the opinion of the Resident Engineer, corrective action is required, the Resident Engineer willnote it on the inspection report and willnotify and direct the Contractor to take corrective action and make all necessary repairs whenever maintenance of the erosion and pollution controls is required.

In accordance with Section 212 of the RIDOT Standard Specifications, the Contractor will commence with the requisite cleaning and maintenance measures no later than the next consecutive calendar day after receiving such a directive from the Engineer, and will aggressively and expeditiously perform such cleaning and maintenance work until the original problem is remedied to the complete satisfaction of the Engineer.

If the Engineer decides on any given day that those erosion and pollution controls specified in the Contract are not in place or have not been adequately maintained as specified in this Section, the daily charge set forth in Special Provision Code 212.1000 will be deducted from monies due the Contractor as a charge for failure to comply with this Specification. Moreover, the stated daily charge will continue each consecutive calendar day thereafter until the deficiencies noted have been corrected to the complete satisfaction of the Engineer.

ATTACHMENT A: Inspection Report Instructions and Template including Corrective Action Log

SECTION 6: Amendments

This SWPPP is intended to be a working document.

It is expected that amendments will be required throughout the construction of the project.

Even if practices are installed on a site per the approved plan, the site is only in compliance when erosion and sedimentation are effectively controlledthroughout the entire site.

The SWPPP will 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 within the 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 Resident Engineer.

SECTION 7: Recordkeeping

7.1 Requirements

It is the RIDOT Resident Engineer's responsibility to have the following documentsat the Field Office and immediately available for review upon request:

- A copy of the fully signed and dated SWPPP
- Copies of all signed and dated Inspection Reports
- Corrective Action Log
- Amendment Log
- Any Regulatory permits obtained as part of the Project

SECTION 8: Party Certifications

All parties working for the Rhode Island Department of Transportation are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that is performed on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. 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 RIDOT Field Office, or may be obtained from the RIDOT Office of Stormwater Management by calling(401) 734-4892.

The prime contractor 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.

RIDOT Resident Engineer:

_____

Signature/date

RIDOT SWPPP Inspector:

_____

Signature/date

Contractor SWPPP Contact:

_____

Signature/date

Subcontractor SWPPP Contact:

_____

Signature/date

Amendment Log

ALL AMENDMENTS MUST BE APPROVED BY RIDOT RESIDENT ENGINEER

Describe amendment to be made to SWPPP, the date, and the person/title making the amendment. The RIDOT Resident Engineer must approve ALL amendments.

	Date	Description of Amendment	R.E. initials
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Add more lines/pages as necessary

SWPPP APPENDICES

Attachment A

Small-Site SWPPP Inspection Report -- Instructions

Small-Site SWPPP Inspection Report

Small-Site SWPPPCorrective Action Log

Small-Site SWPPP Inspection Report with Instructions

For all projects with **less than one (1) acre of soil disturbance**, RIDOT is required to develop and enforce a site-specific **Storm Water Pollution Prevention Plan** (**SWPPP**) to remain in compliance with RIDOT's Stormwater Management Program Plan (SWMPP). As part of the SWPPP, a site-specific inspection report must be created and utilized.

Preparing the Inspection Report

This inspection report template has been provided by RIDOT for the development of the site-specific SWPPP Inspection Report. It must be customized for each individual Project to meet the requirements of the RIPDES Construction General Permit and our SWMPP.

It is expected that this Inspection Report will be prepared as part of the preparation of the site-specific SWPPP. This inspection report template is designed to be customized according to the SWPPP document (initially) and then customized based on conditions at the site.

Review the site-specific SWPPP and the Plans to develop the inspection report. ***On a copy of the site plan, number all stormwater BMPs and areas of the site that will be inspected.*** Include both structural (basins, outlet protection, swales, etc) and non-structural (construction entrances, perimeter barriers, trash areas, etc) BMPs and areas that will be inspected. Also, identify all point source outfalls, areas of highly erodible soils, and the priority natural resource areas (i.e. streams, wetlands, mature trees, etc). **List each BMP or area to be inspected separately in the site-specific BMP section of the inspection report**.

An appropriate rain gauge must be identified and utilized for the determination of the storm events. Rain gauges may be found on www.wunderground.com, www.nws.noaa.gov (or similar sites).

Small-Site SWPPP Inspection Report Instructions for:

RIDOT PROJECT MANAGEMENT

- The RIDOT Division Administrator of Project Management must review the SWPPP and sign the Certification Statement as the site OWNER on p. iii of the SWPPP.

RESIDENT ENGINEER

- The RIDOT Resident Engineer (RE) must review the SWPPP and sign the Certification Statement for RIDOT Resident Engineer in Section 8. If the RE has any questions, contact the RIDOT Office of Stormwater Management (OSM) at 401-734-4892.
- The Resident Engineer (RE) may be the Inspector, or the RE may designate another qualified RIDOT employee as the Inspector. The RE, or the designated inspector, must sign the Certification Statement for RIDOT SWPPP Inspector in Section 8 of the SWPPP.
- **It is the responsibility of the RIDOT Resident Engineer to start the SWPPP Inspections BEFORE EARTHWORK BEGINS.** Earthwork is NOT allowed to proceed until a SWPPP Inspection of the site has been completed.
- After an inspection has been performed, the RE must sign the 'acknowledgement' certification on Page 1 of the Inspection Report at time of receipt from the Inspector.
- The RE must review the Inspection Report within 24-hours of receipt.
    - If the RE agrees with the Inspection report, the RE must:
        - Fill out the "NOTICE TO CONTRACTOR" box on the last page of the Report
        - Have the Contractor sign the 'acknowledgement' certification on Page 1
        - Make a copy of the Inspection Report with all 3 signatures for the Contractor's use
    - If the RE disagrees with a corrective action item, the RE must:
        - Document objection with each item and provide justifiable reason in the inspection report. The contractor will not responsible for initiating corrective actions for such items. RIDOT's OSM will review such items if warranted.
        - Fill out the "NOTICE TO CONTRACTOR" box on the last page of the Report
        - Have the Contractor sign the 'acknowledgement' certification on Page 1
        - Make a copy of the Inspection Report with all 3 signatures for the Contractor's use

- It is the responsibility of the RIDOT Resident Engineer to maintain a copy of the SWPPP, copies of all completed inspection reports, and amendments as part of the SWPPP documentation at the project field office during construction.
- **The Inspection Report serves as the RIDOT directive to the Contractor to proceed with corrective actions.**

INSPECTORS

- The RIDOT Resident Engineer (RE) may be the Inspector, or the RE may designate another qualified RIDOT employee as the Inspector. The RE, or the designated inspector, must review the SWPPP and sign the Certification Statement for RIDOT SWPPP Inspector in Section 8 of the SWPPP.
- A separate inspection report will be prepared for each inspection.
- Complete any items that will remain constant, such as the project information and BMP locations and descriptions. Then print out multiple copies (double-sided!) of this customized inspection report to use during the inspections *or save the file for future use on a computer*.
- The Inspection Reference Number shall be a combination of the Construction Contract Number - consecutively numbered inspections.
  ex. Inspection reference number for the **4**th inspection of a project would be:
  2006-AA-BBB-**4**
- Check the rain gauge for past & future weather data prior to inspection.
- Minimum Monitoring and Reporting Requirements

  "…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." (per RIPDES CGP)
- When conducting the inspection, walk the site by following the site map and numbered BMPs locations for inspection. Also, note whether the overall site issues have been addressed.
- Take photos to document issues, completed required maintenance/corrective actions – each photo should be dated and have a unique identification # and written description indicating where it is located within the project area. If a close-up photo is required, it should be preceded with a photo including both the detail area and some type of visible fixed reference point. Photos should be annotated with Station numbers and other identifying information where needed.
- For each inspection, the Inspector must determine if the Construction site is in compliance with the SWPPP, or not. The Inspector must check the appropriate check-box on Page 1 of the inspection report.
- Each report must be signed and dated by the Inspector, and forwarded to the Engineer within 24-hours of the inspection.

Small-Site SWPPP Inspection Report Instructions for:

INSPECTORS (continued)

- On a monthly basis, the inspector must electronically submit a PDF of the Inspection Reports to the Project Manager (PM) and the Office of Stormwater Management (OSM). Please submit OSM reports to both: heather.hamilton@dot.ri.gov and john.preiss@dot.ri.gov .

Monthly submission:

- o must include each completed, dated, and signed inspection report, including any associated photos.
- o must be submitted no later than the 10th of the month following the end of the reporting period.
- o must include a copy of the daily rainfall summary data for the month as reported by the selected rain gauge (ex/ the monthly calendar from www.wunderground.com).
- o may have the report content, frequency, &/or submission format changed with approval from the OSM.

CONTRACTOR

- The Contractor must review the SWPPP and sign the Certification Statement for Contractor in Section 8 and pg. iv of the SWPPP.
- After an Inspection has been performed, the Contractor must sign the 'acknowledgement' certification on Page 1 of the inspection form at time of receipt from the Resident Engineer.
- The RE will provide a copy of the signed Inspection Report to the Contractor.
- **The Inspection Report serves as your RIDOT directive to proceed with corrective actions.**
- In accordance with the SWPPP and Section 212 of the RIDOT Standard Specifications, the **Contractor will commence with the requisite cleaning and maintenance measures no later than the next consecutive calendar day after receiving such a directive from the Engineer, and will aggressively and expeditiously perform such cleaning and maintenance work until the original problem is remedied to the complete satisfaction of the Engineer**.
- The CONTRACTOR is responsible for maintaining the CORRECTIVE ACTION LOG.

Small-Site SWPPP Inspection Report Instructions for:

INSPECTOR, RESIDENT ENGINEER, & CONTRACTOR

Amendments

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.

SWPPP Amendments may be recommended by any party, but all amendments must be approved by the Resident Engineer. The revision must be recorded in the Record of Amendments Log Sheet within the 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 by the Inspector.

Questions

Questions may be addressed to the RIDOT Office of Stormwater Management, 360 Lincoln Ave, Warwick, RI 02888, 401-734-4892.

RIDOT Small-Site SWPPP Inspection Report

Project Information			
Name/Location			
RIDOT Project Manager		**RIDOT Resident Engineer**	
Contractor		**Contractor SWPPP Contact**	
E&S Sub-Contractor		**Sub-Contractor SWPPP Contact**	

Inspection Information			
Inspector	**Name**	**Phone**	**Email**
Inspection Date		**Start/End Time**	

Inspection Type
☐ **Weekly** ☐ **Pre-storm event** ☐ **During storm event** ☐ **Post-storm event** ☐ **Violation**

Weather Information

Rain Gauge:

Last Rain Event
Date: Duration (hrs): Approximate Rainfall (in):

Current Weather at time of this inspection:

Weather Forecast at time of this inspection: (And: When is next precipitation or wind event anticipated?)

Certification Statements

Inspector: (check one)
☐ I, as the designated Inspector, certify that this site has been inspected and is in compliance with the site-specific SWPPP.

☐ I, as the designated Inspector, certify that this site has been inspected and I have made the determination that the site requires corrective actions before it will be compliant with the site-specific SWPPP. The required corrective actions are noted within this inspection report.

Print Name:	Signature:	Date:

Resident Engineer:
I, the RIDOT Resident Engineer, acknowledge the receipt of this SWPPP inspection report, and understand the requirements set forth in the RIDOT Standard Specifications and the Contract Documents regarding the implementation and maintenance of erosion and sedimentation controls.

Print Name:	Signature:	Date:

Contractor:
I, the designated Contractor representative, acknowledge the receipt of this SWPPP inspection report, and understand the requirements set forth in the RIDOT Standard Specifications and the Contract Documents regarding the implementation and maintenance of erosion and sedimentation controls.

Print Name:	Signature:	Date:

RIC #: INSPECTION REF #:

EROSION AND SEDIMENTATION BMP INSPECTION		Installed & Operating Correctly?	Assoc. Photo #	CORRECTIVE ACTION
2.1	Are **Limits of Disturbance** clearly marked at the site?	☐Yes ☐No		
2.1	Are **natural resource areas** (e.g., streams, wetlands, trees, etc.) protected with sediment barriers or similar BMPs?	☐Yes ☐No ☐None on/adjacent to site		
2.2	Is **construction sequencing** being followed?	☐Yes ☐No ☐N/A		
2.3	Are **structural BMPs** properly installed to divert stormwater flow from entering the construction site?	☐Yes ☐No ☐None needed		
2.4	Is **clearing/grubbing** only occurring in areas that will have active work within 21-days?	☐Yes ☐No		
2.4	Is **clearing/grubbing** taking place inside the Apr 15 - Oct 15 window?	☐Yes ☐No		
2.4	Do **unstabilized areas** have appropriate erosion & pollution controls in place?	☐Yes ☐No ☐All areas stabilized		
2.5	Are all **slopes** protected from concentrated stormwater flow?	☐Yes ☐No ☐No slopes		
2.6	Are **ALL** storm drain **inlets &/or catch basins** properly protected with silt sacks or other appropriate BMPs?	☐Yes ☐No		
2.7	Are **ALL** storm drain **outfalls** properly protected from scour/erosion?	☐Yes ☐No ☐No outfalls		
2.8	Are **perimeter and sediment controls** adequately installed & maintained to prevent sediment from leaving the site?	☐Yes ☐No		
2.9	If dewatering, are discharge points protected & **receiving waters** free of sediment deposits?	☐Yes ☐No ☐No dewatering		
2.10	Is **weather** forecast being checked regularly?	☐Yes ☐No		

Notes on Erosion and Sediment Controls:

RIC #: INSPECTION REF #:

GOOD HOUSEKEEPING BMP INSPECTION		Installed & Operating Correctly?	Assoc. Photo #	CORRECTIVE ACTION
3.1	Are BMPs effectively limiting **sediment** from being tracked into the street?	☐Yes ☐No		
3.2	Is **trash/litter** from work areas collected & placed in covered containers regularly?	☐Yes ☐No		
3.3	Are **equipment**, vehicles, containers, & storage areas free from leaks?	☐Yes ☐No		
3.3	Are **materials** that are potential stormwater contaminants covered or stored inside?	☐Yes ☐No		
3.4	Are **non-storm water discharges** (i.e. dust control H_2O) free from contamination?	☐Yes ☐No		
3.5	Are **stockpiles** covered (either with temporary vegetation or tarps), ringed with barrier BMPs, & located at least 50 feet away from natural resources & storm drains?	☐Yes ☐No ☐No stockpiles		
3.6	Are **washout facilities** (e.g. paint, grout, concrete) available, clearly marked, and **maintained** & located at least 50-feet away from natural resources and storm drains?	☐Yes ☐No ☐No concrete use at this time		
3.7	Are **vehicle** & **equipment** fueling, cleaning, & maintenance areas free from leaks & located at least 50-feet away from natural resources & storm drains?	☐Yes ☐No ☐No fueling areas		
3.8	Is **dust** being controlled on-site?	☐Yes ☐No		
3.9	Is **sweeping** being used to keep sediment off roads & parking lots?	☐Yes ☐No		

PROCEDURAL BMP INSPECTION		Installed & Operating Correctly?	Assoc. Photo #	CORRECTIVE ACTION
4.1	Are **permanent stormwater STUs** (i.e. infiltration basins, swales, permeable pavement areas) being protected from compaction? (*No stockpiling or vehicles in these areas*!)	☐Yes ☐No ☐No permanent STUs		
5.1	Are all **erosion & pollution controls** being maintained in accordance with RIDOT Standard Spec Section 212?	☐Yes ☐No		
5.2	Are **inspections** taking place at least every 7 days & after storm events?	☐Yes ☐No		
5.3	Has the Contractor initiated & completed previous **Corrective Actions** (CA)?	☐Yes ☐No ☐No previous CA		
6.0	Are SWPPP **Amendments** being logged?	☐Yes ☐No ☐None		
7.0	Are SWPPP & ALL **inspection reports** being kept at RIDOT Field Office & forwarded to OSM by 10th of month?	☐Yes ☐No		

TO BE FILLED OUT BY RIDOT RESIDENT ENGINEER

OUTSTANDING CORRECTIVE ACTIONS

Were **CORRECTIVE ACTIONS** reported in the previous inspection report?

☐ **NO**	No Corrective Actions were issued in previous inspection report.	
☐ **YES** and…	☐ All Corrective Actions have been addressed	
	Date work began:	Date work completed:
	☐ Corrective Actions remain and are noted in this inspection report. **WHY did they not get addressed w/in 7-days?**	

NOTICE TO CONTRACTOR

This SWPPP Inspection Report, completed by a RIDOT-designated inspector, indicates that this construction site is:

☐ **COMPLIANT**	☐ No immediate actions are required. Keep up the good work! ☐ **Work is required to maintain site compliance.**
☐ **NON-COMPLIANT**	**This document serves as your RIDOT directive to proceed with the CORRECTIVE ACTIONS that have been outlined above.** The SWPPP, Construction Contract documents, and Section 212 of the RIDOT Standard Specifications state that the **Contractor** will commence with the requisite cleaning and maintenance measures **no later than the next consecutive calendar day** after receiving such a directive from the Engineer **and will aggressively and expeditiously perform such cleaning and maintenance work until the original problem is remedied to the complete satisfaction of the Engineer**.
	Date work to begin:
	Date work to be completed:

R.E. initials: _____ R.E. Comments:

Date:

Corrective Action Log

TO BE FILLED OUT BY SITE OPERATOR FOR EVERY INSPECTION

Location/ Station	Corrective Action	Date Notified	Date Completed	RIDOT Initial

Operator Signature: **Date:**

APPENDIX D
TEST PIT LOGS

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
Office of Water Resources
Onsite Wastewater Treatment Systems Program

Site Evaluation Form
Part A – Soil Profile Description

Application Number: STORMWATER DRAINAGE

Property Owner: R.I.D.O.T.
Property Location: OLD FORGE ROAD – ACROSS FROM POLE #11 –
Date of Test Hole: 8 MAY 2019
Soil Evaluator: DEB BOSNORTH
License Number: D-4032
Weather: PARTLY CLOUDY
Shaded: Yes ☐ No ☑ Time: 10AM

TH 1 Horizon	Depth INCHES	Horizon Boundaries Dist	Horizon Boundaries Topo	Soil Colors Matrix	Soil Colors Re-Dox Features	Re-Dox Ab. S. Contr.	Texture	Structure	Consistence	Soil Category
HTM1	0-9	a	s	10YR3/1	–	–	sl	sbk	fr	–
HTM2	9-16	a	s	10YR4/4	–	–	grav s	sg	loose	–
HTM3	16-28	a	s	10YR2/1	–	–	grav ls	sbk	fr	–
HTM4	28-48	a	w	10YR6/4	10YR4/6 10YR6/2	m m d	fs	sg	loose	–
HTM5	48-66	c	w	10YR3/2	–	–	grav cob lfs	mass	fr	–
Bwb	66-72	a	w	10YR3/2	–	FINE ROOTS	lfs	sbk	fr	
C	72-96	–	–	10YR5/4	–	–	fs	sg	loose	–

TH 2 Horizon	Depth INCHES	Horizon Boundaries Dist	Horizon Boundaries Topo	Soil Colors Matrix	Soil Colors Re-Dox Features	Re-Dox Ab. S. Contr.	Texture	Structure	Consistence	Soil Category
HTM1	0-9	a	s	10YR3/1	–	–	sl	sbk	fr	–
HTM2	9-18	a	w	10YR4/6 10YR3/1	–	–	mixed s/sl	sbk	fr	–
Apb	18-29	a	s	10YR3/2	–	–	grav ls	sbk	fr	–
Bwb	29-40	c	w	7.5YR4/6	–	–	ls	sbk	vfr	–
C1	40-86	c	w	10YR5/3	–	–	lfs	sbk	vfr	–
C2	86-96	–	–	10YR5/3	–	–	grav cob lfs	sbk	vfr	–

TH 1 Soil Class HTM/C Total Depth 96" Impervious/Limiting Layer Depth – (og) GW Seepage Depth – SHWT 96+" (og) eg
TH 2 Soil Class HTM/C Total Depth 96" Impervious/Limiting Layer Depth – (og) GW Seepage Depth – SHWT 96+" (og) eg

Comments: PROFILES IN BOTH PITS DESCRIBED ON SOUTH FACE, ON HIGHER SIDE OF PITS, TOWARD SIDEWALK.

Revised 11/25/18

Part B

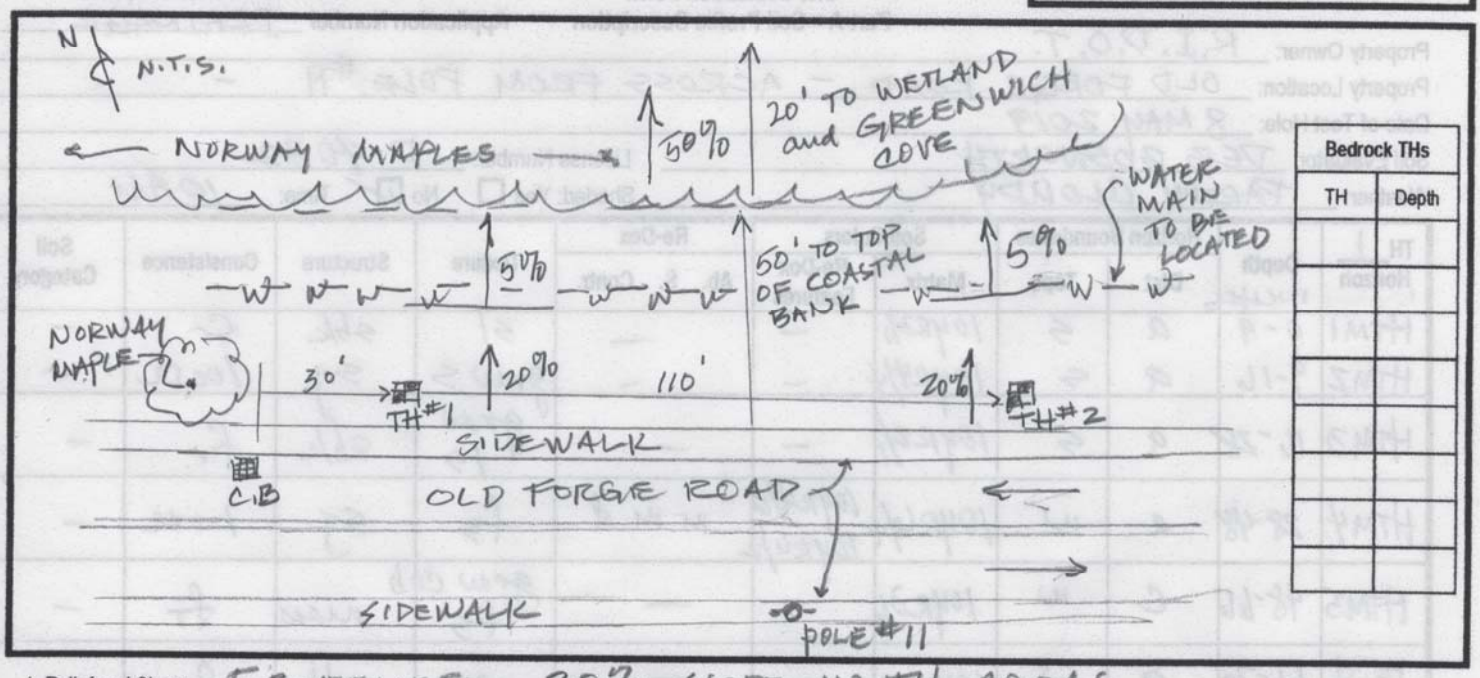
Site Evaluation – to be completed by Soil Evaluator or Class II or III Designer

Please use the area below to locate:

1. Test holes and bedrock test holes,
2. Approximate direction of due north,
3. Offsets from all test holes to fixed points such as street, utility pole, or other permanent, marked object.*

***OFFSETS MUST BE SHOWN**

Key:
- Approximate location of test holes
- Approximate location of bedrock test holes
- x% Estimated gradient and direction of slope
- N Approximate direction of due north



Bedrock THs	
TH	Depth

1. Relief and Slope: 5 FT RELIEF 20% SLOPE IN TH. AREAS
2. Presence of any watercourse, wetlands or surface water bodies, within 200 feet of test holes? If yes, locate on above sketch. NO ☐ YES ☑
3. Restrictive Layer or Bedrock within 4' below original ground within 25 feet of test hole? Provide all test hole locations & depths above. NO ☑ YES ☐
4. Presence of existing or proposed private drinking water wells within 200 feet of test holes? If yes, locate on above sketch. NO ☑ YES ☐
5. Public drinking water wells within 500 feet of test holes? If yes, locate on above sketch. NO ☑ YES ☐
6. Is site within the watershed of a public drinking water reservoir or other critical area defined in Rule 6.42? NO ☑ YES ☐
7. Has soil been excavated from or fill deposited on site? If yes, locate on above sketch. TO BUILD ROAD NO ☐ YES ☑
8. Site's potential for flooding or ponding: NONE ☐ SLIGHT ☑ MODERATE ☐ SEVERE ☐
9. Landscape position: SHOULDER
10. Vegetation: MOWED GRASS – NORWAY MAPLES ALONG TOP OF BANK
11. Indicate approximate location of property lines and roadways.
12. Additional comments, site constraints or additional information regarding site: COASTAL BANK – PUBLIC WATER MAIN

Certification

The undersigned hereby certifies that all information on this application and accompanying forms, submittals and sketches are true and accurate and that I have been authorized by the owner(s) to conduct these necessary field investigations and submit this request.

Part A prepared by: Deborah Bopwanta D4032 (Signature / License #) Part B prepared by: Deborah Bopwanta D4032 (Signature / License #)

DO NOT WRITE IN THIS SPACE

Witnessed Soil Evaluation Decision: Concur ☐ Inconclusive ☐ Disclaim ☐

Unwitnessed Soil Evaluations Decision: Accept ☐ Inconclusive ☐ Disclaim ☐

Wet Season Determination required ☐ **Additional Field Review Required** ☐

Explanation:

Signature Authorized Agent

Date

Revised 11/25/18

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Environmental Management
Office of Water Resources
Onsite Wastewater Treatment Systems Program

Site Evaluation Form
Part A – Soil Profile Description **Application Number** STORMWATER

Property Owner: R.I.D.O.T.
Property Location: POST RD EXT. WARWICK – MEDIAN SWALE AT SOUTH ENTRANCE
Date of Test Hole: 1 MAY 2019
Soil Evaluator: DEB BOSWORTH License Number: D-4032
Weather: CLOUDY Shaded: Yes ☐ No ☑ Time: 1:30 - 2:00

TH 1 Horizon	Depth inches	Horizon Boundaries Dist	Horizon Boundaries Topo	Soil Colors Matrix	Soil Colors Re-Dox Features	Re-Dox Ab. S. Contr.	Texture	Structure	Consistence	Soil Category
HTM1	0-5	a	s	10YR 3/3	–	—	sl	gran	fr.	–
HTM2	5-10	a	s	10YR 4/4	–	–	sl	sbk	fr	–
HTM3	10-18	a	s	10YR 3/2	–	–	gravs	sg	loose	–
HTM3	18-26	a	s	10YR 4/2	–	–	gravs	sg	loose	–
HTM4	26-60	a	s	2.5Y 2.5/1	–	–	s	sg	loose	–
2C	60-90	–	–	10YR 5/3			gravs	sg	loose	–

TH Horizon	Depth	Horizon Boundaries Dist	Horizon Boundaries Topo	Soil Colors Matrix	Soil Colors Re-Dox Features	Re-Dox Ab. S. Contr.	Texture	Structure	Consistence	Soil Category

TH 1 Soil Class HTM/C Total Depth 90" Impervious/Limiting Layer Depth ~ (og) GW Seepage Depth — SHWT 90"+ (og)
TH ____ Soil Class ____ Total Depth ____ Impervious/Limiting Layer Depth ____ (og) GW Seepage Depth ____ SHWT ____ (og)

Comments: LOOSE SANDS UNDERMINING – NO SIGNS OF SHWT – SHWT PROBABLY DEEPER THAN 90" AS CATCH BASINS ACTING AS SUBDRAINS (?) WATER LEVEL AT 20 FT.

Revised 11/25/18

Part B

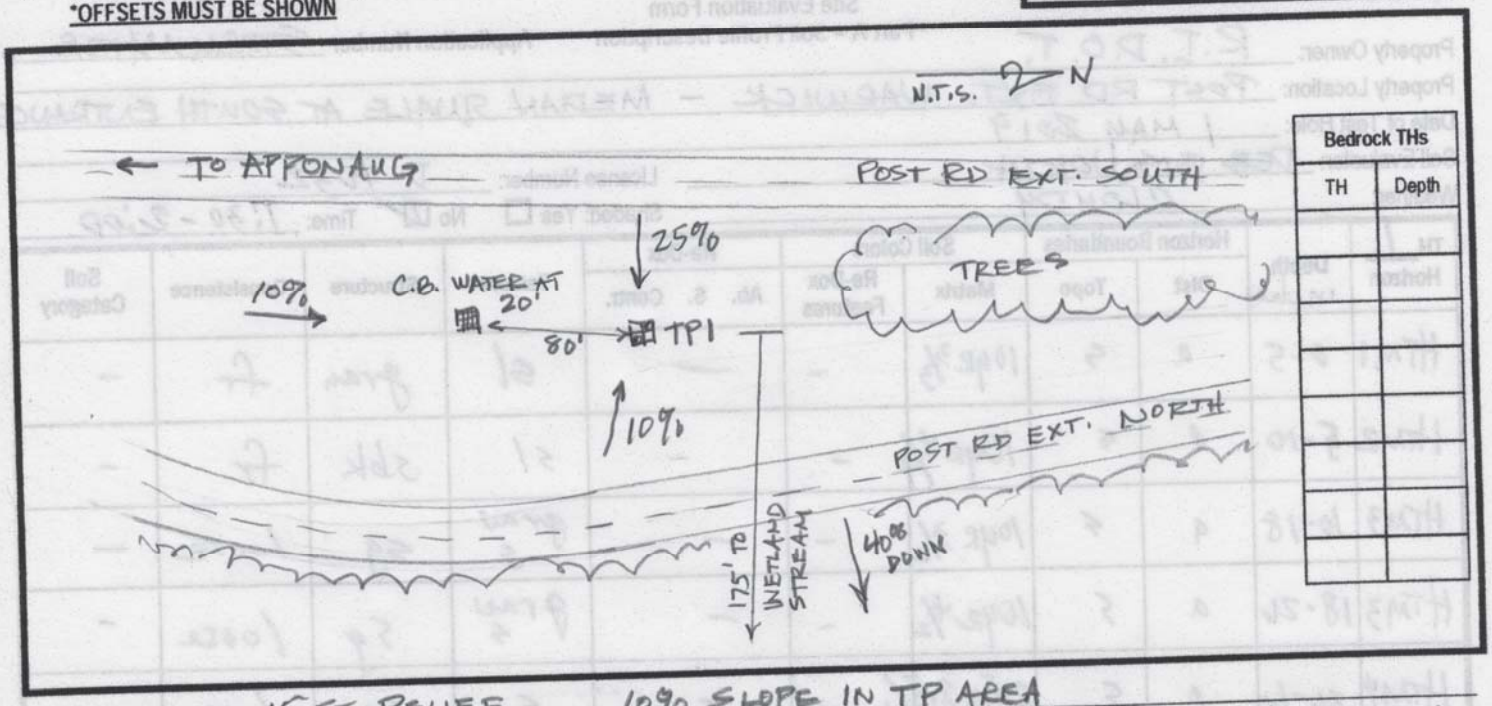
Site Evaluation – to be completed by Soil Evaluator or Class II or III Designer

Please use the area below to locate:

1. Test holes and bedrock test holes,
2. Approximate direction of due north,
3. Offsets from all test holes to fixed points such as street, utility pole, or other permanent, marked object.*

***OFFSETS MUST BE SHOWN**

Key:
- Approximate location of test holes
- Approximate location of bedrock test holes
- x% Estimated gradient and direction of slope
- N Approximate direction of due north



Bedrock THs	
TH	Depth

1. Relief and Slope: 15 FT RELIEF 10% SLOPE IN TP AREA
2. Presence of any watercourse, wetlands or surface water bodies, within 200 feet of test holes? If yes, locate on above sketch. NO ☐ YES ☑
3. Restrictive Layer or Bedrock within 4' below original ground within 25 feet of test hole? Provide all test hole locations & depths above. NO ☑ YES ☐
4. Presence of existing or proposed private drinking water wells within 200 feet of test holes? If yes, locate on above sketch. NO ☑ YES ☐
5. Public drinking water wells within 500 feet of test holes? If yes, locate on above sketch. NO ☑ YES ☐
6. Is site within the watershed of a public drinking water reservoir or other critical area defined in Rule 6.42? NO ☑ YES ☐
7. Has soil been excavated from or fill deposited on site? If yes, locate on above sketch. SEE PROFILE NO ☐ YES ☑
8. Site's potential for flooding or ponding: NONE ☑ SLIGHT ☐ MODERATE ☐ SEVERE ☐
9. Landscape position: TOE OF SLOPE ~ DRAINAGE WAY
10. Vegetation: MOWED TURF
11. Indicate approximate location of property lines and roadways.
12. Additional comments, site constraints or additional information regarding site:

Certification

The undersigned hereby certifies that all information on this application and accompanying forms, submittals and sketches are true and accurate and that I have been authorized by the owner(s) to conduct these necessary field investigations and submit this request.

Part A prepared by: Deborah Bofinuto D4032 (Signature / License #) Part B prepared by: Deborah Bofinuto D4032 (Signature / License #)

DO NOT WRITE IN THIS SPACE

Witnessed Soil Evaluation Decision: Concur ☐ Inconclusive ☐ Disclaim ☐

Unwitnessed Soil Evaluations Decision: Accept ☐ Inconclusive ☐ Disclaim ☐

Wet Season Determination required ☐ **Additional Field Review Required** ☐

Explanation:

Signature Authorized Agent Date

Revised 11/25/18

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
Office of Water Resources
Onsite Wastewater Treatment Systems Program

D·E·M

Site Evaluation Form
Part A – Soil Profile Description

Property Owner: RIDOT
Application Number: STORM WATER
Property Location: POST RD EXT. – WARWICK TH2 pole #N6966 TH3 pole #N6967-6968
Date of Test Hole: 1 MAY 2019
Soil Evaluator: DEB BOSWORTH
License Number: D-4032
Weather: CLOUDY
Shaded: Yes ☐ No ☑ Time: 11:15 – 12:00

TH 2 Horizon	Depth inches	Horizon Boundaries Dist	Horizon Boundaries Topo	Soil Colors Matrix	Soil Colors Re-Dox Features	Re-Dox Ab. S. Contr.	Texture	Structure	Consistence	Soil Category
HM1	0-9	a	s	10YR2/1	–	–	ls	organics gran	vfr	–
HM2	9-14	a	s	10YR3/2	–	–	ls	gran	vfr	–
HM3	14-19	a	s	10YR4/6	–	–	sl	sbk	fr	–
2C1	19-29	a	s	10YR5/3	–	–	cos	sg	loose	–
2C2	29-60	–	–	10YR6/2	–	–	grav cos	sg	loose	–

TH 3 Horizon	Depth inches	Horizon Boundaries Dist	Horizon Boundaries Topo	Soil Colors Matrix	Soil Colors Re-Dox Features	Re-Dox Ab. S. Contr.	Texture	Structure	Consistence	Soil Category
HM1	0-6	a	s	10YR2/1	–	–	organics ls	gran	vfr	–
HM2	6-10	a	s	10YR3/2	–	–	ls	gran	vfr	–
HM3	10-16	a	s	10YR4/6	–	–	sl	sbk	fr	–
2C1	16-28	a	s	10YR5/3	–	–	grav cos	sg	loose	–
2C2	28-60	–	–	10YR6/2	–	–	cos	sg	loose	–

TH 2 Soil Class HM/C Total Depth 60" Impervious/Limiting Layer Depth – (og) GW Seepage Depth 60" SHWT 60" (og) eg
TH 3 Soil Class HM/C Total Depth 60" Impervious/Limiting Layer Depth – (og) GW Seepage Depth 60" SHWT 60" (og) eg

Comments: SHWT FLOWING IN QUICKLY – LOOSE SAND UNDERMINING

Revised 11/25/18

Part B

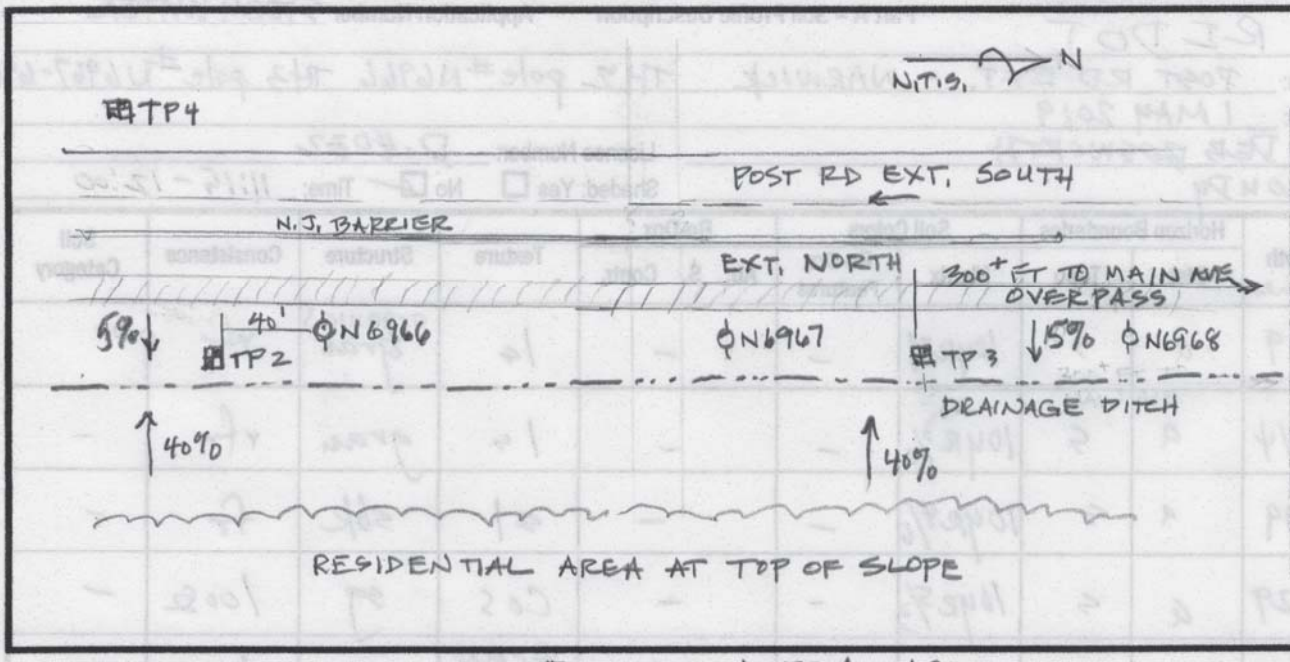
Site Evaluation – to be completed by Soil Evaluator or Class II or III Designer

Please use the area below to locate:

1. Test holes and bedrock test holes,
2. Approximate direction of due north,
3. Offsets from all test holes to fixed points such as street, utility pole, or other permanent, marked object.*

***OFFSETS MUST BE SHOWN**

Key:
- Approximate location of test holes
- Approximate location of bedrock test holes
- x% Estimated gradient and direction of slope
- N Approximate direction of due north



Bedrock THs	
TH	Depth

1. Relief and Slope: 10 FT RELIEF 10% SLOPE IN TP AREAS
2. Presence of any watercourse, wetlands or surface water bodies, within 200 feet of test holes? If yes, locate on above sketch. NO ☑ YES ☐
3. Restrictive Layer or Bedrock within 4' below original ground within 25 feet of test hole? Provide all test hole locations & depths above. NO ☑ YES ☐
4. Presence of existing or proposed private drinking water wells within 200 feet of test holes? If yes, locate on above sketch. NO ☑ YES ☐
5. Public drinking water wells within 500 feet of test holes? If yes, locate on above sketch. NO ☑ YES ☐
6. Is site within the watershed of a public drinking water reservoir or other critical area defined in Rule 6.42? NO ☑ YES ☐
7. Has soil been excavated from or fill deposited on site? If yes, locate on above sketch. SEE PROFILE NO ☐ YES ☑
8. Site's potential for flooding or ponding: NONE ☑ SLIGHT ☐ MODERATE ☐ SEVERE ☐
9. Landscape position: TOE OF SLOPE
10. Vegetation: WHITE PINES AT TOP OF SLOPE – MOWED TURF ON SLOPE + DITCH
11. Indicate approximate location of property lines and roadways.
12. Additional comments, site constraints or additional information regarding site:

Certification

The undersigned hereby certifies that all information on this application and accompanying forms, submittals and sketches are true and accurate and that I have been authorized by the owner(s) to conduct these necessary field investigations and submit this request.

Part A prepared by: Deborah Bajwinta D4032 (Signature / License #) Part B prepared by: Deborah Bajwinta D4032 (Signature / License #)

DO NOT WRITE IN THIS SPACE

Witnessed Soil Evaluation Decision: Concur ☐ Inconclusive ☐ Disclaim ☐

Unwitnessed Soil Evaluations Decision: Accept ☐ Inconclusive ☐ Disclaim ☐

Wet Season Determination required ☐ **Additional Field Review Required** ☐

Explanation:

Signature Authorized Agent Date

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
Office of Water Resources
Onsite Wastewater Treatment Systems Program

Site Evaluation Form
Part A – Soil Profile Description **Application Number** STORM WATER

Property Owner: R.I.D.O.T.
Property Location: POST RD EXT. WARWICK TH4 pole# 8378 TH5 pole# 8375
Date of Test Hole: 1 MAY 2019
Soil Evaluator: DEB BOSWORTH License Number: D-4032
Weather: CLOUDY Shaded: Yes ☐ No ☑ Time: 12:15-1:00

TH 4 Horizon	Depth inches	Horizon Boundaries Dist	Horizon Boundaries Topo	Soil Colors Matrix	Soil Colors Re-Dox Features	Re-Dox Ab. S. Contr.	Texture	Structure	Consistence	Soil Category
HTM1	0-3	a	s	10YR2/1	—	—	organics s	gran	vfr	—
HTM2	0-9	a	s	10YR2/1	—	—	ls	gran	vfr	—
HTM3	9-16	a	s	10YR3/3	—	—	sl	sbk	fr	-
2C1	16-27	a	s	10YR5/3	—	—	grav s	sg	loose	—
2C2	27-72	—	—	10YR6/2	—	—	stratified fs	sg	loose	—

TH 5 Horizon	Depth inches	Horizon Boundaries Dist	Horizon Boundaries Topo	Soil Colors Matrix	Soil Colors Re-Dox Features	Re-Dox Ab. S. Contr.	Texture	Structure	Consistence	Soil Category
HTM	0-9	a	s	10YR3/3	—	—	ls	gran	vfr	—
2C	9-78	—	—	10YR5/2	—	—	grav cos	sg	loose	—

TH 4 Soil Class HTM/C Total Depth 72" Impervious/Limiting Layer Depth _____ (og) GW Seepage Depth 72" SHWT 72" ~~(og)~~ eg
TH 5 Soil Class HTM/C Total Depth 78" Impervious/Limiting Layer Depth _____ (og) GW Seepage Depth 78" SHWT 78" ~~(og)~~ eg

Comments: SHWT SEEPING and SIDES OF PIT UNDERMINING

Part B

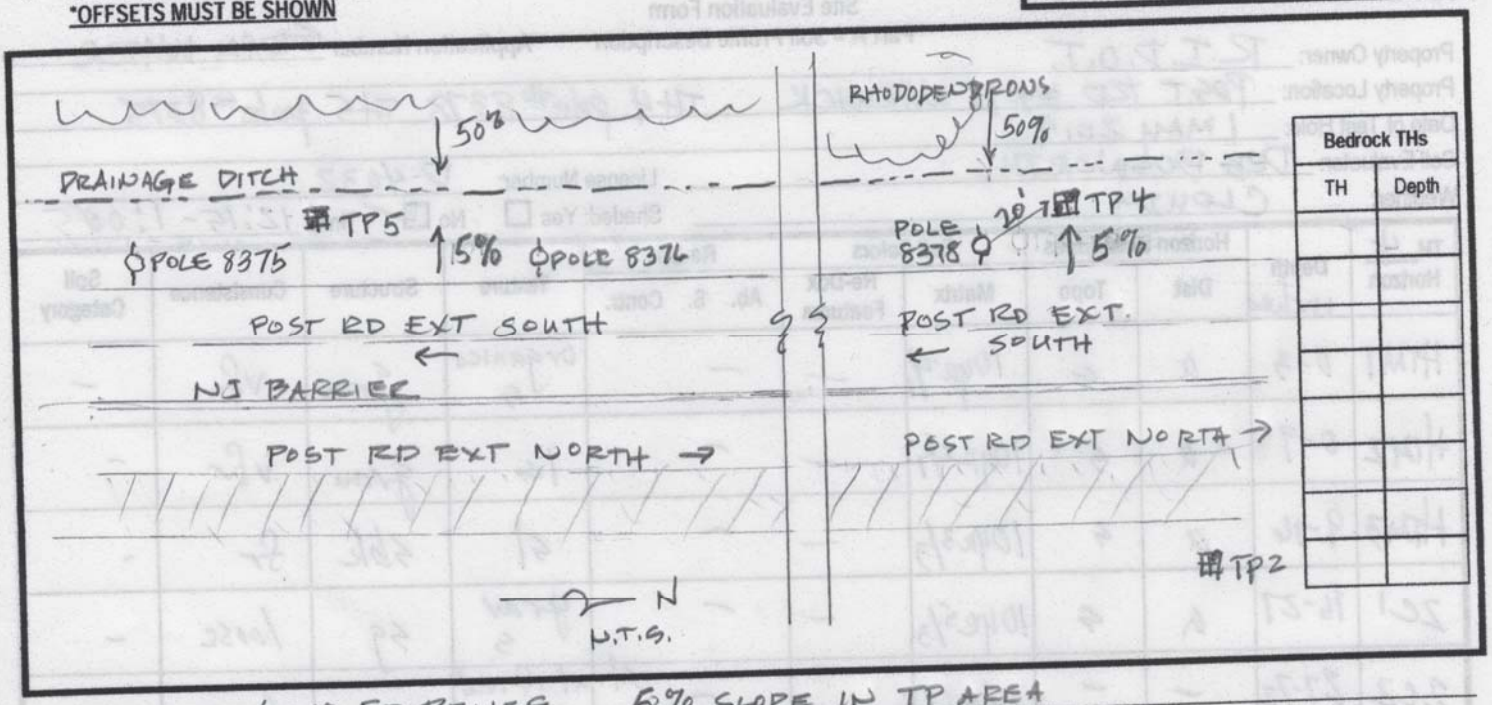
Site Evaluation – to be completed by Soil Evaluator or Class II or III Designer

Please use the area below to locate:

1. Test holes and bedrock test holes,
2. Approximate direction of due north,
3. Offsets from all test holes to fixed points such as street, utility pole, or other permanent, marked object.*

***OFFSETS MUST BE SHOWN**

Key:
- Approximate location of test holes
- Approximate location of bedrock test holes
- x% Estimated gradient and direction of slope
- N Approximate direction of due north



Bedrock THs	
TH	Depth

1. Relief and Slope: 6-10 FT RELIEF 5% SLOPE IN TP AREA
2. Presence of any watercourse, wetlands or surface water bodies, within 200 feet of test holes? If yes, locate on above sketch. NO ☑ YES ☐
3. Restrictive Layer or Bedrock within 4' below original ground within 25 feet of test hole? Provide all test hole locations & depths above. NO ☑ YES ☐
4. Presence of existing or proposed private drinking water wells within 200 feet of test holes? If yes, locate on above sketch. NO ☑ YES ☐
5. Public drinking water wells within 500 feet of test holes? If yes, locate on above sketch. NO ☑ YES ☐
6. Is site within the watershed of a public drinking water reservoir or other critical area defined in Rule 6.42? NO ☐ YES ☑
7. Has soil been excavated from or fill deposited on site? If yes, locate on above sketch. SEE PROFILE
8. Site's potential for flooding or ponding: NONE ☑ SLIGHT ☐ MODERATE ☐ SEVERE ☐
9. Landscape position: TOE OF SLOPE
10. Vegetation: OAK - CHERRY - WHITE PINE, MOWED TURF IN DITCHES
11. Indicate approximate location of property lines and roadways.
12. Additional comments, site constraints or additional information regarding site:

Certification

The undersigned hereby certifies that all information on this application and accompanying forms, submittals and sketches are true and accurate and that I have been authorized by the owner(s) to conduct these necessary field investigations and submit this request.

Part A prepared by: Deborah Bogumiler D4032 (Signature / License #) Part B prepared by: Deborah Bogumiler D4032 (Signature / License #)

DO NOT WRITE IN THIS SPACE

Witnessed Soil Evaluation Decision: Concur ☐ Inconclusive ☐ Disclaim ☐

Unwitnessed Soil Evaluations Decision: Accept ☐ Inconclusive ☐ Disclaim ☐

Wet Season Determination required ☐ **Additional Field Review Required** ☐

Explanation:

Signature Authorized Agent

Date

Revised 11/25/18

APPENDIX E
PAVEMENT CORES REPORT

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
MATERIALS AND QUALITY ASSURANCE
PAVEMENT CORE REPORT

File No: 2975

Date: 2/12/2020

RI Contract No 2016-EE-054 F.A.P. No: RI-DAII-001 Project: STORMWATER TREATMENT RETROFIT

Town / City: WARWICK Cored By: PENKALA, COLBERT, DE OCA, QUINN, WILLAMS

Limits: POST RD. EXTENSION SHOULDERS N.B. AND S.B.

P.E. ☑ Final ☐ Acceptance ☐ Special Projects ☐

Comments: PTSID: 0197E

Core ID	Station		Curb Reveal	Depth	Depth	Depth	Depth	Depth	Total Depth	Gravel: From / To
	Lateral Offset	LATITUDE	LONGITUDE	Material	Material	Material	Material	Material	Cored To	
Direction	Road Description			Qualifier	Qualifier	Qualifier	Qualifier	Qualifier	Core Notes	
C-01	500' FROM MAIN AVE BR.			1.6"	6.6"				8.2"	
	3 Edge of Pavement	41.71	-71.4478	1/2	Base					
SB	SOUTHBOUND RIGHT SHOULDER									
C-02	960' FROM MAIN AVE BR.			2.4"	6.4"				8.8"	
	4.7 Edge of Pavement	41.7088	-71.4485	1/2	Base					
SB	SOUTHBOUND RIGHT SHOULDER			DISTINCT LIF	Broken				2 PIECES	
C-03	1420' FROM MAIN AVE BR.			1.8"	6.4"				8.2"	
	6.7 Edge of Pavement	41.7075	-71.4489	1/2	Base					
SB	SOUTHBOUND RIGHT SHOULDER				DISTINCT LIF					
C-04	1880' FROM MAIN AVE BR.			1.5"	1"	1.6"	4.9"		9"	
	5.3 Edge of Pavement	41.7064	-71.4493	1/2	1/2	Base	Base			
SB	SOUTHBOUND RIGHT SHOULDER									
C-05	2540' FROM MAIN AVE BR.			1.5"	6.1"				7.6"	
	4 EDGE OF BERM	41.7051	-71.4498	1/2	Base					
SB	SOUTHBOUND RIGHT SHOULDER				DISTINCT LIF					
C-06	200' FROM MAIN AVE BR.			1.2"	1.5"	6.2"			8.9"	
	6.7 Edge of Pavement	41.7107	-71.4474	1/2	1/2	Base				
NB	NORTHBOUND RIGHT SHOULDER									
C-07	625' FROM MAIN AVE BR.			1.5"	1"	6.3"			8.8"	
	7.2 Edge of Pavement	41.7096	-71.4479	1/2	1/2	Base				
NB	NORTHBOUND RIGHT SHOULDER									

Core ID	Station		Curb Reveal	Depth	Depth	Depth	Depth	Depth	Total Depth	Gravel: From / To
	Lateral Offset	LATITUDE	LONGITUDE	Material	Material	Material	Material	Material	Cored To	
Direction	Road Description			Qualifier	Qualifier	Qualifier	Qualifier	Qualifier	Core Notes	
C-08	1075' FROM MAIN AVE BR.			2.5"	7.5"				10"	
	9.1 Edge of Pavement	41.7084	-71.4488	1/2	Base					
NB	NORTHBOUND RIGHT SHOULDER			DISTINCT LIF						
C-09	1525' FROM MAIN AVE BR.			1.5"	1.1"	7"			9.6"	
	7.5 Edge of Pavement	41.7072	-71.4488	1/2	Base	Base				
NB	NORTHBOUND RIGHT SHOULDER					HIGH VOIDS				
C-10	90' FROM EAST END CATCH BASIN		5.3	1.5"	1.3"				2.8"	
	4.6 EDGE OF CURB	41.6469	-71.4558	1/2	Base					
WB	WESTBOUND RIGHT SHOULDER									
C-11	175' FROM EAST END CATCH BASIN		6	1.5"	1.6"				3.1"	
	3.3 EDGE OF CURB	41.647	-71.4559	1/2	Base					
WB	WESTBOUND RIGHT SHOULDER			HIGH VOIDS					TONES BENEATH ASPHAL	
			Average Depth:	1.68"	3.68"					

Technician (Print / Sign) 2/27/20 Date

Materials Engineer (Print / Sign) 2/28/20 Date

APPENDIX F

GUIDELINES FOR WORK IN THE VICINITY
OF NATIONAL GRID FACILITIES

Guidelines for Backfill and Compaction Around Gas Pipes
Temporary Permanent Backfill and Compaction

DESCRIPTION

This work shall consist of backfilling and compacting all disturbed material at and around existing gas pipes and facilities. Size of pipe, material, length of exposed pipe, location of pipe, etc. will all follow the same set of Standards and Specifications stipulated by Nationalgrid Company. If design plans call for gas pipes to be exposed and supported (sheeting methods not used), then at the time of backfill, all disturbed material below the invert of the gas pipe shall be removed and replaced with suitable roadway or trench excavation material or bedding material. The contractor will not be allowed to replace this disturbed material with the same existing material if it has now been mixed with adjacent silty subsoil (clays) and fines. Well-graded gravel and sands will be used to replace the unsuitable material when no excess suitable material is available on site. Soils with high humus or mineral content should not be used for backfill because they can promote electrolytic or bacterial attack.

Backfilling the gas pipe should begin immediately after the work in that location is complete. The region within 6' alongside and on top of the gas pipe shall be backfilled with padding sand (free of cinders, ash and rock). In no case shall the material used for backfilling in this region contain any stones. Backfill shall consist of suitable materials (medium to coarse sands with little or no silts) placed in layers of not more than 8" to 12" after compaction.

Trench spoil material shall be suitable for backfilling above the padding material as long as rocks with a diameter larger than 3" are removed. The layers shall be mechanically compacted to the industry standard of 95% or until a density comparable to the unexcavated material is achieved. In some instances, flooding with water is an acceptable method of compaction but only if the back-fill material is clean, coarse and adequate drainage is existent. The above specified backfill material is essential in order to attain the degree of compaction necessary to avoid future settlement.

Tracing wire, if necessary, shall be installed 2" to 6" below Plastic gas pipes

Warning Tape shall be installed approximately 12" above the gas pipe.

A minimum of 2" temporary pavement shall be applied over the trench as soon as possible.

Guidelines for Earth Shoring around Gas Pipes
Permanent and Temporary Earth Shoring Systems

DESCRIPTION

When the installation of underground utilities or structures affect gas pipes or gas structures, all the design plans and specifications shall be submitted to Nationalgrid for review and approval of the proposed earth shoring methods. Some work may require elaborate and/or complex earth shoring designs and some work may only require a description of the work being done along with simple shoring solutions. Nationalgrid shall review the proposed work for proper design and conformance to Nationalgrid specifications. Also, Nationalgrid can meet with the owner before the project begins and decide on a "case-by-case" basis if plans are needed or if a description of the work is sufficient.

Should protection be required for gas utilities, the contractor will be required to provide an adequate earth shoring system (steel sheet piling, soldier piling & lagging, timber bracing, whaler bracing system, trench box, etc.). The temporary or permanent earth shoring system shall be furnished, installed and left in place, or removed, installed and disposed of properly by the contractor. This work shall be done in accordance with the job specific specifications and details shown on the approved set of Plans.

In all cases where sheeting is left in place after construction, it will be cut off a distance of two feet below grade.

The earth shoring system shall be of sufficient length and adequate section modulus to provide adequate resistance of loads and conditions involved to safely sustain earth banks, gas pipes and facilities, and any other adjoining structures, which may endanger gas pipes by settlement or loss of ground.

<u>GENERAL NATIONALGRID CONSIDERATIONS</u>

- Steel sheet piling shall not be driven within five feet of cast iron gas pipe (this holds true for soils of medium to coarse sand with very little fines or silts. Cohesive and "silty" soils (28% silt or greater) requires an even greater horizontal distance – approximately 10 feet). Soldier piling and lagging may be an alternative shoring method should these distances not adequately be met.
- As required by OSHA, a minimum 2:1 slope of the embankment must always be maintained in an excavation trench or pit. Should this 2:1 slope (angle of repose) interfere with Nationalgrid utilities, the affected must be protected from potential or horizontal settlement.
-
- Z:\Shared\ENG\Engineering Docs, Forms, Guidelines\Natgrid Spec_Shoring.doc

Other than steel trench–boxes, which are suitable for all types of soils, a Registered, Professional Engineer shall prepare designs and computations for these support systems. Nationalgrid reserves the right, during the review process, to require additional support and shoring in areas where shoring may not be sufficient in Nationalgrid's opinion.

At the time of construction, the contractor's attention is specifically directed to the proximity of the gas pipe and relation to the sheeting work. In regard thereto, it shall be the contractor's responsibility to give a 24-hour advance notice to Nationalgrid so our inspector may be present during such work. Furthermore, the contractor shall maintain all excavations in good order, during construction, as to not undermine or reduce the stability of the shoring system, which may have adverse effects on the protected gas pipes.

Guidelines for Support of Gas Pipes
Temporary Support of Gas Pipes

DESCRIPTION

This work shall consist of temporarily supporting gas pipes, during construction work and related activities. Any gas pipe that is exposed shall follow this specification stipulating pipe support criteria. Whether gas pipe is located directly in the excavation trench box or if it is located in the excavated adjacent slopes (Angle of Repose), all gas pipe must be supported.

When gas pipe is undermined for 5 feet or more at any given time, Nationalgrid must be notified and a decision will be made on what type of support system will be utilized. Nationalgrid reserves the right to insist that a Rhode Island Registered Professional Engineer submit plans, if the gas pipe being supported exceeds an unsupported span length of 12 feet, is located in cohesive soils (wet, silty soils), or feels that the structural integrity of the gas distribution system may be compromised.

All cast iron gas pipes will be replaced and not be temporarily supported, unless determined differently by Nationalgrid. This criterion is in accordance with Section 6315.6 of Nationalgrid's *Operations Standards and Practices Manual*.

The following criteria should be used as guidelines when undermining existing steel or plastic gas pipes:

STEEL GAS PIPE

If pipe is undermined for a distance 5 and 10 feet, the support system should consist, as a minimum, of adequately sized steel I-beams, steel plate girders, or 6" x 6" wood beams (Hem-Fir) with a sling supporting the pipe mid-span. For distances greater than 10 feet, these temporary support beams will have slings supporting the pipe every 10 to 12 feet along the length of the undermined pipe. Furthermore, when a mechanical coupling or fitting is encountered at any span length, the slings must be placed on either side of the fitting to avoid buckling.

PLASTIC GAS PIPE

If pipe is undermined for a distance between 5 and 10 feet, the support system should consist, as a minimum, of adequately sized steel I-beams, steel plate girders, or 4" x 4" wood beams (Hem-Fir) with a sling supporting the pipe mid-span. For distances greater than 10 feet, these temporary support beams will have slings supporting the pipe every 10 to 12 feet along the length of the undermined pipe. Furthermore, when a mechanical coupling or fitting is encountered, the slings must be placed on either side of the fitting to avoid buckling.

Appendix - G

SPECIFICATIONS – JOB SPECIFIC

INDEX
SPECIFICATIONS – JOB SPECIFIC

CODE	TITLE	PAGE
105.02	Plans and Shop Drawings	JS-1
108.03	Prosecution and Progress	JS-3
108.1000	Prosecution and Progress	JS-4
109	Measurement and Payment	JS-5
109.07	Partial Payment of Lump Sum Items	JS-8
202.9901	Excavation – Archaeological Monitoring	JS-9
206	Perimeter Erosion Controls	JS-10
207	Check Dams	JS-15
208	Temporary Dewatering Basins	JS-18
209	Storm Drain Protection	JS-21
210	Stilling Basins for Water Pollution Control	JS-25
211	Construction Accesses	JS-27
212	Maintenance and Cleaning of Erosion and Pollution Controls	JS-29
301.9901	Stone for Underground Infiltration System	JS-37
701.9901	ADS N-12 Pipe	JS-38
702.9901	Stormwater Treatment Device – Vortechs 2000	JS-39
907.1000	Dust Control	JS-44
937.1000	Maintenance and Movement of Traffic Protective Devices	JS-45
938.1000	Price Adjustments	JS-46
L02.1000	Seeding Failure to Comply	JS-47

Section 105.02 of the Standard Specifications is replaced as follows:

CODE 105.02
PLANS AND SHOP DRAWINGS

105.02 Plans and Shop Drawings. Plans shall be supplemented by Contractor-prepared Shop Drawings as necessary to control the Work and its prosecution. Shop Drawings consisting of details that are not included in the Plans but required for the Work shall be furnished to the Department. Copies of any calculations required or used to prepare the Shop Drawings shall be furnished with the submission. Manufacturer's engineering data for prefabricated material, including that for falsework and forms shall be furnished with each set of Shop Drawings.

1) The Contractor shall submit to the Department for approval or documentation, the necessary Shop Drawings in a timely manner so as not to adversely affect the Contractor's accepted schedule. The Contractor shall not perform work for items requiring shop drawings before receiving approval of the corresponding Shop Drawings. This approval shall neither confer upon the State nor relieve the Contractor of any responsibility for the accuracy and completeness of the drawings, conformity with Contract requirements and successful completion of the Contract. Prior to approval of the Contractor's shop drawing, the Contractor bears all risk and all costs of delays for items related to the respective shop drawing.

2) Shop Drawings illustrate the Contractor's way it intends to carry out the design concepts contained in the Contract and are not part of the Contract. The Contractor's submission of a Shop Drawing represents to the Engineer that the Contractor (i) coordinated the Shop Drawing with the Contract; (ii) verified and measured the field dimensions and other information; (iii) calculated all details, construction and performance criteria; and (iv) reviewed and accepted the Shop Drawings as its means and methods.

3) Submission of Shop Drawings. All shop drawings shall be submitted in a timely fashion such that the Contractor's accepted schedule will not be adversely impacted by the submittal process.

   a) Shop drawing submittals shall be via PDF files submitted electronically by the Contractor into the Department's web-based Project Management Portal (PMP), per RIDOT procedure posted in the Documents Tab. Each shop drawing submittal shall be accompanied by design computations, cuts from manufacturers' catalogs, and/or all other supporting technical bulletins and data. Upon the Department's request, once shop drawings have been approved or approved as noted, the Contractor shall submit for the record four (4) hard copy sets of shop drawings to the Department.

   b) All Shop Drawings shall be stamped by a Rhode Island Registered Professional Engineer. The stamping of Shop Drawings shall be in accordance with the applicable requirements of the Rhode Island Board of Registration for Professional Engineers, or other Boards of Professional Registration, as applicable.

4) Approval of Shop Drawings. All shop drawings will be reviewed and returned to the Contractor for appropriate action within 45 calendar days from receipt of the submission or resubmission, or as detailed in the Contract.

   a) Shop drawings that are found to be erroneous, lacking required Professional Engineer stamps, lacking information necessary to control construction, or not in conformance with accepted design criteria will be rejected and returned to the Contractor. The Contractor shall address the Engineer's comments and resubmit revised shop drawings.

   b) Shop drawings designated "Approved-As-Noted" may be used by the Contractor to commence corresponding work subject to satisfying the written conditions of the approval; such shop drawings shall be revised according to the notes (as applicable) and transmitted to the Engineer within fourteen calendar days of such approval.

5) There shall be no claims for additional payment by the Contractor, nor will there be an extension of time under Section 108.03 for delays resulting from resubmissions due to incomplete Shop Drawings; for the time taken by the Contractor to submit revised Shop Drawings caused by an erroneous submission; or by a previous submission either lacking the information necessary to control construction; or for not conforming to accepted design criteria. In addition, the Engineer's review time of the revised Shop Drawings will not constitute justification for an extension of time.

6) The Contract price includes the cost of furnishing all Shop Drawings, including resubmissions.

SECTION 108.03
PROSECUTION AND PROGRESS

In accordance with the General Requirements of Section 108.03 of the Supplemental Specifications, the applicable schedule requirements will be based on **Schedule Level C**.

CODE 108.1000
PROSECUTION AND PROGRESS

In accordance with Standard Specification Section 108.08, Failure to Complete on Time, the Job Specific Completion Dates and Associated Liquidated Damages are defined as follows:

Interim Completion (Greenwood Creek - RI0007025R-11): Within 30 Days of Construction Start (at location)

Interim Completion (Greenwich Cove – RI0007025E-05A): Within 30 Days of Construction Start (at location)

Substantial Completion: September 25, 2020

All Contract work shall be completed, as defined by Section 101.71.

Liquidated Damages: $1,200 per calendar day.

CODE 109
MEASUREMENT AND PAYMENT

Description of Pay Items

All work under this Contract shall be performed in accordance with the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction 2004 Edition, (amended March 2018), including all Supplemental Specifications up to the date of Contract advertisement, and these Contract Documents; except for Method of Measurement and Basis of Payment. This special provision defines the measurement and basis of payment for the work to be done under the respective items listed in the Bid Schedule for this Contract.

All work under this Contract shall be included in the "Lump Sum" price for each location as listed in the Proposal Bid Schedule. All items of work shown on the Plans, or otherwise indicated elsewhere within the Contract Documents, and any incidentals required to complete the work shall be considered as part of the Lump Sum bid prices. Any item of work not explicitly noted within the Contract Documents, but required to complete the work, shall be considered part of, and included in, the Lump Sum bid prices.

Off-site disposal of items, if required, shall be the responsibility of the contractor and in complete accordance with applicable local, state and federal codes. No separate payment will be made for these items, unless otherwise specified.

Appurtenant items of work shown on the drawings or specified, which are required to complete the work but are not listed separately under the various applicable bid items of work, shall not be paid separately. Appurtenant items include, but are not limited to fittings, couplings, tools, labor, and all other items required to furnish a complete installation. It shall be the responsibility of the Contractor to verify any missing or incomplete items.

Basis of Payment – Bid Item No. 1 (Greenwood Creek - RI0007025R-11)

The item "**Greenwood Creek RI0007025R-11**" will be paid for as LUMP SUM as listed in the Bid Proposal. The price so-stated constitutes full and complete compensation for all work associated with the proposed installation, including but not limited to: all necessary signage, drum barricades, warning arrows, and truck-mounted attenuators required for acceptable maintenance and protection of traffic; installation of erosion controls, compost filter sock, inlet sediment control device, turf reinforcement mats, temporary swales to divert stormwater, and all necessary cleaning and maintenance throughout the project duration, including street sweeping, tracking pads, and removal of all upon completion; clearing and grubbing within the project limits; full-depth saw cutting, asphalt removal, excavating and stripping of topsoil, loading and hauling excavated soil; unloading and stockpiling excavated soil; furnishing, installing, operating, maintaining, and removing temporary sumps, pumps, discharge hoses, and miscellaneous piping as required to dewater the excavations, if necessary; scarifying the subgrade; trimming and fine grading the limit of work to receive the proposed materials; furnishing and installing rip rap, rip rap spillways, and sediment forebays; installing and adjusting catch basin, frame and grate, with required bedding and backfill, connecting into the existing catch basin and including drainage pipe; removing and installing paved waterways; removing and installing roadway lighting system; removing and installing bituminous berm; removing sediment from drainage swales, cleaning all drainage

structures receiving stormwater from the project area, cleaning and flushing all pipes to the outfall, installing proper erosion controls at pipe outfall for the cleaning operation, properly disposing of removed sediment; dust control measures; delineators; installing, maintaining, and removing temporary and permanent pavement markings; installing gravel borrow and loam and seed; mobilization and demobilization, downtime due to weather conditions, construction management and meetings, survey for horizontal and vertical control and all work necessary, test pits, quality control testing, compaction testing, grain-size distribution testing, submittals, bid bonds, payment and performance bonds, permits, and field office as required in accordance with the Contract Documents. The price so stated shall constitute full and complete compensation for all materials, labor, tools, equipment, accessories, and for all incidentals required to satisfactorily complete this work as described in these Special Provisions and elsewhere in the Contract Documents, complete in-place and accepted by the Engineer.

Basis of Payment – Bid Item No. 2 (Greenwich Cove – RI0007025E-05A)

The item "**Greenwich Cove – RI0007025E-05A**" will be paid for as LUMP SUM as listed in the Bid Proposal. The price so-stated constitutes full and complete compensation for all work associated with the proposed installation, including but not limited to: all necessary signage, drum barricades, tubular channelizing markers, warning arrows, truck-mounted attenuators, and portable changeable message signs required for acceptable maintenance and protection of traffic; removal and installation of concrete sidewalk; removal, storage and resetting of curb; installation of erosion controls, compost filter sock, inlet sediment control device, turf reinforcement mats, temporary swales to divert stormwater, and all necessary cleaning and maintenance throughout the project duration, including street sweeping, tracking pads, and removal of all upon completion; clearing and grubbing within the project limits; full-depth saw cutting, asphalt removal, placement of gravel borrow and asphalt; excavating and stripping topsoil, loading and hauling excavated soils; unloading and stockpiling excavated soil; furnishing, installing, operating, maintaining, and removing temporary sumps, pumps, and miscellaneous piping as required to dewater the excavations, if necessary; temporary earth support; excavating with oversight and direction by the archaeological monitor; scarifying the subgrade; trimming and fine grading the limit of work to receive the proposed materials, furnishing and installing new filter media within the limits shown; furnishing and installing stormwater treatment device, underground infiltration systems, drainage pipe, structures, frames and grates and covers, with required bedding and backfill, filter fabric, and connections into the existing storm drains; cleaning all drainage structures receiving stormwater from the project area, cleaning and flushing all pipes to the outfall, installing proper erosion controls along the outfall for the cleaning operation, proper disposal of sediment removed; dust control measures; installing, maintaining, and removing temporary and permanent pavement markings; mobilization and demobilization, downtime due to weather conditions and allotted archaeological suspensions, construction management and meetings, survey for horizontal and vertical control and all work necessary, test pits, quality control testing, compaction testing, grain-size distribution testing, submittals, bid bonds, payment and performance bonds, permits, field office as required in accordance with the Contract Documents. The price so stated shall constitute full and complete compensation for all materials, labor, tools, equipment, accessories, and for all incidentals required to satisfactorily complete this work as described in these Special Provisions and elsewhere in the Contract Documents, complete in-place and accepted by the Engineer.

Basis of Payment – Unit Price No. 1 (Rock Excavation)

The Unit Price stated for "Rock Excavation" includes all labor, equipment, and materials required for removal of rock and hauling of rock off-site. The unit price for rock excavation also includes all labor, equipment, and materials required for replacement of rock excavation with approved materials where the rock excavation extends beyond the specified excavation limits. Any excavation beyond the specified excavation limits must be approved by the Engineer prior to removal. The Contractor shall include in his Base Bid 100 cubic yards of rock excavation and its removal from site. If the total quantity of rock excavation and its replacement with compacted fill exceeds the amount included in the Contract as listed above, the RIDOT shall negotiate a unit price for the excess excavation and replacement per cubic yard. All quantities of rock excavated are to be measured in place by a Professional Land Surveyor registered in Rhode Island and verified by the Engineer prior to removal. "Rock" includes boulders of rock material that exceed 2 cubic yards for bulk excavation or 1 cubic yard for trench excavation.

The Contractor shall submit signed slips showing quantities of Rock removed from excavations at the end of each workday, with a total quantity mutually agreed upon. Slips shall be signed by the Engineer at the end of each day signifying that the quantities are accurate. The Engineer has the right to inspect individual loads, slips and quantities as they arrive at, or leave from, the site and as they are weighed at the stone quarry. These quantities are for reference only and will not be used to calculate payment with the unit price above.

Section 109.07 of the Standard and Supplemental Specifications is replaced as follows:

CODE 109.07
PARTIAL PAYMENT OF LUMP SUM ITEMS

109.07 Partial Payment of Lump Sum Items. Each bi-weekly period the Engineer and the Contractor will consult and subsequently agree on the progress of work performed under those lump sum items indicated in the Bid Schedule. Partial payments for the completed and accepted portions of such work will be made to the Contractor based on the Engineer's estimate of the value of said completed work.

Prior to award of the Contract, or in any case within ten (10) calendar days after the date of the Notice of Award, the Contractor shall submit to the Engineer for approval two copies of the breakdown of each lump sum bid item that appears in the Bid Schedule. The breakdown shall consist of the Contractor's quantities, the unit prices and the units of measurement used in preparing the bid. All other additional costs (such as engineering, shop drawings, formwork, equipment, etc.) to complete those items of work shall be included and distributed in the breakdown of those listed items.

The Engineer will use the lump sum breakdowns submitted by the Contractor if they fairly represent the cost of the various items of work. If, in the opinion of the Engineer, the prices submitted by the Contractor do not fairly represent the cost of the various items of work, the Engineer may substitute other prices that do fairly represent the cost of such work.

CODE 202.9901
EXCAVATION – ARCHAEOLOGIC MONITORING

DESCRIPTION: This work consists of performing excavation at the Old Forge Road location according to prescribed archaeological guidance and with oversight by an archaeological monitor. Excavation of original ground, buried below the existing roadway fill material, will be slowed or suspended periodically to enable observation and documentation of subsurface artifacts. Excavation will require coordination with the archaeological monitor; special care, methods, schedule, and equipment while excavating soil from original ground; all in accordance with the Plans, Specifications, and directions of the Engineer.

CONSTRUCTION METHODS: The Engineer will assign an archaeological monitor to observe construction at the Old Forge Road project area. The Contractor shall communicate and coordinate planned operations and schedule for excavation of the proposed infiltration system in advance with the Engineer in order to facilitate oversight and guidance by the archaeological monitor.

Portions of Old Forge Road were constructed on embankment placed above original ground. Existing fill material depth varies and is estimated to be approximately four feet deep in portions of the project area. Excavations shall proceed with special care until original ground is exposed. When the original ground surface is encountered at any depth, as indicated by a change in soil color and texture, then the Contractor shall suspend excavation and notify the Engineer. The archaeological monitor will observe excavation operations and will assist the Contractor to determine whether buried soil horizons represent the original ground surface.

The Contractor shall proceed according to the direction of the Engineer and the archaeological monitor. When the original ground surface is reached, the Contractor shall use a flat-bladed bucket to carefully and cleanly scrape the ground surface, as directed, to the bottom of the required excavation. The Contractor shall slow or suspend excavation work, as directed, to enable close inspection and documentation of the exposed soil and any artifacts by the archaeological monitor. The Contractor shall plan the work schedule to include an average delay in excavation progress of two hours per day to allow for archaeological inspections.

If the excavation uncovers significant archaeologic features, such as human skeletal materials, then continued work at the site may be suspended for a longer duration. If the Contractor is directed to excavate, preserve, and remove the significant artifacts, then such work shall be paid for as Extra Work in accordance with Subsection 202.03.1 of the Specifications.

METHOD OF MEASUREMENT: This item will not be measured for payment.

BASIS OF PAYMENT: No separate payment will be made for Item Code 202.9901 "EXCAVATION – ARCHAEOLOGIC MONITORING". Full and complete compensation for all labor, tools, materials, equipment; for all coordination, cooperation, and reasonable suspensions of work (average two hours per day); and for all incidentals required to finish the work as described in these Special Provisions and elsewhere in the Contract Documents, complete and accepted by the Engineer, shall be included in the applicable contract lump sum bid prices.

Remove **Section 206, Perimeter Erosion Controls,** pages AC-17 through AC-23 of the September 2018 Compilation of Approved Specifications in its entirety and replace it with the following.

SECTION 206

PERIMETER EROSION CONTROLS

206.01 DESCRIPTION. This work consists of the provision of perimeter erosion controls in reasonably close conformity with the dimensions and details indicated on the plans or as directed by the Engineer, all in accordance with these Specifications. Perimeter erosion controls consist of the following four types.

206.01.1 Baled Straw Erosion Checks. Baled straw erosion checks shall consist of baled straw, each bale of which is embedded and attached to the ground with wood stakes, and are constructed as indicated on the Plans.

206.01.2 Silt Fence. Silt fencing shall consist of oak fence posts to which are attached industrial support netting and sediment control filter fabric, constructed as indicated on the Plans.

206.01.3 Baled Hay Erosion Check and Silt Fence Combined. Baled straw erosion checks and silt fence combined shall consist of baled ~~hay~~ straw erosion check installed abutting the filter fabric side of a silt fence, with a minimum of six (6) inches along the bottom edge of the silt fence toed in under the baled straw erosion check as indicated on the Plans.

206.01.4 Compost Filter Sock. Compost filter socks shall consist of a flexible mesh tube filled with composted material and staked to the ground with wooden stakes, constructed as indicated on the plans.

206.02 MATERIALS.

206.02.1 Baled Straw Erosion Checks. Baled ~~r~~ straw shall be baled within twelve months of use. Bindings shall be sufficiently strong to act as handles when placing bales in position by hand. The minimum dimension of any bale shall be 18 inches. Wood stakes shall be oak, 1-inch by 1-inch in section, and at least 3 feet in length.

206.02.2 Silt Fence. The filter fabric shall be a material suitable for erosion control applications and shall be one of those included on the Department's Approved Materials List. Wood posts shall be oak, 2-inch by 2-inch in section, and at least 4.5 feet in length. Support netting shall be heavy-duty plastic mesh. For prefabricated silt fences, 1-inch by 1-inch wood posts will be permitted.

206.02.3 Baled Straw Erosion Check and Silt Fence Combined. Baled straw shall conform to the requirements of **Subsection 206.02.1** above. Silt fencing shall conform to the requirements of **Subsection 206.02.2** above.

206.02.4 Compost Filter Sock. Compost filter sock material shall contain composted organic matter in accordance with AASHTO Designation~~:~~ MP 9-06. Compost filter material shall be in accordance with

AASHTO Designation: MP 9-06 (latest revision). Compost material shall also meet all applicable Federal and State Regulations. For compost filter socks 18 inches or less in diameter, wooden stakes shall be 1 inch by 1 inch, at 10-foot intervals on center, and of a length that shall project into the soil 1 foot leaving 3 inches to 4 inches protruding above the filter sock. For compost filter socks greater than 18 inches in diameter, wooden stakes shall be 2 inches by 2 inches at 10-foot intervals on center, and of a length that shall project into the soil 1 foot, leaving 3 inches to 4 inches protruding above the filter sock.

206.03 CONSTRUCTION METHODS. Those erosion and pollution controls indicated on the Plans shall be installed and approved by the Engineer before the commencement of any drainage, roadway, or bridge construction.

206.03.1 Baled Straw Erosion Checks.

a. Installation. Baled straw erosion checks shall be constructed at the locations, and in accordance with the details indicated on the Plans, or as directed by the Engineer. The following stipulations also apply:

1. Bales shall be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another.

2. The erosion check shall be entrenched and backfilled. The trench shall be excavated the width of the bale and the length of the check to a minimum depth of 3 inches. After the bales are staked and chinked, the excavated soil shall be backfilled against the check. Backfill shall conform to the ground level on the downhill side and shall be built up to 4 inches against the uphill side.

3. The bales are to be installed so that the bindings are oriented around the sides of the bales rather than along their tops and bottoms.

4. Each bale shall be securely anchored by at least two stakes driven through the bale. The first stake in each bale should be driven toward the previously laid bale to force the bales together.

5. The gaps between bales shall be chinked (filled by wedging) with straw to prevent water from escaping between bales. Loose straw shall be scattered over the area immediately uphill from the bale erosion check to increase efficiency.

6. At approximate intervals of 100 feet, one bale is to be placed against those bales positioned along the limit of clearing. This bale is to be placed at a right angle to the line of the toe of slope.

b. Removal. Before removal, all accumulated sediment and debris on the upstream side shall be removed and legally disposed. Erosion controls shall not be removed until the adjacent exposed areas are free from future uncontrolled discharges. All stakes must be removed from the bales at a time designated by the Engineer. Unless otherwise specified, the bales may be left to rot in place. If the Contract requires the haybales to be removed, they shall be removed only when the adjacent exposed area has been stabilized, i.e., the area has an established grass or stone cover or has been paved, and is free from future uncontrolled discharges. Immediately upon removal of the bales, the remaining exposed areas (under the bales) shall be backfilled with plantable soil, raked, and graded as necessary to match the surrounding grade and then seeded.

206.03.2 Silt Fence.

a. Installation. Silt fences shall be constructed at the locations and in accordance with the details indicated on the Plans, or as directed by the Engineer. The following stipulations shall apply:

1. A 6-inch deep by 1-foot wide minimum trench shall be dug where the fence is to be installed.

2. The fence shall be positioned in the trench with the fence posts set at 8 feet on center (maximum) in wetland areas and 4 feet on center (maximum) in wetland ravine, gully or drop-off areas, as indicated on the plans.

3. The sedimentation control fabric and the industrial netting shall be stapled to each post. When joints are necessary, filter fabric shall be spliced together only at support posts. Splices shall consist of a 6-inch overlap, and shall be securely sealed.

4. Each wood post with industrial support netting and filter fabric attached shall be driven into the undisturbed soil in the trench as indicated on the Plans.

5. The trench shall be backfilled and the soil compacted over the filter fabric.

6. The installed height of the fence shall be 2½ feet (minimum). However, height shall not exceed 36 inches since higher barriers impound volumes of water sufficient to cause failure of the fence structure.

b. Removal. This work includes the removal of the silt fence erosion checks and posts. Silt fences shall not be left in place. Before removal, all accumulated sediment and debris on the upstream side shall be removed and legally disposed. Erosion controls shall not be removed until the adjacent exposed areas are free from future uncontrolled discharges. A silt fence shall be removed only when the adjacent exposed area is stabilized, i.e., the area has an established grass or stone cover or has been paved, and is free from future uncontrolled discharges. Immediately upon removal of the silt fence, the remaining exposed areas shall be finished as specified above in **Para. b** of **Subsection 206.03.1**.

206.03.3 Baled Straw Erosion Check and Silt Fence Combined.

a. Installation. Baled Straw Erosion Check and Silt Fence Combined shall be installed in accordance with the requirements of **Para. a** of **Subsections 206.03.1** and **206.03.2**, with the following additional provisions:

1. Silt fencing shall be installed prior to the installation of the baled straw.

2. The trench shall be a minimum of 6-inches deep and a width wide enough to accommodate the baled straw as it abuts the filter fabric side of the silt fence.

3. Prior to backfilling the trench, the baled straw shall be installed tight against the filter fabric side of the silt fence, with a minimum of six (6) inches of the bottom edge of the silt fence toed in under the baled straw within the trench.

b. Removal. This work includes the removal of the combined baled straw erosion check and silt fence in accordance with **Para. b** of **Subsections 206.03.1** and **206.03.2**, with the exception that the baled straw erosion checks shall not be left to rot in place. Before removal, all accumulated sediment and debris on the upstream side shall be removed and legally disposed. Erosion controls shall not be removed until the adjacent exposed areas are free from future uncontrolled discharges.

206.03.4 Compost Filter Sock.

a. Installation. Compost Filter socks shall be constructed at the locations and in accordance with the details indicated on the plans, or as directed by the Engineer. The following stipulations also apply:

1. Compost filter socks may be either fabricated on-site or delivered to the site.

2. Trenching is not required. Compost filter socks shall be placed over the top of ground, wooden stakes shall be driven in pairs on each side of the filter socks to secure them to the ground. To ensure optimum performance, heavy vegetation shall be cut down or removed, and extremely uneven surfaces shall be graded to ensure that the compost filter sock uniformly contacts the ground surface.

3. Filter socks shall be placed in a continuous line. Where ends intersect they shall be sleeved to create an interlock with a two (2) foot overlap. After one section is filled and the ends tied off, the next section shall be pulled over the tied-off end of the previous section, to create a 2-foot overlap. The overlap shall be staked. The intersecting overlaps shall be constructed to ensure that stormwater does not break through at these intersection points.

b. Removal. This work, if required, shall include the removal of the compost filter sock and stakes. Before removal, all accumulated sediment and debris on the upstream side shall be removed and legally disposed. Erosion controls shall not be removed until the adjacent exposed areas are free from future uncontrolled discharges. Unless biodegradable, the mesh filter sock material shall be cut open and the mesh removed. In general, the compost filter material may be left in place; however, the material shall be raked out level to surrounding grades, then seeded. Immediately upon removal of the compost filter socks, the remaining exposed areas shall be finished as specified in **Para. b of Subsection 206.03.1**.

206.04 METHOD OF MEASUREMENT.

206.04.1 Baled Straw Erosion Checks. "Baled Straw Erosion Checks" will be measured by the number of linear feet actually installed in accordance with the Plans and/or as directed by the Engineer.

a. Removal. If required by the Contract, "Removal of Baled Straw Erosion Checks" will be measured by the number of linear feet actually removed in accordance with the Plans and/or as directed by the Engineer.

206.04.2 Silt Fence. "Silt Fence" erosion checks will be measured by the number of linear feet actually installed in accordance with the Plans and/or as directed by the Engineer.

206.04.3 Baled Straw Erosion Check and Silt Fence Combined. “Baled Straw ~~Hay~~ Erosion Check and Silt Fence Combined” will be measured by the number of linear feet of combined baled ~~hay~~ straw

erosion check and silt fence actually installed in accordance with the Plans and/or as directed by the Engineer.

206.04.4 Compost Filter Sock. "Compost Filter Sock" of the various sizes as indicated on the plans will be measured by the number of linear feet of continuous runs of such compost filter sock actually installed in accordance with the Plans and/or as directed by the Engineer.

206.05 BASIS OF PAYMENT.

206.05.1 Baled Straw Erosion Checks. The accepted quantity of "Baled Straw Erosion Checks" will be paid for at the contract unit price per linear foot as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, cleaning, maintenance, and equipment, including excavation, bales, stakes, removal of stakes, and all incidentals required to finish the work, complete and accepted by the Engineer.

a. Removal. If required by the Contract, the accepted quantity of "Removal of Baled Straw Erosion Checks" will be paid for at the contract unit price per linear foot as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, and equipment including, removal of straw, grading, raking, and seeding necessary to match the surrounding area, and all incidentals required to finish the work complete and accepted by the Engineer.

206.05.2 Silt Fence. The accepted quantity of "Silt Fence" erosion checks will be paid for at the contract unit price per linear foot as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, cleaning, maintenance, and equipment including excavation, filter fabric, industrial netting, posts, removal of fence, grading, raking and seeding necessary to match the surrounding area, and all incidentals required to finish the work complete and accepted by the Engineer.

206.05.3 Baled Straw Erosion Check and Silt Fence Combined. The accepted quantity of "Baled Straw Erosion Check and Silt Fence Combined" will be paid for at the contract unit price per linear foot as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, cleaning, maintenance, and equipment, including excavation; filter fabric, baled straw, stakes, industrial netting, posts, removal of baled straw, removal of fence, removal and disposal of entrapped material, backfill material, grading, raking and seeding as necessary to match the surrounding area, and all incidentals required to finish the work complete and accepted by the Engineer.

206.05.4 Compost Filter Sock. The accepted quantity of "Compost Filter Sock" will be paid for at the contract unit prices per linear foot as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials , cleaning, maintenance, and equipment, including mesh filter socks, removal of mesh filter socks, compost filter material, stakes, removal of stakes, removal and disposal of entrapped material, grading, raking and seeding as necessary to match the surrounding area, and all incidentals required to finish the work complete and accepted by the Engineer.

206.05.5 Cleaning and Maintenance. There will be no separate payment for cleaning and maintenance of Baled Straw Erosion Checks, Silt Fence, Baled Straw Erosion Check and Silt Fence Combined, and Compost Filter Socks. Cleaning and Maintenance will be considered incidental to the installation and removal of these items.

Remove **Section 207, Check Dams**, pages 2-43 to 2-48 of the RI Standard Specifications for Road and Bridge Construction in its entirety and replace it with the following.

SECTION 207

CHECK DAMS

207.01 DESCRIPTION. This work consists of the provision of check dams and dikes in reasonably close conformity with the dimensions and details indicated on the Plans or as directed by the Engineer, all in accordance with these Specifications. Check dams consist of the following three types:

207.01.1 Sand Bag Erosion Dikes. This work consists of the placement of sand bags across either riprap or earth ditches, thereby forming a dike, to create temporary stilling basins for pollution control, constructed as indicated on the Plans.

207.01.2 Stone Check Dams. This work consists of the placement of stone in ditches or drainage swales, constructed as indicated on the Plans.

207.01.3 Compost Filter Sock Check Dams. Compost filter sock check dams shall consist of a flexible mesh tube filled with composted material and staked to the ground with wooden stakes, constructed as indicated on the plans.

207.02 MATERIALS.

207.02.1 Sand Bag Erosion Dikes. The sand bags and the sand material shall be of a quality acceptable to the Engineer. Dumped stone, when required, shall meet the requirements of **Subsection M.10.03.2** for Modified NSA Class R-4 riprap. The filled sand bags will weigh a minimum of 60 pounds.

207.02.2 Stone Check Dams. The stone shall meet the requirements of **Subsection M.01.09, Table I, Column V** for Filter Stone.

207.02.3 Compost Filter Sock Check Dams. Compost filter sock material shall be in accordance with AASHTO Designation: MP 9-06. Compost material shall also meet all applicable Federal and State Regulations. For compost filter socks 18 inches or less in diameter, wooden stakes shall be 1 inch by 1 inch, and of a length that shall project into the soil 1 foot leaving 3 inches to 4 inches protruding above the filter sock. For compost filter socks greater than 18 inches in diameter wooden stakes shall be 2-inch by 2-inch and of a length that shall project into the soil 1 foot leaving 3 inches to 4 inches protruding above the filter sock. Stakes shall be placed at the ends and at 5- foot intervals, on center.

207.03 CONSTRUCTION METHODS. Those erosion and pollution controls indicated on the Plans shall be installed and approved by the Engineer before the commencement of any drainage, roadway or bridge construction.

207.03.1 Sand Bag Erosion Dikes.

a. Installation. Sand bag erosion dikes shall be constructed as indicated on the Plans. The sand bags will be placed a minimum of four layers high. Over the center of the ditch the top layer of sand bags will have a weir opening equal to one half the bottom ditch width. The sand bags shall be extended such a length that the bottom of the end sand bags are higher in elevation than the top of the lowest middle sand bag.

When the sand bag dike is constructed across an earth ditch, the down-stream side of the dike at the weir opening is to be protected with Modified NSA Class R-4 dumped riprap.

b. Removal. Sand bag erosion dikes shall be removed prior to the completion of the project at a time designated by the Engineer. Before removal, all accumulated sediment and debris on the upstream side shall be removed and legally disposed. Check dams shall not be removed until the adjacent exposed areas are free from future uncontrolled discharges. Immediately upon removal of the sand bag erosion dikes the remaining exposed areas shall be backfilled, raked, and graded as necessary to match the surrounding grade and then seeded.

207.03.2 Stone Check Dams.

a. Installation. Stone check dams shall be constructed as indicated in on the Plans. The stone shall be placed across the ditch or swale to achieve complete coverage and shaped to the required configuration by the use of hand tools. The stone shall be sloped from the sides of the ditch/swale towards the center such that the center is 6 inches lower than the stone at the sides of the ditch/swale. The check dam shall have 2 horizontal to 1 vertical side slopes and shall not exceed 2 feet in height.

b. Removal. Stone check dams shall be removed prior to the completion of the project at a time designated by the Engineer. Removal shall not occur until the adjacent exposed areas are free from future uncontrolled discharges. Before removal, all accumulated sediment on the upstream side shall be removed and legally disposed. Immediately upon removal of the Stone Check Dams, the remaining exposed areas shall be backfilled, raked, and graded as necessary to match the surrounding grade, and then seeded.

207.03.3 Compost Filter Sock Check Dams.

a. Installation. Compost filter sock check dams shall be constructed at the locations, and in accordance with the details indicated on the plans, or as directed by the Engineer. The following stipulations also apply:

1. Compost filter sock check dams may be either fabricated on site or delivered to the site.

2. Trenching is not required. Compost filter sock check dams shall be placed over the top of ground, wooden stakes shall be driven in pairs on each side of the filter socks to anchor them to the ground. To ensure optimum performance, heavy vegetation shall be cut down or removed, and extremely uneven surfaces should be graded to ensure that the compost filter sock uniformly contacts the ground surface. These may be placed over the top of rolled erosion controls mats or turf re-enforcement mats. These may also be stacked if additional height is needed.

3. Compost filter sock check dams shall be installed perpendicular to flow. The check dams shall extend to such a length that the bottoms of each end are higher in elevation than the lowest middle part or the top of the banks (maximum flow line) are reached.

b. Removal. This work, if required, shall include the removal of the compost filter sock and stakes. Before removal, all accumulated sediment and debris on the upstream side shall be removed and legally disposed. Erosion checks shall not be removed until the adjacent exposed areas are relatively free from future uncontrolled discharges. Unless biodegradable, the mesh filter sock material shall be cut open and the mesh removed. In general, the compost filter material may be left in place, however the material shall be raked out leveled to surrounding grades, then seeded.

207.04 METHOD OF MEASUREMENT.

207.04.1 Sand Bag Erosion Checks. "Sand Bag Erosion Checks" will be measured by the number of sand bags actually installed in accordance with the Plans and/or as directed by the Engineer.

207.04.2 Stone Check Dams. "Stone Check Dams" will be measured by the number of cubic feet of stone actually placed in accordance with the Plans and/or as directed by the Engineer.

207.04.3 Compost Filter Sock Check Dams. "Compost Filter Sock Check Dams" of the various sizes as indicated on the plans will be measured by the number of linear feet of continuous runs of such compost filter sock actually installed in accordance with the Plans and/or as directed by the Engineer.

207.05 BASIS OF PAYMENT.

207.05.1 Sand Bag Erosion Checks. The accepted quantity of "Sand Bag Erosion Checks" will be paid for at the contract unit price per each bag as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, cleaning, maintenance, equipment and materials, including bags, sand, the subsequent removal of sand bags, and all other incidentals required to finish the work, complete and accepted by the Engineer.

207.05.2 Stone Check Dams. The accepted quantity of "Stone Check Dams" will be paid for at the contract unit price per cubic foot as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, cleaning, maintenance, and equipment, the subsequent removal of the stone, and all incidentals required to finish the work, complete and accepted by the Engineer.

207.05.3 Compost Filter Sock Check Dams. The accepted quantity of "Compost Filter Sock Check Dams" will be paid for at the contract unit prices per linear foot as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, cleaning, maintenance and equipment, including mesh filter socks, removal of mesh filter socks, compost filter material, stakes, removal of stakes, removal and disposal of entrapped material, backfill material, grading, raking and seeding as necessary to match the surrounding area, and all incidentals required to finish the work, complete and accepted by the Engineer.

207.05.4 Cleaning and Maintenance. There will be no separate payment for cleaning and maintenance of Sand Bag Erosion Checks, Stone Check Dams, and Compost Filter Sock Check Dams. Cleaning and Maintenance will be considered incidental to the installation and removal of these items.

Remove **Section 208, Temporary Dewatering Basins**, pages 2-48 to 2-50 of the RI Standard Specifications for Road and Bridge Construction in its entirety and replace it with the following.

SECTION 208

TEMPORARY DEWATERING BASINS

208.01 DESCRIPTION. This work consists of the provision of temporary dewatering basins for the purpose of controlling water pollution caused by sediment-laden discharge from excavation sites. The basins shall be constructed in reasonably close conformity with the dimensions and details indicated on the Plans or as directed by the Engineer, all in accordance with these Specifications. Temporary dewatering basins consist of the following two types:

208.01.1 Dewatering Basin. The basin consists of a rectangular concrete barrier enclosure, the bottom and sides of which are lined with filter fabric. The bottom fabric is stabilized with filter stone. The basin is divided into the required number of 12-foot sections by stone berms approximately 18 inches high. The entire unit is constructed as indicated on the Plans.

208.01.2 Filter Fabric Retention Basin. The basin consists of a rectangular enclosure formed by a 2-foot high chain link fence. Both the fence and the bottom of the enclosure are lined with filter fabric which is stabilized by a layer of rock riprap. The entire unit is constructed as indicated on the Plans.

208.02 MATERIALS.

208.02.1 Dewatering Basins. Precast concrete barrier units shall conform to details indicated on the Plans and to the applicable requirements of **SECTION 909** of these Specifications. Filter fabric shall conform to the applicable requirements of **Subsection 206.02.2; Silt Fence**, of these Specifications. Filter stone shall conform to the requirements of **Subsection M.01.09, Table I, Column V** of these Specifications. Sand bags shall be of a quality acceptable to the Engineer. Straw bales and wood stakes shall conform to the requirements of **Subsection 206.02.1** of these Specifications.

208.02.2 Filter Fabric Retention Basins. The fence shall conform to the requirements for Type I Chain Link Fence as set forth in **SECTION 903** of these Specifications. Wood posts shall be 2-inch by 2-inch oak and at least 3 feet in length. Filter fabric shall conform to the requirements for same as set forth in **Subsection 206.02.2** of these Specifications. The layer of stone over the bottom of the basin shall meet the requirements of **Subsection M.10.03.2** for Modified NSA Class R-4 riprap.

208.03 CONSTRUCTION METHODS. Those erosion and pollution controls indicated on the Plans shall be installed and approved by the Engineer before the commencement of any drainage, roadway, or bridge construction.

208.03.1 Dewatering Basin.

a. Installation. Dewatering basins shall be constructed at the locations, and in accordance with the details indicated on the Plans, or as directed by the Engineer. The following stipulations shall also apply:

1. The precast concrete barrier units shall be placed on level, or nearly level, ground.

2. Filter fabric shall be placed on the bottom of the entire area enclosed by the concrete barrier units. If more than one sheet of fabric is required, the adjacent section shall be overlapped a minimum of 12 inches to insure full coverage. Filter fabric shall be turned up along the inside face of the concrete barriers to the top of same, there to be folded across the top of the barriers. The fabric will be maintained in position by the placement of sand bags, end-to-end, along the top of the concrete barrier enclosure.

3. A minimum layer of 6 inches of filter stone shall be spread over the bottom of the basin. Stone berms shall be constructed at 12-foot intervals along the length of the basin.

b. Removal. The dewatering basin will not be removed until all dewatering operations are complete. Prior to such removal, however, all accumulated sediment within the basin shall be removed and legally disposed of in accordance with the applicable requirements of **SECTION 212** of these Specifications. The area covered by the basin shall be seeded and mulched immediately after the basin is removed.

208.03.2 Filter Fabric Retention Basin.

a. Installation. Retention basins shall be constructed at the locations, and in accordance with the details indicated on the Plans, or as directed by the Engineer. The following stipulations shall also apply:

1. The filter fabric retention basin shall be placed on stabilized and level, or nearly level, ground to prevent erosion by water exiting the basin.

2. A 6-inch by 6-inch minimum trench shall be dug where the basin is to be constructed.

3. The filter fabric and wire backing shall be 3 feet wide (minimum) positioned in the trench and secured to metal posts positioned 4 feet on center (maximum).

4. The metal posts shall be driven into undisturbed soil next to the trench to a minimum depth of 12 inches.

5. Place fill material in the trench and compact.

6. The installed height of the fence shall be 2 feet (minimum).

7. A minimum layer of 6 inches of filter stone (Modified NSA Class R-4 riprap) shall be spread evenly over the bottom of the basin.

b. Removal requirements for the filter fabric retention basin are the same as set forth for the dewatering basin in **Para. b** of **Subsection 208.03.1**.

208.04 METHOD OF MEASUREMENT. "Dewatering Basins" and "Filter Fabric Retention Basins" will be measured by the number of square feet of each such basin actually provided in accordance with the Plans and/or as directed by the Engineer. Area will be computed based on the outside dimensions of the basin enclosures.

208.05 BASIS OF PAYMENT. The accepted quantities of "Dewatering Basins" and "Filter Fabric Retention Basins" will be paid for at their respective contract unit prices per square foot as listed in the Proposal. The prices so-stated constitute full and complete compensation for all labor, materials, cleaning, maintenance, and equipment, including installation, subsequent removal, and restoration of basin areas, and all ~~other~~ incidentals required to finish the work, complete and accepted by the Engineer.

208.05.1 Cleaning and Maintenance. There will be no separate payment for the cleaning and maintenance of Dewatering Basins and Filter Fabric Retention Basins. Cleaning and Maintenance will be considered incidental to the installation and removal of these items.

Remove **Section 209, Storm Drain Protection**, pages 2-50 to 2-53 of the RI Standard Specifications for Road and Bridge Construction in its entirety and replace it with the following.

SECTION 209

STORM DRAIN PROTECTION

209.01 DESCRIPTION. This work consists of the provision of temporary storm drain protection facilities constructed in reasonably close conformity with the dimensions and details indicated on the Plans or as directed by the Engineer, all in accordance with these Specifications. Storm drain protection facilities consist of the following three types.

209.01.1 Silt Fence Catch Basin Inlet Protection. This work consists of placing a temporary filter fabric fence around inlet grates. Silt fence inlet protection shall be constructed as indicated on the Plans.

209.01.2 Baled Straw Catch Basin Inlet Protection. This work consists of placing baled straw around catch basin inlets. Baled straw inlet protection shall be constructed as indicated on the Plans.

209.01.3 Sack Insert Catch Basin Inlet Protection and High Flow Sack Insert Catch Basin Inlet Protection. This work consists of placing a reusable geotextile sack to be installed in drainage structures for the protection of wetlands and other resource areas and the prevention of silt and sediment from the construction site from entering the storm water collection system. Catch Basin Insert Sediment Sack shall be constructed as indicated on the Plans.

209.02 MATERIALS.

209.02.1 Silt Fence Catch Basin Inlet Protection. The filter fabric shall be a material suitable for erosion control applications and shall be one of those included on the Department's Approved Materials List. Wood posts shall be oak, 2-inch by 2-inch in section, and at least 4½ feet in length. Support netting shall be heavy-duty plastic mesh. For prefabricated silt fence, 1-inch by 1-inch wood posts will be permitted.

209.02.2 Baled Straw Catch Basin Inlet Protection. Baled straw and wood stakes shall conform to the requirements of **Subsection 206.02.1** of these Specifications.

209.02.3 Catch Basin Insert Sediment Sack.and High Flow Sack Insert Catch Basin Inlet Protection Shall be made of a permeable geotextile that allows water to pass but prevents silt, sediment and trash from passing. Sacks shall be rated as regular flow or high flow. High flow sacks shall be woven polypropylene geotextile and sewn by a double needle machine using high strength nylon. Both regular and high flow may include overflow holes to make the silt sack effective even in the most extreme weather events.

1. Regular flow sacks must meet the following:
    a. Minimum Puncture Strength, ASTM D4533 of 140 lbs.
    b. Minimum sieve size of 40

c. Minimum flow rate, ASTM D4491 of 50 gpm/ft^2

2. High flow sacks must meet the following:
   a. Minimum Puncture Strength, ASTM D4533 of 130 lbs.
   b. Minimum sieve size of 20
   c. Minimum flow rate, ASTM D4491 of 100 gpm/ ft^2

209.03 CONSTRUCTION METHODS. Those erosion and pollution controls indicated on the Plans shall be installed and approved by the Engineer before the commencement of any drainage, roadway, or bridge construction.

209.03.1 Silt Fence Catch Basin Inlet Protection.

a. Installation. The silt fence inlet protection shall be constructed as indicated on the Plans. The following stipulations shall also apply:

1. Posts shall extend at least 1 foot below grade.

2. The filter fabric shall extend to a height at least 12 inches above the top of the inlet grate, but shall not exceed 3 feet in height.

3. The support netting shall extend to the full height of the filter fabric.

4. A trench shall be excavated approximately 6 inches wide and 6 inches deep around the outside perimeter of the stakes. The filter fabric and support netting shall extend at least 6 inches into the trench. After the fabric and support netting are fastened to the stakes the trench should be backfilled and compacted to original grade.

5. The filter fabric and support netting fence shall be securely fastened to the stakes using heavy duty wire staples at least 1-inch long. Ends of the filter fabric must meet at a stake, be overlapped, folded and stapled to the stake.

b. Removal. The silt fence inlet protection shall be removed and the area prepared for pavement construction once the contributing drainage area is free from future uncontrolled discharges. Prior to such removal, however, all silt, mud, and debris entrapped by the silt fence shall be removed and the area cleaned up in accordance with the applicable provisions of **SECTION 212** of these Specifications.

209.03.2 Baled Straw Catch Basin Inlet Protection.

a. Installation. The baled straw inlet protection shall be constructed as indicated on the Plans. The following stipulations shall also apply:

1. The bales shall be entrenched and backfilled. The trench shall be excavated the width of the bale and the length of the check to a minimum depth of 3 inches. After the bales are staked and chinked, the excavated soil shall be backfilled against the check. Backfill shall conform to the ground level on the inside and shall be built up to 4 inches around the outside.

2. The bales are to be installed so that the bindings are oriented around the sides of the bales rather than along their tops and bottoms.

3. Each bale shall be securely anchored by at least two stakes driven through the bale. The first stake in each bale should be driven toward the previously laid bale to force the bales together.

4. The gaps between bales shall be chinked (filled by wedging) with straw to prevent water from escaping between bales.

b. Removal. The baled ~~hay~~ straw inlet protection shall be removed and the area prepared for pavement construction the contributing drainage area is free from future uncontrolled discharges. Prior to such removal, however, all silt, mud, and debris entrapped by the baled straw shall be removed and the area cleaned up in accordance with the applicable provisions of **SECTION 212** of these Specifications.

209.03.3 Sack Insert Catch Basin Inlet Protection and High Flow Sack Insert Catch Basin Inlet Protection.

a. Installation. The catch basin insert sack shall be constructed as indicated on the Plans and as required by the Resident Engineer. The following stipulations shall also apply:

1. The device shall be manufactured to fit the opening of the drainage structure, and shall be mounted under the grate. The insert sack shall be secured from the surface such that the grate can be removed without the insert discharging into the structure. All curb inlets shall be blocked to prevent stormwater from bypassing the device. The sack (filter material) shall be installed and maintained in accordance with the manufacturer's written literature and as directed by the Engineer.

2. Sacks shall remain in place until surface borne sediment has been stabilized upon completion of final pavement and sidewalk placement, and the adjacent graded areas have become permanently stabilized by vegetative growth.

3. The Contractor shall inspect the condition of the sacks after each rainstorm and prior to a major rain events. Sacks shall be cleaned periodically to remove and dispose accumulated material as required. Sacks which become damaged during construction operations shall be repaired or replaced immediately.

4. When emptying the sack, the Contractor shall take all due care to prevent the captured material from entering the structure. Silt, sediment, and other debris found in the drainage system at the end of construction shall be removed at the Contractor's expense. The silt and sediment from the sack shall be legally disposed of offsite. Under no condition shall silt and sediment from the insert be deposited on site or used in construction.

b. Removal. Sack Insert Catch Basin Inlet Protection and High Flow Sack Insert Catch Basin Inlet Protection shall be removed prior to final inspection when the contributing drainage area is free from future uncontrolled discharges including winter operations. Prior to such removal, however, all silt, mud, and debris entrapped by the sack shall be removed and the area cleaned up in accordance with the applicable provisions of **SECTION 212** of these Specifications.

209.04 METHOD OF MEASUREMENT.

209.04.1 Silt Fence Catch Basin Inlet Protection. "Silt Fence Catch Basin Inlet Protection" will be measured by the number of linear feet of such protection actually installed in accordance with the Plans and/or as directed by the Engineer.

209.04.2 Baled Straw ~~Hay~~ Catch Basin Inlet Protection. "Baled Straw Catch Basin Inlet Protection" will be measured by the number of linear feet of straw bales actually installed in accordance with the Plans and/or as directed by the Engineer.

209.04.3 Sack Insert Catch Basin Inlet Protection and High Flow Sack Insert Catch Basin Inlet Protection. "Sack Insert Catch Basin Inlet Protection " and "High Flow Sack Insert Catch Basin Inlet Protection" will be measured by the number of catch basins actually protected with sacks in accordance with the Plans and/or as directed by the Engineer.

209.05 BASIS OF PAYMENT.

209.05.1 Silt Fence Catch Basin Inlet Protection. The accepted quantity of "Silt Fence Catch Basin Inlet Protection" will be paid for at the contract unit price per linear foot as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, cleaning, maintenance and equipment, including excavation, stakes, support netting, filter fabric, backfill, the subsequent removal of the entire temporary facility, and all incidentals required to finish the work, complete and accepted by the Engineer.

209.05.2 Baled Straw Catch Basin Inlet Protection. The accepted quantity of "Baled Straw Catch Basin Inlet Protection" will be paid for at the contract unit price per linear foot as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, cleaning, maintenance and equipment, including excavation, straw bales, stakes, backfill, the subsequent removal of the entire temporary facility, and all incidentals required to finish the work, complete and accepted by the Engineer.

209.05.3 Sack Insert Catch Basin Inlet Protection and High Flow Sack Insert Catch Basin Inlet Protection . The accepted quantity of "Sack Insert Catch Basin Inlet Protection" and "High Flow Sack Insert Catch Basin Inlet Protection" will be paid for at the contract unit price per EACH as listed in the Proposal. The price so-stated constitutes full and complete compensation for all materials, including sacks, labor, cleaning, maintenance, equipment, and all incidentals required to complete the work, including final removal of inlet protection device.

209.05.4 Cleaning and Maintenance. There will be no separate payment for the cleaning and maintenance of, Silt Fence Catch Basin Inlet Protection, Baled Straw Catch Basin Inlet Protection and Sack Insert Catch Basin Inlet Protection. Cleaning and Maintenance will be considered incidental to the installation and removal of these items.

Remove **Section 210, Stilling Basins for Water Pollution Control**, pages 2-53 to 2-54 of the RI Standard Specifications for Road and Bridge Construction in its entirety and replace it with the following.

SECTION 210

STILLING BASINS FOR WATER POLLUTION CONTROL

210.01 DESCRIPTION. This work consists of the provision of temporary and/or permanent stilling basins in reasonably close conformity with the dimensions and details indicated on the Plans or as directed by the Engineer, all in accordance with these Specifications.

210.02 MATERIALS. The various materials required for the construction of stilling basins will be indicated on the Plans.

210.03 CONSTRUCTION METHODS. The stilling basins will be constructed in such a manner to allow any material which may cause a natural water course or the surrounding environment to be damaged to be retained in the basin. During the life of the Contract, the Contractor will be required to periodically clean the pool and to maintain the basin, both as directed by the Engineer. If the basin is temporary, the Contractor will be required to fill the basin with suitable material and to restore the area in which the basin was located to either its original condition or to the requirements of the Contract.

In all cases the stilling basins are to be constructed immediately after the clearing and grubbing operation and before commencement of any excavation and/or embankment. The single exception to this requirement is the construction of a leveling course to create a work platform. Excavation for stilling basins is to take place from the downstream end of the basin and to proceed upstream. Prior to the start of excavation, temporary baled hay ditch erosion checks and/or hay log check dams are to be constructed immediately beyond the downstream end of the basin. When the basin is complete the above temporary erosion control measures are to be removed.

210.04 METHOD OF MEASUREMENT. "Stilling Basins for Water Pollution Control" will not be measured by a single unit of measurement usually associated with a specific Proposal item. Rather, each individual item of work required to provide such basins will be measured by their respective units of measurement for the quantity actually provided in accordance with the Plans and/or as directed by the Engineer.

210.05 BASIS OF PAYMENT. "Stilling Basins for Water Pollution Control" will not be paid for as completed facilities. Rather, such basins will be paid for at the contract unit prices listed in the Proposal for those various items of work required to construct, clean, and maintain the facility, and in the case~~s~~ of temporary basins, those items of work necessary to remove the basin and restore the area to its original or proposed condition, and all incidentals required to finish the work, complete and accepted by the Engineer.

210.05.1 Cleaning and Maintenance. There will be no separate payment for the cleaning and maintenance of "Stilling Basins for Water Pollution Control." Cleaning and Maintenance will be considered incidental to the installation and removal of this item

Remove **Section 211, Construction Accesses**, pages 2-54 to 2-55 of the RI Standard Specifications for Road and Bridge Construction in its entirety and replace it with the following.

SECTION 211

CONSTRUCTION ACCESSES

211.01 DESCRIPTION. This work consists of the provision of stabilized stone pads located at points of vehicular ingress and egress on construction sites.

211.01.1 Planning Considerations. Public roads adjacent to a construction site shall be clean at the end of each day. This **SECTION 211** provides for an area where mud can be removed from the tires of construction vehicles before such vehicles enter a public road. The action of vehicles traveling over a stabilized stone pad will remove most of the mud from tires. Construction accesses shall be used in conjunction with the stabilization of construction roads to reduce the amount of mud picked up by construction vehicles.

211.02 MATERIALS. Crushed stone shall conform to the requirements of **Subsection M.01.09, Table I, Column II** of these Specifications. Filter fabric shall conform to the requirements for same as set forth in **Subsection 206.02.2** of these Specifications.

211.03 CONSTRUCTION METHODS. Stabilized stone pads employed as construction entrances shall be constructed as indicated on the Plans.

211.03.1 Entrance Dimensions.

a. Thickness. The thickness of the stabilized stone pad shall be a minimum of 5 inches.

b. Width. The width shall not be less than the full width of the respective points of ingress or egress.

c. Length. The length of construction entrances shall be at least 50 feet where the soils are sands or gravels, except where the traveled length is less than 50 feet. Where soils are clays or silts, the length of construction entrances shall be at least 100 feet except where the traveled length is less than 100 feet.

211.03.2 Installation Requirements. The area of the construction entrance shall be cleared of all vegetation, roots, stumps, or other objectionable material. The area shall then be excavated to subgrade and graded. Filter fabric shall be placed on the prepared subgrade prior to the placement of the stone pad. The stone shall be placed according to the specified dimensions.

211.04 METHOD OF MEASUREMENT. "Construction Accesses" will be measured by the number of square yards of stabilized stone pads actually installed for this purpose in accordance with the Plans and/or as directed by the Engineer.

211.05 BASIS OF PAYMENT. The accepted quantity of "Construction Accesses" will be paid for at the contract unit price per square yard as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, material, cleaning, maintenance and equipment, including excavating, filter fabric, stabilized stone pad, and subsequent removal of same, and all incidentals required to finish the work complete and accepted by the Engineer.

211.05.1 Cleaning and Maintenance. There will be no separate payment for the cleaning and maintenance of Construction Accesses. Cleaning and Maintenance will be considered incidental to the installation and removal of this item.

Remove **Section 212, Maintenance and Cleaning of Erosion and Pollution Controls,** pages 2-55 to 2-59 of the RI Standard Specifications for Road and Bridge Construction in its entirety and replace it with the following.

SECTION 212

MAINTENANCE AND CLEANING OF EROSION AND POLLUTION CONTROLS

212.01 DESCRIPTION. This work consists of the maintenance and cleaning of erosion and pollution control items as well as performing inspection and documentation of RIDOT Small Site Stormwater Pollution Prevention Plan (SWPPP) and/or RIDOT Soil Erosion and Sediment Control (SESC) reports year-round in accordance with these Specifications and as directed by the Engineer and the Office of Stormwater Management. There is no winter shutdown period associated with this **SECTION 212**.

212.01.1 Applicable Controls. The specific erosion and pollution controls to be cleaned and maintained under this Section consist of the following:

a. Perimeter Controls.

1.	Baled Straw Erosion Checks	Subsection 206.01.1
2.	Silt Fence	Subsection 206.01.2
3.	Baled Straw Erosion Checks and Silt Fence Combined	Subsection 206.01.3
4.	Compost filter sock	Subsection 206.01.4

b. Check Dams.

1.	Sand Bag Erosion Dikes	Subsection 207.01.1
2.	Stone Check Dams	Subsection 207.01.2
3.	Compost Filter Sock Check Dams	Subsection 207.01.3

c. Temporary Dewatering Basins.

1.	Dewatering Basins	Subsection 208.01.1
2.	Filter Fabric Retention Basins	Subsection 208.01.2

d. Storm Drain Protection.

1.	Silt Fence Catch Basin Inlet Protection	Subsection 209.01.1

2.	Baled Straw Catch Basin Inlet Protection;	Subsection 209.01.2
3.	Sack Insert Catch Basin Inlet Protection	Subsection 209.01.3
4.	High Flow Sack Insert Catch Basin Inlet Protection	Subsection 209.01.3
e.	**Stilling Basins.**	Subsection 210.01
f.	**Construction Accesses.**	Subsection 211.01

212.01.2 Definitions.

a. Cleaning. Cleaning consists of removing debris and accumulated sediment-laden deposits from the upstream side of perimeter controls, check dams and storm drain protection, construction access and from the bottom of temporary dewatering basins and stilling basins. All material so-removed shall be legally disposed of.

b. Maintenance. Maintenance consists of the restoration and repair of damage sustained by erosion and pollution controls from "normal" rainfall events (Abnormal weather events are defined in **Subsection 212.03.4; Failure of Erosion and Pollution Controls due to Abnormal Weather**).

c. Inspection. Inspection consists of the required environmental permit inspection plans, reports, and procedures including but not limited to the SWPPP and/or SESC plan.

212.02 MATERIALS. Materials required to repair and restore damaged erosion and pollution controls shall meet the applicable requirements of **Subsections 206.02; 207.02; 208.02; 209.02; 210.02; and 211.02 for Perimeter Erosion Controls, Check Dams, Temporary Dewatering Basins, Storm Drain Protection, Stilling Basins and Construction Accesses**, respectively, of these Specifications.

212.03 CONSTRUCTION METHODS. Erosion and pollution controls shall be maintained by the Contractor to the satisfaction of the Engineer and the Office of Stormwater Management. 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.

Construction shall not commence or continue until all specified erosion and pollution controls are in place, properly installed and accepted by the Engineer and the Office of Stormwater Management.

Erosion and pollution controls shall be routinely inspected by the Contractor's certified inspector in accordance with the SWPPP or SESC. After each inspection, the Contractor shall take corrective actions and make all necessary cleaning, maintenance and repairs whenever maintenance of the erosion and pollution controls is required. The Contractor shall commence with the requisite cleaning, maintenance, and repairs no later than the next consecutive calendar day after the SWPPP or SESC inspection was conducted, and shall aggressively and expeditiously perform such cleaning maintenance, and repair work until the original problem is remedied to the complete satisfaction of the Engineer and/or

Office of Stromwater Management. In the event of a holiday or weekend storm event, the Contractor must have resources available to restore and, if necessary, to replace any damaged erosion controls.

SWPPP or SESC inspections shall be performed until all the following criteria are met:

a) All disturbed areas are permanently stabilized;

b) Punch list is completed;

c) Storage/laydown areas are restored.

212.03.1 Threshold for Cleaning Erosion Controls. Erosion and pollution controls shall be cleaned when directed by the Engineer and/or Office of Stormwater Management; after a rainstorm; or when sediment deposits reach the heights indicated in the following table:

a. Perimeter Controls		**Height**
1.	Baled Straw Erosion Checks	½ Bale Height
2.	Silt Fence	6 inches
3.	Baled Straw Erosion Checks and Silt Fence Combined	½ Bale Height
4.	Compost Filter Sock	½ Sock Height
b. Check Dams		
1.	Sand Bag Erosion Dike	½ Dike Height
2.	Stone Check Dam	½ Dam Height
3.	Compost Filter Sock Check Dam	½ Sock Height
c. Temporary Dewatering Basins		
1.	Dewatering Basins	½ Original Basin Height
2.	Filter Fabric Retention Basin	½ Original Basin Height
d. Storm Drain Protection		
1.	Silt Fence Catch Basin Inlet Protection	6 inches
2.	Baled Hay Catch Basin Inlet Protection	½ Bale Height

3.	Sack Insert Catch Basin Inlet Protection	$^{1}/_{3}$ Sack Height
4.	High Flow Sack Insert Catch Basin Inlet Protection	$^{1}/_{3}$ Sack Height
e. Stilling Basins		½ Depth Below Outlet Elevation

212.03.2 Other Requirements.

a. **Certified SWPPP/SESC Inspector.** The Contractor shall provide a certified SWPPP/SESC inspector at the contractor's own expense to perform and report on SWPPP/SESC inspections. A certified SWPPP/SESC inspector shall be an individual that is a Certified Professional in Erosion and Sediment Control (CPESC) or a Certified Professional in Stormwater Quality (CPSWQ).

1. A Certified Professional in Erosion and Sediment Control (CPESC) and/or Certified Professional in Stormwater Quality (CPSWQ), is intended to ensure certificants meet the Federal requirements including the US Environmental Protection Agency's National Pollutant Discharge Elimination System definition of "Qualified Personnel" and also ensure that the projects they oversee; meet the requirements of all contract permits and State/Local regulations.

2. Certified Inspectors must attach a valid Certificate to each SWPPP/SESC report. Certificates must include the certifying agency/organization name and seal, the inspectors name, expiration date, and unique certification identification number.

3. Certifications may be rejected by the Engineer or the Office of Stormwater Management if:

(a) SWPPP/SESC reports from the inspector are incomplete/inaccurate as determined by the Engineer or the Office of Stormwater Management more than twice in a calendar year.

(b) It is determined by the Office of Stormwater Management that the certifying agency/organization does not meet the requirements in **Subsection 212.03.2.a.1**.

(c) A SWPPP/SESC report is intentionally incorrect, inaccurate or missing important information of any kind as determined by the Engineer or the Office of Stormwater Management.

4. If the Office of Stormwater Management rejects a Certification, the Office of Stormwater Management, at its' discretion may contact the certifying agency/organization to inform them of the reason for the Departments rejection of the certificate.

5. If a Certification is rejected, due to sections (a) or (b) above, the inspector will be required to submit a new certification. There is no time restriction.

6. If a Certification is rejected, due to sections (c) above, the inspector will be required to submit a new certification after a period no sooner than 3 months after rejection of certification. In extreme cases

the Office of Stormwater Management will forward the falsified documentation to RIDEM and/or EPA under RIDOT Consent Decree reporting requirements.

b. Perimeter Controls, Check Dams, Temporary Dewatering Basins, ~~and~~ Storm Drain Protection, Stilling Basins and Construction Accesses.

The following requirements apply:

1. Non-compliant, damaged, and/or controls requiring maintenance as identified in a SWPPP or SESC plan report shall be cleaned, repaired or replaced within 24 hours of identification. The Contractor shall designate a qualified person, experienced in stormwater management and erosion to be available on site throughout the duration of the project. This person shall have the authority to direct contractor's personnel and/or subcontractor's personnel in carrying out corrective actions as needed. The Contractor's designated SWPPP or SESC contact person will be responsible to perform inspection of erosion and pollution controls in accordance with RIDOT special provisions and environmental permits of the Contract. Documentation of the inspections shall be submitted by the Contractor in the form of signed SWPPP or SESC plan report, in accordance with RIDOT's templates, or as provided in the Contract to RIDOT's Project Manager, Resident Engineer, and Office of Stormwater Management. Templates can be found on RIDOT website.

2. The Engineer and/or the Office of Stormwater Management has the authority to verify, enforce, and to specify maintenance activities and to ensure that erosion and pollution controls have been properly maintained.

3. The Contractor shall be responsible for maintaining an onsite stockpile of perimeter control, check dams, and storm drain protection for the duration of the Contract. The stockpile shall contain 5% of each contract item quantity for perimeter controls, 5% of each contract item quantity for check dams, and 10% for each contract item quantity for storm drain protection.

c. Temporary Dewatering Basins and Stilling Basins. The following requirements apply:

1. The basins will be periodically inspected for signs of erosion around the basin and downslope area.

2. Repairs will be promptly carried out as directed by the Engineer.

3. The Engineer and/or the Office of Stormwater Management has the authority to verify, enforce, and to specify maintenance activities and to ensure that controls have been properly maintained.

212.03.3 Failure to Maintain Erosion and Pollution Controls. If the Engineer and/or the Office of Stormwater Management decides on any given day that those erosion and pollution controls specified in the Contract, SWPPP, or SESC Plan are not in place or have not been adequately maintained as specified in this Section or per permit requirements, the daily charge will be deducted from monies due the Contractor as a charge for failure to comply set forth below and/or as revised in **Special Provision Code 212.1000.** The stated daily charge per incident will continue each consecutive calendar day

thereafter until the deficiencies noted have been corrected to the complete satisfaction of the Engineer and/or the Office of Stormwater Management. Failure to comply charges are independent of other charges assessed by other agencies and/or entities.

Stormwater violation schedule for Construction and Maintenance activities.

Failure to administer SWPPP/SESC Plan (SWPPP/SESC Plan non-compliance is not dependent on illicit discharges or presence of non-controlled pollutants)			
Code Section	**Non-conformance**	**Failure to Comply Charge**	**Schedule**
	Working without a permit	$5,000.00	Per day per non-conformance
	Land Disturbance, permit non-compliance	$1,000.00	Per day per non-conformance
	Working without a signed SWPPP/SESC	$1,000.00	Per day per non-conformance
	Nonperformance of or Falsification of SWPPP/SESC Inspection or documentation	$1,000.00	Per day per non-conformance
	Non-installed BMP or unmaintained BMP	$1,000.00	Per day per non-conformance
206	Perimeter Erosion Control	$1,000.00	Per day per non-conformance
207	Check Dams	$250.00	Per day per non-conformance
208	Temporary Dewatering Basins	$500.00	Per day per non-conformance
209	Storm Drain Protection	$250.00	Per day per non-conformance
210	Stilling Basin for Water Pollution Control	$500.00	Per day per non-conformance
	Unmaintained documentation	$250.00	Per day per non-conformance
	False corrective action documentation	$250.00	Per day per non-conformance
	Un-trained personnel	$250.00	Per day per non-conformance
	Unmaintained or incoherent SWPPP/SESC records	$250.00	Per day per non-conformance
	Failure to place or maintain a Construction Access at entrance/exit points or staging sites	$500.00	Per day per non-conformance
	Failure to place or maintain controls around storage sites/laydown areas	$500.00	Per day per non-conformance
	Un-contained/uncovered trash	$250.00	Per day per non-conformance
	Disturbance (including stockpiling on top) of an area identified as or to become a Water Quality structure or BMP.	$1,000.00	Per day per non-conformance
	SWPPP/SESC non-compliance items not included in standard list	$500.00	Per day per non-conformance

In addition, this subsection includes charges for dumping, illicit discharges, and/or non-controlled pollutant discharges. Illicit discharges are project related pollutants escaping the permitted envelope or entering the drainage system. Non-controlled pollutant discharges are loose or uncontained pollutants in violation of permit items or the nuisance of damage to adjacent property public or private. The failure to comply charges for dumping, illicit discharges, and/or non-controlled pollutant discharges will be assessed per the schedule below immediately upon identification. Failure to comply charges are independent of other charges assessed by other agencies and/or entities.

Dumping, Illicit Discharge/Non-Controlled Pollutant Discharge, including but not limited to the following categories:		
Non-conformance	**Failure to Comply Charge**	**Schedule**
Sediment	$1,000.00	Per day per violation
Cementitious material	$1,000.00	Per day per violation
Solid waste	$500.00	Per day per violation
Sanitary waste	$500.00	Per day per violation
Petrochemicals	$500.00	Per day per violation
Chemicals	$500.00	Per day per violation
Organics	$500.00	Per day per violation
Detergents	$500.00	Per day per violation
Fugitive dust	$1,000.00	Per day per violation
Hazardous material	$500.00	Per day per violation
Intentional dumping	$1,000.00	Per day per violation

212.03.4 Failure of Erosion and Pollution Controls due to Abnormal Weather. Maintenance and Cleaning of Erosion and Pollution Controls for normal weather is based on the concept that erosion and pollution controls will essentially remain intact under normal rainfall events and that any damage sustained by said controls under normal rainfall shall be repaired under the applicable provisions of **SECTIONS 206, 207, 208, 209** and **210.**

However, under abnormal weather events it is possible that erosion and pollution controls may be damaged to the extent that the Engineer may direct that they be replaced in part or their entirety. Under such abnormal weather conditions, the Contractor shall replace the particular facilities and be compensated for same under the applicable provisions of **SECTIONS 206, 207, 208, 209 and 210** of these Specifications if one of following criteria is met.

a. If the abnormal weather event is not forecasted by the National Weather Service 24 hours in advance of the weather event and the current SWPPP/SESC inspection indicates the control was in place and maintained in a good state of repair.

b. If the abnormal weather event is forecasted by the National Weather Service 24 hours in advance of the weather event, a SWPPP/SESC inspection is implemented no less than 24 hours in advance of the weather event and SWPPP/SESC inspection indicates the control is in place and maintained in a good state of repair.

If no current SWPPP/SESC exists, no compensation will be made.

For the purposes of this **Subsection 212.03.4**, an abnormal weather event is defined as follows:

(1) Rainfall equal to or greater than ½-inch within 1 hour.
(2) Rainfall equal to or greater than 2 inches within 12 hours.
(3) Rainfall equal to or greater than 3 inches within 24 hours.
(4) Extreme weather events as defined in Subsection 104.14.

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The claim of abnormal weather events shall be supported by data records from the National Weather Service.

212.04 METHOD OF MEASUREMENT. "Maintenance and Cleaning of Erosion and Pollution Controls" as specified in this Section will not be measured by a single unit of measurement usually associated with a specific Proposal item. This work is incidental to **Subsections 206; 207; 208; 209; 210; and 211**; for **Perimeter Erosion Controls, Check Dams, Temporary Dewatering Basins, Storm Drain Protection, Stilling Basins for Water Pollution Control**, and **Construction Accesses**, respectively, of these Specifications, including the inspection and development of SWPPP and SESC reports.

212.05 BASIS OF PAYMENT. There will be no separate payment for the Maintenance and Cleaning of Erosion and Pollution Controls. This work is incidental to Subsections 206; 207; 208; 209; 210; and 211; for Perimeter Erosion Controls, Check Dams, Temporary Dewatering Basins, Storm Drain Protection, Stilling Basins for Water Pollution Control, and Construction Accesses, respectively, of these Specifications, including the inspection and development of SWPPP and SESC reports.

CODE 301.9901
STONE FOR UNDERGROUND INFILTRATION SYSTEM

DESCRIPTION: This item of work shall consist of furnishing and installing stone for underground infiltration systems as shown on the Plans and as directed by the Engineer.

MATERIALS: The materials shall conform to the Plans and to Section M.01.09, Table I, Column V and other applicable portions of the Standard Specifications.

METHOD OF MEASUREMENT: This item will not be measured for payment.

BASIS OF PAYMENT: No separate payment will be made for Item Code 301.9901 "STONE FOR UNDERGROUND INFILTRATION SYSTEM". Full and complete compensation for all labor, tools, materials, equipment, and all incidentals required to finish the work as described in these Special Provisions and elsewhere in the Contract Documents, complete and accepted by the Engineer, shall be included in the applicable contract lump sum bid prices.

CODE 701.9901
ADS N-12 PIPE

DESCRIPTION: This item of work consists of furnishing and installing smooth interior polyethylene pipe, both solid and perforated, in various sizes for storm drainage and stormwater infiltration as shown on the Plans and as directed by the Engineer.

MATERIALS: The materials shall conform to the Plans and to the applicable portions of Section 701 in the Standard Specifications.

METHOD OF MEASUREMENT: This item will not be measured for payment.

BASIS OF PAYMENT: No separate payment will be made for Item Code 701.9901 "ADS N-12 PIPE". Full and complete compensation for all labor, tools, materials, equipment, and all incidentals required to finish the work as described in these Special Provisions and elsewhere in the Contract Documents, complete and accepted by the Engineer, shall be included in the applicable contract lump sum bid prices.

CODE 702.9901
STORMWATER TREATMENT DEVICE – VORTECHS 2000

DESCRIPTION: This work shall consist of the furnishing and installation of a precast stormwater treatment device and appurtenances in accordance with the relevant provisions of the Standard and Supplemental Specifications and the Plans.

GENERAL

The Contractor shall furnish all labor, equipment and materials necessary to install the storm water treatment device(s) (SWTD) and appurtenances specified in the Drawings and these specifications.

The manufacturer of the SWTD shall be one that is regularly engaged in the engineering design and production of systems deployed for the treatment of storm water runoff for at least five (5) years and which have a history of successful production, acceptable to the Engineer. In accordance with the Drawings, the SWTD(s) shall be a Vortechs® device manufactured by Contech Engineered Solutions LLC, or an approved equivalent product.

The Vortechs stormwater treatment device shall be accepted only after review and approval of the Certificate of Compliance. All components may be subject to inspection by the engineer at the place of manufacture and/or installation. All components are subject to being rejected or identified for repair if the quality of materials and manufacturing do not comply with the requirements of this specification. Components which have been identified as defective may be subject for repair where final acceptance of the component is contingent on the discretion of the Engineer.

The manufacturer shall guarantee the SWTD components against all manufacturer originated defects in materials or workmanship for a period of twelve (12) months from the date the components are delivered to the owner for installation. The manufacturer shall upon its determination repair, correct or replace any manufacturer originated defects advised in writing to the manufacturer within the referenced warranty period. The use of SWTD components shall be limited to the application for which it was specifically designed.

The SWTD manufacturer shall submit to the Engineer a "Manufacturer's Performance Certification" certifying that each SWTD can achieve the specified removal efficiencies listed in these specifications. The certification shall be supported by independent third-party research.

Submissions for substitutions require review and approval by the Engineer, for hydraulic performance, impact to project designs, equivalent treatment performance, and any required project plan and report (hydrology/hydraulic, water quality, stormwater pollution) modifications that would be required by the approving jurisdictions/agencies. Contractor to coordinate with the Engineer any applicable modifications to the project estimates of cost, bonding amount determinations, plan check fees for changes to approved documents, and/or any other regulatory requirements resulting from the product substitution.

SUBMITTALS

The Contractor shall submit complete and accurate shop drawings to the Engineer for approval in accordance with Subsection 105.02 of the RI Standard Specifications. It shall be understood that all submittals shall be acceptable to the Engineer and shall be resubmitted as many times as necessary for such acceptance, without giving rise to any claims for additional compensation or extension to the time of completion.

MATERIALS

The stormwater treatment system shall include a circular aluminum "swirl chamber" (or "grit chamber") with a tangential inlet to induce a swirling flow pattern that will accumulate and store settleable solids in a manner and a location that will prevent re-suspension of previously captured particulates.

Housing unit of stormwater treatment device shall be constructed of pre-cast or cast-in-place concrete, no exceptions. Concrete for precast stormwater treatment systems shall conform to ASTM C 857 and C 858 and meet the following additional requirements:

- The wall thickness shall not be less than 6 inches (152 mm) or as shown on the dimensional drawings. In all cases the wall thickness shall be no less than the minimum thickness necessary to sustain HS20-44 (MS18) loading requirements as determined by a Licensed Professional Engineer.
- Sections shall have tongue and groove or ship-lap joints with a butyl mastic sealant conforming to ASTM C 990.
- Cement shall be Type II Portland cement conforming to ASTM C 150.
- All sections shall be cured by an approved method. Sections shall not be shipped until the concrete has attained a compressive strength of 4,000 psi (28 MPa) or until 5 days after fabrication and/or repair, whichever is the longer.
- Pipe openings shall be sized to accept pipes of the specified size(s) and material(s), and shall be sealed by the Contractor with a hydraulic cement conforming to ASTM C 595M
- Brick or masonry used to build the manhole frame to grade shall conform to ASTM C 32 or ASTM C 139 and shall be installed in conformance with all local requirements.
- Casting for manhole frames and covers shall be in accordance with ASTM A48, CL.35B and AASHTO M105.

Internal Components and appurtenances shall conform to the following:

- Internal aluminum plate components shall be aluminum alloy 5052-H32 in accordance with ASTM B 209.
- Sealant to be utilized at the base of the swirl chamber shall be 60 durometer extruded nitrile butadiene rubber (Buna N) and shall be provided to the concrete precaster for installation.

PERFORMANCE

The SWTD shall be capable of achieving an 80 percent average annual reduction of TSS or an 80% reduction of TSS based on a treatment flow rate or calculation as specified by local regulatory requirements unless otherwise stated.

The SWTD shall have completed field tested following TARP Tier II protocol requirements

Annual TSS removal efficiency models shall be based on documented removal efficiency performance from full scale laboratory tests based on a particle size gradation defined in Table 1 unless otherwise stated. Annual TSS removal efficiency models shall only be considered valid if they are corroborated by independent third-party field testing. Said field testing shall include influent and effluent composite samples from a minimum of ten storms at one location.

Individual stormwater treatment systems shall have usable sediment storage capacity of not less than the corresponding volume listed in Table 2. The systems shall be designed such that the pump-out volume is less than ½ of the total system volume. The systems shall be designed to not allow surcharge of the upstream piping network during dry weather conditions.

The stormwater treatment system manufacturer shall furnish documentation which supports all product performance claims and features, storage capacities and maintenance requirements.

Stormwater treatment systems shall be completely housed within one rectangular structure.

In order to not restrict the Owner's ability to maintain the stormwater treatment system, the minimum dimension providing access from the ground surface to the sump chamber shall be 16 inches in diameter.

TABLE 1
Particle Size Gradation

Percent of Sample	Particle Size Range
27%	>250 micron
11%	150-250 micron
7%	100-150 micron
9%	75-100 micron
4%	63-75 micron
42%	<63 micron

EXECUTION

The Stormwater Treatment System shall be constructed according to the sizes shown on the Drawings and as specified herein. Install at elevations and locations shown on the Drawings or as otherwise directed by the Engineer.

Place the precast base unit on a granular subbase of minimum thickness of six inches (152 mm) after compaction or of greater thickness and compaction if specified elsewhere. The granular subbase shall be checked for level prior to setting and the precast base section of the trap shall be checked for level at all four corners after it is set. If the slope from any corner to any other corner exceeds 0.5% the base section shall be removed and the granular subbase material re-leveled.

Prior to setting subsequent sections place bitumen sealant in conformance with ASTM C 990-91 along the construction joint in the section that is already in place.

After setting the base and wall or riser sections, prepare to install the swirl chamber (if not installed prior to delivery). Place the butyl mastic sealant vertically on the outside of the swirl chamber starting one inch above the bottom of the swirl chamber and continuing to a height equal to the elevation of the bottom of the upper aperture of the swirl chamber. The butyl mastic sealant should abut the downstream side of the pre-drilled mounting holes that attach the swirl chamber to the long walls of the concrete vault. Next, install the extruded Buna N seal on the bottom edge of the 180-degree downstream section of the swirl chamber by first applying a bead of Sikaflex-1a polyurethane elastomeric sealant into the extruded slot then slide the seal onto the swirl chamber. The extruded seal should extend 3-inches (76 mm) upstream of the mounting holes, toward the inlet end of the vault. Set the swirl chamber into position and keep the seal approximately ½-inch (13 mm) above the floor of the concrete vault. Apply a continuous bead of Sikaflex-1a sealant under the cupped bottom of the seal. Set the circular swirl chamber on the floor of the vault and anchor it by bolting the swirl chamber to the side walls of the concrete vault at the three (3) tangent points and at the inlet tab using HILTI brand stainless steel drop-in wedge anchors or equivalent 3/8-inch (10 mm) diameter by 2-3/4 inch (70 mm) minimum length at heights of approximately three inches (3") (76 mm) off the floor and at fifteen-inch (15") (381 mm) intervals to approximately the same height of the butyl mastic sealant (at locations of pre-drilled holes in aluminum components). Apply a continuous bead of Sikaflex-1a sealant to the intersection of the inside bottom edge of the extruded seal and the vault floor.

If the oil baffle wall (Baffle A) and flow control wall (Baffle B) are not integrally cast-in to riser/wall sections then the Baffle wall panels shall be placed in the formed keyways or between bolted-in-place angle flanges as provided by the manufacturer. Apply non-shrink grout or Sikaflex-1a sealant to each end of Baffle A and Baffle B at the upstream intersection with the side walls of the concrete vault.

Prior to setting the precast roof section, bitumen sealant equal to ASTM C 990 shall be placed along the top of the oil baffle wall (Baffle A), using more than one layer of mastic if necessary, to a thickness at least 1-inch (25 mm) greater than the nominal gap between the top of the baffle and the roof section. The nominal gap shall be determined either by field measurement or the shop drawings. Do not seal the top of Baffle B unless specified on the shop drawings to do so. After placement of the roof section has compressed the butyl mastic sealant in the gap over Baffle A, finish sealing the gap with an approved non-shrink grout on both sides of the gap using the butyl mastic as a backing material to which to apply the grout. If roof section is "clamshell" or "bathtub" halves, then finish sealing the ends of the Baffle walls by applying non-shrink grout or Sikaflex-1a sealant to each end of Baffle A at the upstream intersection with the side walls of the concrete vault and to each end of Baffle B at the downstream intersection with the side walls of the concrete vault.

After setting the precast roof section of the stormwater treatment system, set precast concrete manhole riser sections, to the height required to bring the cast iron manhole covers to grade, so that the sections are vertical and in true alignment with a ¼-inch (6 mm) maximum tolerance allowed. Backfill in a careful manner, bringing the fill up in 6-inch (152 mm) lifts on all sides. If leaks appear, clean the inside joints and caulk with lead wool to the satisfaction of the Engineer. Precast sections shall be set in a manner that will result in a watertight joint. In all instances, installation of Stormwater Treatment Systems shall conform to ASTM specification C 891 "Standard Practice for Installation of Underground Precast Utility Structures".

Holes made in the concrete sections for handling or other purposes shall be plugged with a non-shrink grout or by using grout in combination with concrete plugs.

Where holes must be cut in the precast sections to accommodate pipes, do all cutting before setting the sections in place to prevent any subsequent jarring which may loosen the mortar joints. The Contractor shall make all pipe connections.

TABLE 2
Stormwater Treatment Device Storage Capacities

Vortechs Model	Minimum Sump Storage Capacity (yd^3)/(m^3)
2000	1.2(0.91)

METHOD OF MEASUREMENT: This item will not be measured for payment.

BASIS OF PAYMENT: No separate payment will be made for Item Code 702.9901 "STORMWATER TREATMENT DEVICE – VORTECHS 2000". Full and complete compensation for all labor, tools, materials, equipment, and all incidentals required to finish the work as described in these Special Provisions and elsewhere in the Contract Documents, complete and accepted by the Engineer, shall be included in the applicable contract lump sum bid prices.

CODE 907.1000
DUST CONTROL

DESCRIPTION: Subsection 907.05.3; Failure to Comply, of the Standard Specifications requires that a daily charge be deducted from monies due the Contractor in the event the Engineer decides that dust has not been adequately controlled.

The charge for this Contract will be $**200.00** per day, for each day that the Contractor is not in compliance with **Subsection 907.05.3** of the Specifications.

CODE 937.1000
MAINTENANCE AND MOVEMENT OF TRAFFIC PROTECTIVE DEVICES

DESCRIPTION

Subsection 937.05.2; Failure to Comply, part a. Maintenance, of the Standard Specifications requires that a daily charge be deducted from monies due the Contractor for failure to adequately and safely maintain traffic control devices along any portion of the project.

The charge for this Contract will be **$1,000.00** per day.

Subsection 937.05.2; Failure to Comply, part b. Movement, of the Standard Specifications requires that a charge be deducted from monies due the Contractor for failure to remove and/or relocate traffic control devices for compliance with the traffic-related work restrictions included in the Transportation Management Plan or to otherwise meet changes in traffic conditions, construction operations, or other conditions affecting the safety and/or mobility of the traveling public.

The charge for this Contract will be **$ 1,000.00** per half hour per travel lane that is closed to traffic.

CODE 938.1000
PRICE ADJUSTMENTS

DESCRIPTION:

a. **Liquid Asphalt Cement.** The Base Price of Liquid Asphalt Cement as required to implement Subsection 938.03.1 of the Standard Specifications is **$540.00** per ton.

b. **Diesel Fuel.** The Base Price of Diesel Fuel as required to implement Subsection 938.03.2 of the Standard Specifications is **$0.8175** per gallon.

CODE L02.1000
SEEDING FAILURE TO COMPLY

DESCRIPTION:

Subsection L.02.03.7; Paragraph C, Failure to Perform Care During Construction, of the Standard Specifications requires that a daily chare be deducted from monies due the Contractor in the event the Engineer decides that the Care During Construction has not been adequately performed.

The charge for this Contract will be $500.00 per day.

Appendix - H

PLANS

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	1	22

INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	STANDARD PLAN SYMBOLS & STANDARD LEGEND
3	STANDARD NOTES - 1
4	STANDARD NOTES - 2
5	JOB SPECIFIC PLAN SYMBOLS, LEGEND, & NOTES
6	KEY PLAN
7-12	DRAINAGE & UTILITY PLAN NOS. 1-6
13	CROSS-SECTION STU-012
14	CROSS-SECTION STU-013
15-19	SIGNING & STRIPING PLAN NOS. 1-5
20-22	DRAINAGE & UTILITY DETAIL PLAN NOS. 1-3

STATE OF RHODE ISLAND

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED

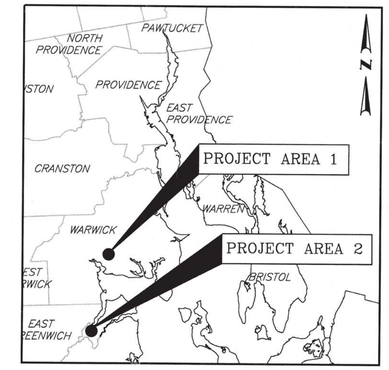
STATE HIGHWAY

STORMWATER TREATMENT RETROFIT

GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)

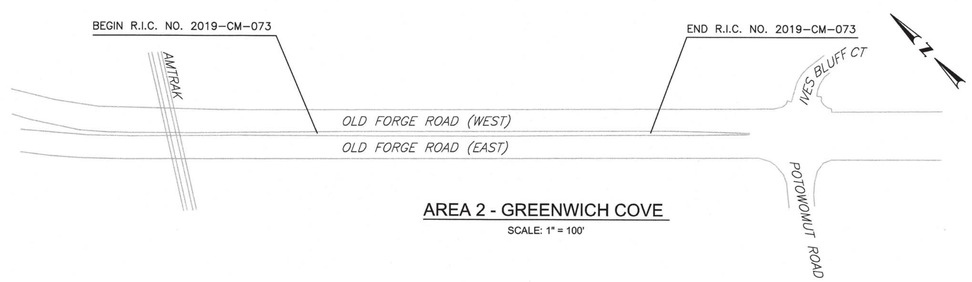
POST ROAD EXTENSION & OLD FORGE ROAD
CITY OF WARWICK
COUNTY OF KENT

R.I. CONTRACT NO. 2019-CM-073 F.A. PROJECT NO. RI-DAII(001)



LOCATION MAP
NOT TO SCALE

AREA 1 - GREENWOOD CREEK
SCALE: 1" = 200'



AREA 2 - GREENWICH COVE
SCALE: 1" = 100'

DESIGN DESIGNATION

POST ROAD EXTENSION

2018 AADT	10,000 V.P.D.
DESIGN SPEED	50 M.P.H.

OLD FORGE ROAD

2018 AADT	7,000 V.P.D.
DESIGN SPEED	40 M.P.H.

HURRICANE EVACUATION ROUTE

This project includes work on a designated Hurricane Evacuation and Diversionary Route as follows:

- Old Forge Road

Refer to note 18 on Standard Notes - 1

STEVEN M. CABRAL
No. 4847
REGISTERED PROFESSIONAL ENGINEER
4-28-20

ENGINEER'S STAMP

R.I. DEPARTMENT OF TRANSPORTATION

APPROVED
R. M. Moore 5-1-20
ADMINISTRATOR, PROJECT MANAGEMENT DATE

APPROVED
Robert Rocchio 5-8-20
CHIEF ENGINEER OF INFRASTRUCTURE DATE

APPROVED
5-11-20
DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR DATE

SCALES OF DRAWINGS
PLANS: 1" = 20'

BASE OF LEVELS
NAVD 88
NAD 83

CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

Contract Number 2019-CM-073
Number of Sheet 1
Total Sheets 22

R.I. STANDARD SPECIFICATIONS AND STANDARD DETAILS

SPECIFICATIONS TO GOVERN THIS PROJECT ARE THE R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION (AMENDED MARCH 2018), WITH ALL REVISIONS, AND THE STATE AND FEDERAL SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS. STANDARD DETAILS FOR THIS PROJECT ARE R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	2	22

EXISTING		NEW
	EDGE OF PAVEMENT	
	BERM	
	CURB	
	GUARDRAIL	
MB	MAILBOX	
NO.	UTILITY POLE	NO.
	POLE GUY	GUY
	LUMINARE	
SIGN	SIGN	
(SIZE)SD	SUBDRAIN	N(SIZE)SD (Length → Size)
(SIZE)D	STORMDRAIN	(Length → Size)
(SIZE)S	SANITARY SEWER	
(SIZE)W	WATER MAIN	N(SIZE)W
(SIZE)G	GAS MAIN	N(SIZE)G
(SIZE)T	TELEPHONE DUCT	N-#(SIZE)T
(SIZE)E	ELECTRIC DUCT	N-#(SIZE)E
	PLUG AND CAP PIPE	
	ABANDONED UTILITY	
	FLARED END SECTION	
	HEADWALL	
WG OR GG	WATER OR GAS GATE	
CB	CATCH BASIN	
MH	MANHOLE	
HYD	HYDRANT	
1+00	BASELINE OR CENTERLINE	1+00
EXIST. S.H.L. PLAT NO. XX	STATE HIGHWAY LINE	NEW S.H.L. PLAT NO. XX
EXIST. S.F.L. PLAT NO. XX	STATE FREEWAY LINE	NEW S.F.L. PLAT NO. XX
EXIST. P.E.B.	PERMANENT EASEMENT LINE	NEW P.E.B.
EXIST. T.E.B.	TEMPORARY EASEMENT LINE	NEW T.E.B.
P	PROPERTY LINE	
CITY NAME TOWN NAME	CITY OR TOWN LINE	
PWW	PAVED WATERWAY	
ELEV.	CONTOUR LINE	ELEV.
	OPEN DITCH	
R.I.H.B.	R.I. HIGHWAY BOUND	
S.B.	STONE BOUND	
	RETAINING WALL	
	FIELD STONE WALL	
NO.	BORINGS	NO.
TYPE	FENCE	
	WOOD OR BRUSH LINE	
	TREES	
(NAME)	RIVER OR STREAM	
	WETLAND AREA	
NO. TYPE MATERIAL	BUILDING	
	FOUNDATION	
	BUILDING TO BE REMOVED	
	RAILROAD TRACKS	
	CUT AND MATCH	
	RIP-RAP	
	CUT SLOPE	ROADWAY, TOP OF SLOPE
	FILL SLOPE	ROADWAY, TOE OF SLOPE
	ROCK CUT	ROCK SHELF, ROCK, CUT
00x00	SPOT GRADE	00.00
	AREA GRADED TO DRAIN	ELEV.
	BALED HAY RI STD 9.1.0	
	BALED HAY & SILT FENCE RI STD. 9.3.0	
123 124 125	EDGE OF WETLAND	
	WETLAND PERIMETER	
ASSF	AREA SUBJECT TO STORM FLOW	
100 YR. FLOOD BOUNDARY	100-YEAR FLOOD PLAIN	
	LIMIT OF DISTURBANCE	LIMIT OF DISTURBANCE
	LIMIT OF CLEARING	LIMIT OF CLEARING

1.1.0	UNDERDRAIN
1.3.0	CONCRETE CONNECTING COLLAR
2.1.0	CONCRETE HEADWALLS FOR PIPE CULVERTS
2.2.0	STANDARD HEADWALLS FOR MULTIPLE 3'-6" TO 7'-0' PIPE CULVERTS
2.3.0 (DIA.)	PRECAST CONCRETE FLARED END SECTION
3.2.0	BRICK/SOLID BLOCK 4'-0" ROUND MANHOLE
3.2.1 (DIA.)	BRICK/SOLID BLOCK 5'-0" OR 6'-0" ROUND MANHOLE
3.3.0	BRICK/SOLID BLOCK TYPE "D" SQUARE CATCH BASIN
3.3.2	BRICK/SOLID BLOCK TYPE "F" SQUARE CATCH BASIN
3.3.3	SOLID BLOCK FLUSH SQUARE CATCH BASIN
3.4.0	BRICK/SOLID BLOCK TYPE "D" ROUND CATCH BASIN
3.4.1	BRICK/SOLID BLOCK ROUND CATCH BASIN WITH GUTTER INLET
3.4.2	BRICK/SOLID BLOCK TYPE "F" ROUND CATCH BASIN
3.4.3	BRICK/SOLID BLOCK TYPE "R" CATCH BASIN
3.4.4	SOLID BLOCK FLUSH ROUND CATCH BASIN
3.4.5 (DIA.)	BRICK/SOLID BLOCK 5'-0" OR 6'-0" ROUND CATCH BASIN
3.5.0	SOLID BLOCK SHALLOW TYPE "F" SQUARE CATCH BASIN
3.5.1 (SIZE)	SOLID BLOCK SHALLOW 5'-0" OR 6'-0" SQUARE CATCH BASIN
3.6.0	BRICK/SOLID BLOCK DROP INLET
3.7.0 (DIA.)	BRICK/SOLID BLOCK ROUND MANHOLE OR CATCH BASIN GREATER THAN 12'-0"
4.2.0	PRECAST 4'-0" ROUND MANHOLE
4.2.1	PRECAST 5'-0" ROUND MANHOLE
4.2.2	PRECAST 6'-0" ROUND MANHOLE
4.3.0 (SIZE)	PRECAST 4'-0" OR 6'-0" SQUARE MANHOLE OR CATCH BASIN
4.4.0 (DIA.)	PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN
4.5.0	PRECAST CONCRETE DROP INLET
4.5.1	PRECAST CONCRETE DROP INLET LATERAL OUTLET
4.5.2	PRECAST CONCRETE DROP INLET LONGITUDINAL OUTLET
5.3.0	CATCH BASIN AND MANHOLE STEP
5.4.0	CONCRETE COLLARS
6.1.0	LIGHT-DUTY SQUARE FRAME AND ROUND COVER
6.1.1	HEAVY DUTY SQUARE FRAME AND ROUND COVER
6.2.0	LIGHT-DUTY ROUND FRAME AND COVER
6.2.1	HEAVY-DUTY ROUND FRAME AND COVER
6.3.0	SQUARE FRAME AND GRATE
6.3.1	SQUARE FRAME AND GRATE
6.3.2	SQUARE FRAME AND GRATE (BICYCLE SAFE)
6.3.3	HIGH CAPACITY FRAME AND GRATE
6.3.4	HIGH CAPACITY FRAME AND GRATE (BICYCLE SAFE)
6.4.0	ROUND FRAME AND GRATE
7.1.0S	PRECAST CONCRETE CURB (STRAIGHT)
7.1.0C	PRECAST CONCRETE CURB (CIRCULAR)
7.1.1	3'-0' PRECAST CONCRETE TRANSITION CURB
7.1.2	6'-0" PRECAST CONCRETE TRANSITION CURB
7.1.4	PRECAST 2'-0" RADIUS CORNER
7.1.5	PRECAST CONCRETE INLET STONE (FOR SQUARE CATCH BASIN)
7.1.6	PRECAST CONCRETE INLET STONE (FOR ROUND CATCH BASIN)
7.1.7	PRECAST CONCRETE APRON STONE (FOR SQUARE CATCH BASIN)
7.1.8	PRECAST CONCRETE APRON STONE (FOR ROUND CATCH BASIN)
7.2.0S	PRECAST CONCRETE SLOPED FACE CURB (STRAIGHT)
7.2.0C	PRECAST CONCRETE SLOPED FACE CURB (CIRCULAR)
7.2.1	PRECAST CONCRETE SLOPED FACE TRANSITION CURB
7.2.2	PRECAST CONCRETE TRANSITION CURB (VERTICAL FACE TO SLOPED FACE)
7.3.0S	GRANITE CURB (STRAIGHT)
7.3.0C	GRANITE CURB (CIRCULAR)
7.3.1	3'-0" GRANITE TRANSITION CURB
7.3.2	6'-0" GRANITE TRANSITION CURB
7.3.3	GRANITE WHEELCHAIR RAMP TRANSITION CURB
7.3.4	GRANITE 2'-0" RADIUS CORNER
7.3.5	GRANITE INLET STONE (FOR SQUARE CATCH BASIN)
7.3.6	GRANITE INLET STONE (FOR ROUND CATCH BASIN)
7.3.7	GRANITE APRON STONE (FOR SQUARE CATCH BASIN)
7.3.8	GRANITE APRON STONE (FOR ROUND CATCH BASIN)
7.4.0	GRANITE SLOPED FACE CURB
7.4.1	GRANITE SLOPED FACE TRANSITION CURB
7.4.2	GRANITE TRANSITION CURB (VERTICAL FACE TO SLOPE FACE)
7.5.0	BITUMINOUS CONCRETE LIP CURB
7.5.1A	BITUMINOUS BERM (CONSTRUCTION METHOD A)
7.5.1B	BITUMINOUS BERM (CONSTRUCTION METHOD B)
7.6.0	CURB SETTING DETAIL
8.2.0	BITUMINOUS CONCRETE DITCH
8.3.0	RIP-RAP DITCH
8.4.0	PAVED WATERWAY
9.1.0	BALED HAY EROSION CHECK
9.2.0	SILT FENCE DETAIL
9.3.0	BALED HAY DITCH EROSION CHECK AND SILT FENCE COMBINED
9.4.0	BALED HAY DITCH AND SWALE EROSION CHECK
9.5.0	LOG AND HAY CHECK DAM
9.7.0	DEWATERING BASIN
9.8.0	BALED HAY CATCH BASIN INLET PROTECTION
9.9.0	CONSTRUCTION ACCESS
10.1.0	WET STONE MASONRY RETAINING WALL
10.2.0	RUBBLE MASONRY WALL
10.3.0	CONCRETE RETAINING WALL
10.4.0	STONE MASONRY STEPS
14.1.0	CONCRETE HIGHWAY BOUND
15.1.0	POST AND MOUNTINGS FOR RURAL MAILBOX
15.2.0 (NO.)	POST AND MULTIPLE MOUNTINGS FOR RURAL MAILBOXES
18.2.0	PRECAST TYPE "A" HANDHOLE
18.2.2	HEAVY DUTY TYPE "H" HANDHOLE
18.3.0	ALUMINUM LIGHTING STANDARDS
20.2.0	BI-DIRECTIONAL CONTROL DEVICE
24.6.1	STREET SIGN MOUNTING DETAIL
26.2.0	POLYETHYLENE DRUM WITH MARKINGS
26.3.0	PVC PLASTIC PIPE TYPE III BARRICADE
31.1.0	CHAIN LINK FENCE 3'-0" TO 4'-0"
31.2.0	CHAIN LINK FENCE 5'-0" TO 6'-0"
31.2.1	CHAIN LINK FENCE 5'-0" TO 6'-0" INTERMEDIATE POST
31.3.0	WOVEN WIRE RIGHT-OF-WAY FENCE (STEEL POST)
34.1.0	TYPICAL GUARDRAIL INSTALLATION
34.2.0	STEEL BEAM GUARDRAIL
34.2.1	STEEL BEAM GUARDRAIL DETAILS
34.2.2	STEEL BEAM GUARDRAIL DOUBLE FACED ASSEMBLY
34.2.3	STEEL BEAM GUARDRAIL FIXTURES
34.2.5	STEEL BEAM GUARDRAIL REFLECTORIZED TRIANGULAR DELINEATOR
34.3.1	GUARDRAIL END SECTION
34.3.2	TERMINAL END SECTION (SINGLE FACE)
34.3.3	ANCHORAGE DETAILS APPROACH END SECTION
34.3.4	ANCHORAGE DETAILS TRAILING END SECTION
34.4.0	STEEL BACKED TIMBER GUARDRAIL
34.4.1	STEEL BACKED TIMBER GUARDRAIL TERMINAL SECTION-TYPE 1
40.1.0	DOUBLE-FACED PRECAST MEDIAN BARRIER
40.2.0	SINGLE-FACED PRECAST MEDIAN BARRIER
40.2.1	SINGLE-FACED PRECAST MEDIAN BARRIER
40.3.0	PRECAST MEDIAN BARRIER TRANSITION UNIT
40.5.0	PRECAST MEDIAN BARRIER FOR TEMPORARY TRAFFIC CONTROL
43.1.0	CEMENT CONCRETE SIDEWALK
43.2.0	BITUMINOUS CONCRETE SIDEWALK
43.3.0	WHEELCHAIR RAMP
43.3.1	WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS
43.4.0	DRIVEWAY DEVELOPMENT FOR 3'-0" TRANSITION CURB
43.4.1	DRIVEWAY DEVELOPMENT FOR 6'-0" TRANSITION CURB
43.5.0	CEMENT CONCRETE DRIVEWAYS
48.1.0	DETECTABLE WARNING SYSTEM
51.1.0	TREE PROTECTION DEVICE
51.1.1	DRIP LINE TREE PROTECTION DEVICE FOR EXISTING TREES
51.2.0	SHRUB PROTECTION DEVICE
51.3.0	TREE WELL
51.4.0	TREE WALL

AB	ADJUST CATCH BASIN TO GRADE
ABM	ADJUST CATCH BASIN TO MANHOLE
AC	ADJUST CURB STOP TO GRADE
AD	ADJUST DRAINAGE MANHOLE TO GRADE
AE	ADJUST ELECTRIC MANHOLE TO GRADE
AFC	ADJUST FRAME AND COVER TO GRADE
AFG	ADJUST FRAME AND GRATE TO GRADE
AG	ADJUST GAS GATE BOX TO GRADE
AHH	ADJUST HANDHOLE TO GRADE
AS	ADJUST SANITARY SEWER MANHOLE TO GRADE
AT	ADJUST TELEPHONE MANHOLE TO GRADE
AW	ADJUST WATER GATE BOX TO GRADE
BCD	BITUMINOUS CONCRETE DRIVEWAY 3" BITUMINOUS CONCRETE TYPE I-2 8" GRAVEL BORROW SUBBASE COURSE
BPS	BUILD NEW STRUCTURE OVER EXISTING PIPE
CCB	CLEAN CATCH BASIN
CCP	CUT AND CAP PIPE WITH RESTRAINT (ALL SIZES)
CFP	CLEAN AND FLUSH PIPE
CG	CLEARING AND GRUBBING
CMH	CLEAN MANHOLE
CP (DEPTH)	COLD PLANE
CPP	CUT AND PLUG PIPE (ALL TYPES, ALL SIZES)
DB	REMOVE AND DISPOSE BITUMINOUS CURB
DC	REMOVE AND DISPOSE CONCRETE CURB
DCB	REMOVE AND DISPOSE CATCH BASIN
DDI	REMOVE AND DISPOSE DROP INLET
DF	REMOVE AND DISPOSE FENCE
DFC	REMOVE AND DISPOSE FRAME AND COVER
DFE	REMOVE AND DISPOSE FLARED END SECTION
DFG	REMOVE AND DISPOSE FRAME AND GRATE
DFH	REMOVE AND DISPOSE FIRE HYDRANT
DFP	REMOVE AND DISPOSE FLEXIBLE PAVEMENT
DG	REMOVE AND DISPOSE GUARDRAIL
DH	REMOVE AND DISPOSE HEADWALL
DHB	REMOVE AND DISPOSE HIGHWAY BOUND
DHH	REMOVE AND DISPOSE HANDHOLE
DL	REMOVE AND DISPOSE LIGHT AND FOUNDATION
DMB	REMOVE AND DISPOSE MEDIAN BARRIER
DMH	REMOVE AND DISPOSE MANHOLE
DMM	REMOVE AND DISPOSE MEDIAN MARKER
DOW	REMOVE AND DISPOSE OBSERVATION WELL
DP	REMOVE AND DISPOSE PIPE
DPB	REMOVE AND DISPOSE PAVEMENT AND RIGID BASE
DRB	REMOVE AND DISPOSE RIGID BASE
DS	REMOVE AND DISPOSE SIGN
DSS	REMOVE AND DISPOSE TRAFFIC SIGNAL SYSTEM
DSW	REMOVE AND DISPOSE SIDEWALK
DTD	REMOVE AND DISPOSE TELEPHONE DUCT BANKS
DUP	REMOVE AND DISPOSE UTILITY POLE
DWW	REMOVE AND DISPOSE PAVED WATERWAY
FF	FILTER FABRIC RIPRAP FLARED END UNDERLAYMENT
GET	FLARED GUARDRAIL END TREATMENT
IA	IMPACT ATTENUATOR
IDL	IMPERVIOUS DITCH LINER
LOD	LIMIT OF DISTURBANCE
LOR	LIMIT OF REGRADING
LS	4" LOAM AND SEED
NFH	NEW FIRE HYDRANT WITH GATE VALVE
NIC	NOT IN THIS CONSTRUCTION CONTRACT
NWB	FURNISH AND INSTALL NEW WATER GATE VALVE BOX
NWVB	FURNISH AND INSTALL NEW WATER GATE VALVE AND BOX
NWCB	FURNISH AND INSTALL NEW WATER CURB STOP BOX
NWSB	FURNISH AND INSTALL NEW WATER CURB STOP AND BOX
PCD	PERMANENT CHECK DAM
PS	4" PLANTABLE SOIL AND SEED
RCB	RECONSTRUCT TYPE "D" CATCH BASIN, TO CATCH BASIN WITH GUTTER INLET
RCM	R.I.D.O.T. COMMUNICATIONS MANHOLE
RHH	REMOVE, HANDLE, HAUL, TRIM, RESET CURB EDGING, STRAIGHT, CIRCULAR (ALL TYPES)
RLP	RELOCATE LAMP POST
RMB	RELOCATE MAILBOX (BY OTHERS)
RPM	REMOVE PAVEMENT MARKINGS
RRP	RIP-RAP PAD (SEE DETAIL)
RRS	REMOVE AND RELOCATE SIGN
RUP	RELOCATE UTILITY POLE (BY OTHERS)
SB	STONE BAFFLE
SBAE	STEEL BEAM BRIDGE CONNECTION APPROACH END (W/O NESTED RAIL)
SBTE	STEEL BEAM BRIDGE CONNECTION TRAILING END (W/NESTED RAIL)
SD-	STRUCTURAL DISPOSITION – SEE CS PAGES OF SPECIFICATION
SF	REMOVE AND STOCKPILE FENCE
SGA	SPECIAL GRADED AGGREGATE
SGC	REMOVE AND STOCKPILE GRANITE CURB
SGR	REMOVE AND STOCKPILE GUARDRAIL
SH	REMOVE AND STOCKPILE HYDRANT
SS	REMOVE AND STOCKPILE SIGN
STS	REMOVE AND STOCKPILE TRAFFIC SIGNAL SYSTEM
TB	CONCRETE THRUST BLOCK
TEP	TIE EXISTING PIPE INTO NEW STRUCTURE
TNP	TIE NEW PIPE INTO EXISTING STRUCTURE
TBT	THRIE BEAM TRANSITION
TBBC	THRIE BEAM BRIDGE CONNECTION
TT	TREE TRIMMING
WCM	4" WOOD CHIP MULCH
4DY	4" EPOXY RESIN PAVEMENT MARKINGS – DOUBLE YELLOW
6W	6" EPOXY RESIN PAVEMENT MARKINGS – WHITE
12W	12" EPOXY RESIN PAVEMENT MARKINGS – WHITE
6WT	6" PREFORMED PATTERNED MARKING (HIGH PERFORMANCE TAPE)
4Y	4" EPOXY RESIN PAVEMENT MARKINGS – YELLOW
6Y	6" EPOXY RESIN PAVEMENT MARKINGS – YELLOW
P.G.L.	PROFILE GRADE LINE

REVISIONS		
NO.	DATE	BY
1	6/07	TRB

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

STANDARD PLAN SYMBOLS & STANDARD LEGEND

CHECKED BY _____ DATE _____ SCALE NO SCALE

CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

S:\2205.04 – RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_002_STDSYM.dwg (.) Plotted May 11, 2020 at 8:27pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	3	22

GENERAL NOTES:

1. ANY DAMAGE TO EXISTING PAVEMENT, BRIDGES, CONDUIT, SIDEWALK, FENCES, ETC., CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.

2. THE CONTRACTOR SHALL PLACE ALL EQUIPMENT AND MATERIAL AS FAR AWAY AS POSSIBLE FROM THE EDGE OF THE TRAVEL LANE SO AS NOT TO CAUSE A SAFETY HAZARD, IN ACCORDANCE WITH SECTION 106.06 OF THE R.I.D.O.T. STANDARD SPECIFICATION, LATEST EDITION.

3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE EXISTING CONDITIONS ARE NOT OBLITERATED BEFORE CONTROL POINTS ARE LOCATED AND CONSTRUCTION LAYOUT IS ESTABLISHED. THE CONSTRUCTION LAYOUT SHALL BE PROVIDED IN SUFFICIENT DETAIL, THEREBY ENABLING HIM TO CONSTRUCT THE PROJECT IN CONFORMITY WITH THE PLANS AND SPECIFICATIONS. SURVEY WILL BE PROVIDED BY THE CONTRACTOR. THE RESIDENT ENGINEER WILL NOT AUTHORIZE CONSTRUCTION ACTIVITIES TO BEGIN UNTIL HE IS SATISFIED THAT ALL GROUND CONTROL HAS BEEN ESTABLISHED, TIED DOWN, AND DULY RECORDED IN STANDARD FIELD BOOKS.

4. ALL R.I. STD. 9.9.0 CONSTRUCTION ACCESS ROADS SHALL BE CONSTRUCTED PRIOR TO ANY ROADWAY ACCEPTING CONSTRUCTION TRAFFIC.

5. THE FREQUENCY AND APPLICATION RATES FOR THE DUST CONTROL ITEMS WILL BE AS DIRECTED BY THE ENGINEER.

6. ALL SIDEWALK AND DRIVEWAYS DESIGNATED FOR REPLACEMENT SHALL BE CUT AND MATCHED AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

7. ASPHALT EMULSION TACK COAT SHALL BE PLACED PRIOR TO PAVEMENT PLACEMENT ON THE CONCRETE BASE OR COLD PLANED PAVEMENT, AND ON ANY NEW COURSE WHICH HAS BEEN OPEN TO TRAFFIC, OR ANY NEW COURSE WHICH HAS BEEN EXPOSED FOR MORE THAN 3 DAYS, AND/OR AS DIRECTED BY THE ENGINEER. IT SHALL ALSO BE APPLIED TO VERTICAL PAVEMENT FACES BETWEEN ADJOINING PAVEMENT SECTIONS. ALL APPLICATIONS ON BOTH HORIZONTAL AND VERTICAL SURFACES SHALL BE PAID FOR UNDER THE CONTRACT UNIT BID PRICE FOR CODE 403.0300 "ASPHALT EMULSION TACK COAT."

8. THE LIMITS OF CLEARING AND SURFACE DISTURBANCE MUST BE STRICTLY ADHERED TO IN ALL AREAS. IN ADDITION TO THOSE AREAS SPECIFICALLY DESIGNATED ON THE PLANS, THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND PLACING, AT HIS OWN EXPENSE, PLANTABLE SOIL AND SEED IN AREAS WHICH ARE OUTSIDE OF THE PROJECT'S AREAS OF DISTURBANCE AND WHICH ARE IMPACTED BY CONSTRUCTION OPERATIONS INCLUDING THOSE AREAS WHERE VEHICLES, EQUIPMENT AND MATERIALS ARE STORED WITH THE PERMISSION OF THE ENGINEER.

9. UNDER NO CIRCUMSTANCE WILL THE CONTRACTOR BE ALLOWED TO STOCKPILE REMOVED PAVEMENT MATERIALS WITHIN THE PROJECT LIMITS.

10. CLEANING AND SWEEPING OF PAVEMENT WILL INCLUDE REMOVAL OF ALL PAVEMENT DEBRIS PRIOR TO THE PLACEMENT OF EACH BITUMINOUS PAVEMENT LIFT. ALL CLEANING AND SWEEPING SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER.

11. PRIOR TO INSTALLATION, ALL SIGNS, MOUNTINGS AND LOCATIONS SHALL BE APPROVED OR MODIFIED BY THE ENGINEER.

12. THE COORDINATE SYSTEM, IF SHOWN, IS THE RHODE ISLAND STATE PLANE COORDINATE SYSTEM.

13. PAVEMENT OPERATIONS FOR CURBED SECTIONS: IN AREAS WHERE CURBING IS SET TO FINISH LINE AND GRADE, THE CONTRACTOR WILL NOT BE REQUIRED TO UTILIZE THE SENSOR AND SKY-TYPE DEVICE FOR AUTOMATIC GRADE CONTROL, BUT WILL BE ALLOWED TO MANUALLY ADJUST THE BITUMINOUS PAVER FOR CONTROLLING GRADE.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ROADWAYS FREE OF DEBRIS RESULTING FROM THEIR CONSTRUCTION OPERATIONS. ALL DEBRIS SHALL BE REMOVED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.

15. NO FUEL STORAGE, VEHICLE REFUELING, OR EQUIPMENT STORAGE SHALL TAKE PLACE IN DESIGNATED WETLANDS, NOR WITHIN 100' OF ANY WATER BODY. THIS REQUIREMENT SHALL NOT SUPERSEDE ANY FEDERAL, STATE OR LOCAL LAW, ORDINANCE, RULE OR REGULATION THAT APPLIES TO THE SAME, UNLESS THIS REQUIREMENT IS MORE STRINGENT THAN SAID LAW, ORDINANCE, RULE OR REGULATION.

16. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT AT THE END OF FINAL PAVING OPERATIONS, FLOW TO EXISTING DRAINAGE STRUCTURES HAS BEEN REESTABLISHED AND THAT NO ISOLATED DEPRESSIONS REMAIN. THERE SHALL BE NO SEPARATE PAYMENT FOR THIS PROVISION; IT SHALL BE CONSIDERED INCIDENTAL TO PAVING AND COLD PLANING OPERATIONS.

17. ALL EMBANKMENTS SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING 12" (AFTER COMPACTION) AND SHALL BE COMPACTED AS SPECIFIED BEFORE THE NEXT LAYER IS PLACED. ALSO, EMBANKMENT CONSTRUCTION SHALL CONFORM TO SECTION 202.03.2 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.

18. IF THIS PROJECT IS ON A HURRICANE EVACUATION AND DIVERSIONARY ROUTE, AS DESIGNATED ON THE COVERSHEET, THE CONTRACTOR IS ADVISED THAT UPON 12 (TWELVE) HOURS NOTICE THE ROADWAY SHALL BE OPEN TO EVACUEES AND EMERGENCY PERSONNEL. ANY EXTRA WORK NECESSARY TO COMPLY WITH THIS REQUIREMENT WILL BE REIMBURSED UNDER FORCE ACCOUNT PROCEDURES.

19. THE CONTRACTOR SHALL READ, BECOME FAMILIAR WITH, AND ADHERE TO ALL OF THE PROVISIONS, CONDITIONS, AND STIPULATIONS STATED IN THE ENVIRONMENTAL APPROVALS ISSUED FOR THE PROJECT FROM THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (RIDEM). AND/OR THE ARMY CORPS OF ENGINEERS (ACOE). AND/OR THE COASTAL RESOURCES MANAGEMENT COUNCIL (CRMC). COPIES OF EACH OF THESE PERMITS ARE INCLUDED IN THE CS PAGES OF THE CONTRACT DOCUMENTS. ALL COSTS ASSOCIATED WITH THESE CONDITIONS SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND INCLUDED WITH THE COST FOR THE ASSOCIATED BID ITEM(S).

20. FOR ALL PROJECTS INVOLVING KNOWN SITE REMEDIATION ISSUES, THE CONTRACTOR SHALL READ, BECOME FAMILIAR WITH, AND ADHERE TO ALL OF THE CONSTRUCTION RELATED PROVISIONS, CONDITIONS, AND STIPULATIONS OF ANY REMEDIAL PLANS DEVELOPED FOR THE PROJECT. COPIES OF THESE DOCUMENTS ARE INCLUDED IN THE CS PAGES OF THE CONTRACT DOCUMENTS. ALL COSTS ASSOCIATED WITH COMPLIANCE WITH THESE DOCUMENTS SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND INCLUDED WITH THE COST FOR THE ASSOCIATED BID ITEM(S).

21. NO UNPROTECTED CONSTRUCTED FEATURE MAY PROJECT MORE THAN 4 INCHES ABOVE THE FINISHED GRADE OF A TRAVERSABLE SLOPE IN A CLEAR ZONE, e.g. HEADWALL, DRAINAGE INLET, ETC.

22. THE REMAINING SECTION OR STUB OF A BREAKAWAY BASE MAY NOT PROJECT MORE THAN 4 INCHES ABOVE THE FINISHED GRADE OF A TRAVERSABLE SLOPE IN A CLEAR ZONE, e.g. SIGN POSTS, LIGHT POLES, FIRE HYDRANTS, ETC.

DRAINAGE AND EROSION CONTROL NOTES:

1. FOR ALL PROJECTS WITH AT LEAST ONE(1) ACRE OF SOIL DISTURBANCE. R.I.D.O.T. IS REQUIRED TO DEVELOP AND ENFORCE A SITE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ORDER TO REMAIN IN COMPLIANCE WITH THE RIPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL READ, BECOME FAMILIAR WITH, AND ADHERE TO ALL OF THE PROVISIONS, CONDITIONS, AND STIPULATIONS OF THE GENERAL PERMIT AND THE SITE SPECIFIC SWPPP FOR THIS PROJECT. COPIES OF THESE DOCUMENTS ARE INCLUDED IN THE CS PAGES OF THE CONTRACT DOCUMENTS. ALL COSTS ASSOCIATED WITH ADHERENCE TO THE SWPPP SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND INCLUDED WITH THE COST FOR THE ASSOCIATED BID ITEM(S).

2. NO UNDISTURBED AREAS SHALL BE CLEARED OF EXISTING VEGETATION AFTER OCTOBER 15 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 R.I. 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 RESTABILIZED WITHIN 5 WORKING DAYS. ANY WORK TO CORRECT PROBLEMS RESULTING FROM FAILURE TO COMPLY WITH THIS PROVISION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THERE WILL BE NO SEPARATE PAYMENT FOR THIS PROVISION, IT SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OPERATIONS. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 2 WEEKS OF FINAL GRADING.

3. STOCKPILES OF MATERIAL SHALL NOT BE LOCATED WITHIN REGULATED WETLANDS OR BUFFER ZONE AREAS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES OF ERODABLE MATERIAL SHALL ALSO BE SEEDED AND RINGED WITH R.I. STD. 9.1.0 TO STABILIZE.

4. IF THE PLANS INCLUDE SPECIFIC AREAS FOR PLACEMENT OF CONSTRUCTION DEWATERING BASINS AND/OR EQUIPMENT AND MATERIALS STORAGE AND STOCKPILING, AND IF THE CONTRACTOR ELECTS TO UTILIZE ANY OTHER AREAS FOR THESE PURPOSES, THIS SHALL BE APPROVED BY THE ENGINEER ONLY AFTER OBTAINING ANY NECESSARY PERMITS AND/OR PERMIT MODIFICATIONS FROM THE APPROPRIATE REGULATORY AUTHORITY(IES). ANY PERMITTING REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED AT NO COST TO THE STATE. THE ENGINEER WILL COORDINATE SUBMISSION OF ANY REQUIRED PERMIT APPLICATION MATERIALS WITH THE R.I.D.O.T. OFFICE OF ENVIRONMENTAL PROGRAMS.

5. JUTE MESH SHALL BE USED TO STABILIZE PLANTABLE SOIL AND/OR LOAM IN ALL DITCHES, ON ALL SLOPES ADJACENT TO WETLANDS AND WETLAND PERIMETERS, AND ON ALL SLOPES WITHIN WATER QUALITY BASINS. JUTE MESH IN DITCHES SHALL EXTEND TO AN ELEVATION 2 FEET ABOVE THE BOTTOM OF THE DITCH.

6. SEEDING ON ALL SLOPES 3 TO 1 OR STEEPER SHALL CONSIST OF THE FOLLOWING APPLICATIONS UNLESS CHANGED IN THE CONTRACT.

   SEEDING TYPE I.

   ADHESIVE MULCH STABILIZER

7. UNVEGETATED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR PERIODS IN EXCESS OF 2 WEEKS OR THROUGH THE INACTIVE WINTER SEASON.

8. PRIOR TO DRAINAGE AND UTILITY CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION (HORIZONTAL AND VERTICAL) OF ALL EXISTING PIPES AND/OR STRUCTURES WHICH ARE TO BE CONNECTED. ANY VARIATION FOUND FROM THE PLANS MUST BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO DRAINAGE AND UTILITY CONSTRUCTION. WORK CAN COMMENCE ONLY UPON THE ENGINEER'S AUTHORIZATION.

9. ALL DRAINAGE AND UTILITY STRUCTURES WITHIN THE PAVED ROADWAY SHALL BE ADJUSTED TO GRADE WITH THE SURROUNDING PAVEMENT PRIOR TO THE WINTER SHUTDOWN.

10. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL THROUGHOUT THE WORK AREA.

11. CATCH BASIN RIM GRADES NOTED ON PLANS ARE DEPRESSED 0.1' LOWER THAN THE GUTTER GRADE. RIM ELEVATIONS SHOWN ARE FINAL GRADES. THE CONTRACTOR SHALL PLACE FRAMES AND GRATES 0.1' BELOW THE GRADE CONSTRUCTED IN THIS CONTRACT OR AS DIRECTED BY THE ENGINEER.

12. PROVISIONS FOR CLEARING TO ACCESS OUTFALLS DURING THE CLEANING AND FLUSHING OF THE CLOSED DRAINAGE SYSTEM SHALL BE KEPT TO A MINIMUM.

    a. ANY VEGETATIVE CLEARING SHALL BE LIMITED TO BRUSH AND TREES LESS THAN 3" DIAMETER.

    b. NO HEAVY EQUIPMENT MAY ENCROACH UPON VEGETATED PERIMETER OR RIVERBANK WETLANDS AS WELL AS BIOLOGICAL WETLANDS.

13. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL DEVICES FOR OUTLET PROTECTION PRIOR TO CLEANING AND FLUSHING STORM WATER DRAINAGE. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL ALL FLUSHED SEDIMENTS ARE REMOVED. AT ALL OUTFALL LOCATIONS WHERE PIPES ARE TO BE CLEANED AND FLUSHED, OUTLET PROTECTION (R.I. STD. 9.1.0 OR 9.3.0) SHALL BE INSTALLED TO TRAP SEDIMENTS. THESE SEDIMENTS SHALL THEN BE REMOVED AND DISPOSED OF LEGALLY BEFORE THE OUTLET PROTECTION DEVICES ARE REMOVED. IF OUTLET PROTECTION AT THE OUTFALL IS NOT FEASIBLE, THEN THE OUTLET PIPE OF THE LAST DRAINAGE STRUCTURE TO BE CLEANED SHALL BE PLUGGED TO CAPTURE ALL MATERIALS FLUSHED FROM PIPES. AFTER THE MATERIALS ARE REMOVED FROM THE DRAINAGE STRUCTURE, THE OUTLET SHALL BE UNPLUGGED TO RESUME NORMAL FUNCTIONING.

14. R.I. STD. 9.8.0 BALED HAY INLET PROTECTION SHALL BE INSTALLED AT ALL CATCH BASINS AND INLETS WHENEVER SUBBASE IS EXPOSED, AND SHALL REMAIN IN PLACE UNTIL THE ABUTTING GROUND SURFACES ARE STABILIZED.

15. WHERE BALED HAY INLET PROTECTION AND SILT FENCES ARE USED AT CATCH BASINS, THEY SHALL BE REMOVED AT THE END OF THE PROJECT OR AS DIRECTED BY THE ENGINEER IN ORDER TO PREVENT CLOGGING OF THE INLET.

DRAINAGE AND EROSION CONTROL NOTES (CONTINUED):

16. DETENTION AND RETENTION BASINS MAY BE ROUGH GRADED AND STABILIZED WITH VEGETATION AND/OR OTHER EROSION CONTROL MEASURES AS REQUIRED BY THE ENGINEER PRIOR TO USE AS TEMPORARY SEDIMENTATION BASINS DURING PROJECT CONSTRUCTION. FINAL BASIN CONSTRUCTION SHALL NOT COMMENCE UNTIL ALL SOURCES OF SEDIMENT HAVE BEEN ELIMINATED, FINAL ROADSIDE VEGETATION IS ESTABLISHED AND USE OF TEMPORARY BASINS IS NO LONGER REQUIRED AS DIRECTED BY THE ENGINEER. ANY ISSUES RELATING TO EROSION AND/OR SEDIMENT TRANSPORT INTO WETLAND AREAS RESULTING FROM SUCH USE OF SEDIMENTATION BASINS DURING CONSTRUCTION SHALL BE THE RESPONSIBILTY OF THE CONTRACTOR. ANY CORRECTIVE ACTION REQUIRED TO RESOLVE SUCH ISSUES SHALL BE COMPLETED BY THE CONTRACTOR.

17. THE TOE OF ANY FILL SLOPE IS TO REMAIN AT LEAST 1' INSIDE OF ALL EROSION CONTROLS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR COVER ANY PORTION OF THE EROSION CONTROL MEASURES WITH MATERIAL. ANY MATERIAL THAT IS PLACED ON ANY EROSION CONTROLS BY THE CONTRACTOR, OR ANY AGENT OF THE CONTRACTOR, SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR, AND ANY NECESSARY REPAIRS TO THE EROSION CONTROLS ACCOMPLISHED.

18. PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES, EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AT THOSE AREAS INDICATED ON THE PLANS. CLEARING MAY OCCUR PRIOR TO INSTALLATION OF SUCH CONTROLS, HOWEVER NO GRUBBING, GRADING, FILLING, OR OTHER SOIL DISTURBANCE SHALL OCCUR PRIOR TO INSTALLATION. THE LIMITS OF CLEARING AND SURFACE DISTURBANCE MUST BE STRICTLY ADHERED TO IN ALL AREAS.

19. ALL HAY BALES, SILT FENCE OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN HELP TO MINIMIZE EROSION. TEMPORARY SEED WILL CONFORM TO R.I.D.O.T. STANDARD TEMPORARY SEED MIX.

20. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE TO THE STATE.

21. THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE SPECIFIED IN SUBSECTION L.02.03 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.

22. ADDITIONAL EROSION CONTROLS, SHALL BE INSTALLED AS DIRECTED BY THE RESIDENT ENGINEER. THESE ADDITIONAL ITEMS WILL BE PAID AT THE UNIT PRICE FOR THAT BID ITEM.

UTILITY NOTES:

1. EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS USING THE BEST AVAILABLE INFORMATION AND ARE APPROXIMATE. BUILDING SERVICE CONNECTIONS (ELECTRIC, GAS, TELEPHONE, WATER AND SANITARY) ARE NOT SHOWN. CONTRACTOR IS TO ASSUME SERVICES ARE PRESENT TO ALL BUILDINGS.

2. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING DRAINAGE AND UTILITIES BOTH UNDERGROUND AND OVERHEAD BEFORE EXCAVATION BEGINS IN ACCORDANCE WITH CHAPTER 39-1.2 OF THE R.I. GENERAL LAWS ENTITLED "EXCAVATION NEAR UNDERGROUNDT UTILITY FACILITIES", WITH AMENDMENTS EFFECTIVE AS OF NOVEMBER 1, 2009 AND, WHEN NECESSARY, BY CONTACTING THE INDIVIDUAL UTILITY COMPANIES. EXCAVATION SHALL BE IN ACCORDANCE WITH ALL STATUTES, ORDINANCES, RULES AND REGULATIONS OF ANY APPLICABLE CITY, TOWN, STATE OR FEDERAL AGENCY. THE CONTRACTOR SHOULD UNDERSTAND THAT NOT ALL UTILITIES SUBSCRIBE TO THE DIG SAFE PROGRAM. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES AND ENSURE THAT ALL UTILITIES HAVE BEEN MARKED PRIOR TO COMMENCING THEIR WORK. ANY DAMAGE TO EXISTING UTILITIES MARKED IN THE FIELD, OR AS A RESULT OF FAILING TO CONTACT THE APPROPRIATE UTILITY COMPANY, SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE STATE.

3. ALL EXISTING UTILITIES TO BE ABANDONED SHALL BE CAPPED.

4. EXISTING WATER SERVICES SHALL BE RECONNECTED TO THE NEW WATER MAINS.

5. UTILITY SERVICE CONNECTIONS SHALL BE MAINTAINED TO ALL EXISTING FACILITIES TO REMAIN.

6. FIRE HYDRANTS SHALL NOT BE REMOVED FROM SERVICE WITHOUT WRITTEN AUTHORIZATION FROM THE FIRE DEPARTMENT OR THE WATER AUTHORITY.

7. ALL NEW WATER LINES SHALL BE DISINFECTED TO THE SATISFACTION OF THE WATER AUTHORITY IN ACCORDANCE WITH THE SPECIFICATIONS.

8. ALL UTILITY POLE RELATED WORK SHALL BE BY OTHERS.

REVISIONS		
NO.	DATE	BY
1	4/07	TRB
2	3/10	RBH
3	4/14	MLP

CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

STANDARD NOTES - 1

CHECKED BY _____ DATE _____ SCALE NO SCALE

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S:\2205.04 - RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_003_STDNOTES01.dwg () Plotted May 11, 2020 at 8:28pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	4	22

LANDSCAPE NOTES:

1. ALL PLANT MATERIAL MUST BE TAGGED AT THE NURSERY (A RECOGNIZED GROWER OF PLANT MATERIAL) IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION. ALL PLANT MATERIAL MUST BE NURSERY GROWN; NO PLANTATION GROWN PLANT MATERIAL WILL BE ACCEPTED.
2. ALL PLANT SUBSTITUTIONS AND/OR CHANGES IN PLANT LOCATION MUST BE APPROVED IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
3. ALL PLANT MATERIAL IS TO BE FIELD LOCATED BY A REPRESENTATIVE FROM THE R.I.D.O.T. LANDSCAPE ARCHITECTURE UNIT.
4. A R.I.D.O.T. LANDSCAPE REPRESENTATIVE MUST BE ON SITE TO APPROVE ALL TRIMMING AND CLEARING NECESSARY TO COMPLETE THE WORK AS SHOWN ON THE PLANS.
5. ANY TOPSOIL USED AS PLANTABLE SOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS, AND SHALL CONFORM TO SECTION M.18 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
6. ALL TREES AND SHRUBS SHALL BE MULCHED WITH PINE BARK MULCH IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
7. ALL TREES AND/OR SHRUBS THAT ARE PLANTED AS A BED SHALL BE MULCHED AS A BED.
8. PROVIDE A MINIMUM 6'-8" BRANCHING STANDARD ON ALL TREES INSTALLED ADJACENT TO SIDEWALKS AND/OR PEDESTRIAN ACCESS AREAS.

STRUCTURAL NOTES FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS:

GENERAL

1. ALL SUPPORT DESIGNS AND ASSOCIATED SHOP DRAWING REVIEWS SHALL BE IN CONFORMANCE WITH THE LATEST EDITION, OF THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (THE "SPECIFICATIONS"), INCLUDING THE LATEST INTERIM SPECIFICATIONS, EXCEPT AS MODIFIED HEREIN.

CONSTRUCTION DRAWINGS AND DETAILS

1. THE FOLLOWING NOTES SHALL BE INCLUDED ON ALL PLANS AND/OR SHOP DRAWINGS IN REFERENCE TO ANCHOR BOLTS:
   - "PRETENSIONING OF ALL ANCHOR NUTS IS REQUIRED, AND SHALL BE ACCOMPLISHED BY TIGHTENING TO 1/6TH TURN BEYOND THE SNUG-TIGHT POSITION."
   - "THE MAXIMUM CLEARANCE BETWEEN THE BOTTOM OF THE LEVELING NUTS AND THE TOP OF THE CONCRETE IS CRITICAL AND SHALL NOT EXCEED THE AMOUNT SPECIFIED ON THIS DRAWING."
2. THE USE OF GROUT UNDER BASE PLATES SHALL GENERALLY NOT BE PERMITTED. IF SPECIFIC CONDITIONS WARRANT ITS USE, THE GROUT SHALL NOT BE CONSIDERED LOAD CARRYING; LOADS SHALL BE DIRECTLY SUPPORTED BY THE ANCHOR BOLTS. ADEQUATE DRAINAGE SHALL BE PROVIDED.
3. THE DAMPENING EFFECTS OF VIBRATION MITIGATION DEVICES SHALL NOT BE CONSIDERED IN THE DESIGN OF STRUCTURAL SUPPORTS FOR SIGNS AND TRAFFIC SIGNALS. IF THE CONTRACTOR CHOOSES TO USE THESE DEVICES FOR WARRANTY PURPOSES, THE TYPE OF DEVICES PROPOSED SHALL BE APPROVED BY THE DEPARTMENT PRIOR TO FABRICATION OF SUPPORTS.

TRAFFIC SIGNAL NOTES:

1. ALL SALVAGED TRAFFIC SIGNAL EQUIPMENT SHALL BE DELIVERED TO THE R.I.D.O.T. MAINTENANCE HEADQUARTERS, 360 LINCOLN AVENUE, WARWICK, RHODE ISLAND, 02888.
2. BACK PLATES SHALL BE INSTALLED ON ALL TRAFFIC SIGNAL HEADS.
3. THE CONTRACTOR SHALL SUPPLY AND INSTALL ON THE UPPER LEFT HAND CORNER OF THE BACK OF THE CONTROLLER CABINET DOOR A LAMINATED INTERSECTION GRAPHIC AND TABLE DEPICTING THE TRAFFIC DETECTOR RELAY CHANNEL ASSIGNMENTS. THE DIAGRAM SHALL BE A GRAPHIC OF THE INDIVIDUAL INTERSECTION ORIENTED SIMILAR TO THE PLANS SHOWING THE LOCATIONS OF EACH OF THE LOOP DETECTORS. THE DIAGRAM SHALL, AT A MINIMUM, INCLUDE DETECTOR NUMBERS, STREET NAME LABELS, NORTH ARROW, AND CONTROLLER CABINET LOCATION. THE ASSIGNMENT INFORMATION SHALL BE INCLUDED IN A TABLE WHICH SHALL INCLUDE, AT A MINIMUM, THE APPROACH NAME, DETECTOR NUMBER, TERMINAL NUMBER, DETECTOR RACK SLOT NUMBER, RELAY NUMBER, RELAY CHANNEL NUMBER, AND PHASE ASSOCIATED WITH EACH DETECTOR.
4. TRAFFIC CONTROLLER CABINETS, UNLESS OTHERWISE NOTED, SHALL BE NEMA TS2 TYPE 1 CABINET SIZE 6 ("P" TYPE) WITH NOMINAL DIMENSIONS OF 52"Hx44"Wx24"D.
5. ALL DELAY AND EXTENSION TIMES, AS CALLED FOR ON THE PLANS, FOR PROPOSED LOOP DETECTORS SHALL BE PROGRAMMED IN THE TRAFFIC SIGNAL CONTROLLER AND NOT THE DETECTOR RELAY.
6. A BARE GROUND WIRE SHALL BE PLACED IN ALL PVC CONDUITS AND SHALL BE BONDED TO GROUND RODS IN ACCORDANCE WITH SECTION T.03 OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
7. THE FINAL POSITION OF SIGNAL HEADS, PEDESTRIAN PUSHBUTTONS, DETECTORS, AND STOP LINE AND CROSSWALK PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD ACCORDING TO ACTUAL INTERSECTION CHARACTERISTICS.
8. A 2' MINIMUM BUFFER SHALL BE PROVIDED BETWEEN THE CURB AND ALL LATERAL OBSTRUCTIONS (INCLUDING ALL SIGNAL POLES AND TRAFFIC/PEDESTRIAN SIGNAL HEADS) TO PROVIDE ADEQUATE CLEARANCE FOR TURNING VEHICLES.
9. ALL FOUNDATIONS MUST HAVE CONES OR BARRELS BOLTED TO FOUNDATION BASES UNTIL ACTUAL POLE IS INSTALLED.
10. WHEN PLACING TRAFFIC SIGNAL HANDHOLES OR CONDUIT IN EXISTING PORTLAND CEMENT CONCRETE SIDEWALKS, THE ENTIRE SIDEWALK SQUARE OF CONCRETE SHALL BE REPLACED IN ACCORDANCE WITH R.I. STD. 43.1.0. NO PATCHES WILL BE ALLOWED.
11. ALL PEDESTRIAN PUSHBUTTONS SHALL BE COMPLIANT WITH "THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES" (ADAAG) AND SHALL INCLUDE A PRESSURE-ACTIVATED (NON-MOVING) BUTTON. SIGNS APPLICABLE TO PUSHBUTTON ACTUATION SHALL BE INSTALLED SUCH THAT THE CROSSING ASSIGNED TO EACH BUTTON IS CLEARLY INDICATED. IF SITE CONDITIONS DO NOT ALLOW PEDESTRIAN PUSHBUTTONS TO BE INSTALLED WHERE CALLED FOR ON THE PLANS, THE R.I.D.O.T. TRAFFIC ENGINEERING UNIT SHALL BE CONSULTED WITH THROUGH AN R.F.I. PRIOR TO INSTALLING THE PUSHBUTTONS. THE FINAL PLACEMENT OF ALL PEDESTRIAN PUSHBUTTONS SHALL BE IN ACCORDANCE WITH ADAAG AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
12. ALL LOOP DETECTORS SHALL BE CENTERED WITHIN EACH LANE AS DELINEATED, UNLESS OTHERWISE DIMENSIONED ON PLANS.
13. ALL LOOP DETECTORS SHALL BE CUT INTO THE FINAL PAVEMENT SURFACE COURSE.
14. TRAFFIC SIGNAL CONTROLLERS SHALL BE WIRED SO THAT ANY FIRE PRE-EMPTION SHALL OVERRIDE MANUAL (PUSH BUTTON) OPERATION.
15. THE CONTRACTOR SHALL WORK CONTINUOUSLY TO RESTORE TRAFFIC SIGNAL OPERATION TO ITS INTENDED PURPOSE WHEN REPLACING THE TRAFFIC SIGNAL EQUIPMENT. A POLICE DETAIL IS REQUIRED TO DIRECT TRAFFIC AT THE INTERSECTION AT ALL TIMES WHEN THE TRAFFIC SIGNAL IS INOPERATIVE. AT NO TIME SHALL THE CONTRACTOR LEAVE THE SITE BEFORE RESTORING FULL TRAFFIC OPERATIONS.

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

1. ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS, CHANNELIZING DEVICES, ETC., SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
2. ALL SIGN MOUNTINGS FOR TEMPORARY AND CONSTRUCTION SIGNS SHALL BE IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
3. THE CONTRACTOR SHALL COVER ALL EXISTING AND/OR TEMPORARY SIGNS THAT ARE NOT RELEVANT TO THE TRAFFIC CONTROL REQUIRED DURING ANY PARTICULAR STAGE OF THE CONTRACT.
4. ADVANCE FLAGPERSON SIGNS (W20-7A) SHALL BE USED IN ADVANCE OF ANY POINT AT WHICH A FLAGPERSON OR A POLICE OFFICER HAS BEEN STATIONED TO CONTROL TRAFFIC. WHEN NEEDED, AN APPROPRIATE DISTANCE MESSAGE MAY BE DISPLAYED ON A SUPPLEMENTAL PLATE (24"x18") BELOW THE FLAGPERSON SYMBOL SIGN. THE SIGN SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE FLAGPERSON IS NOT AT THE STATION.
5. POLICE OFFICERS (AND NOT FLAGPERSONS) SHALL BE UTILIZED WHEN WORK WILL IMPACT SIGNALIZED INTERSECTIONS AND LIMITED ACCESS HIGHWAYS.
6. POLYETHYLENE DRUMS SHALL BE UTILIZED AS A CHANNELIZING DEVICE WHEN A TRAFFIC CONTROL SET-UP IS TO REMAIN BEYOND WORKING HOURS WHEN NO WORKERS ARE PRESENT. CONES SHALL BE UTILIZED WHEN A TRAFFIC CONTROL SET-UP IS TO REMAIN ONLY DURING WORKING HOURS AND IS SUBSEQUENTLY BROKEN DOWN AT THE END OF THE WORKDAY.
7. ARROW PANELS SHALL BE SET IN THE FLASHING FOUR CORNERS CAUTION MODE UNLESS UTILIZED FOR A MERGING TAPER. ARROW PANELS SET IN THE FLASHING ARROW MODE SHALL NOT BE UTILIZED FOR LANE SHIFTS.
8. TEMPORARY CONSTRUCTION SIGNS AND OTHER WORKZONE TRAFFIC CONTROL DEVICES THAT ARE DAMAGED OR REQUIRE RELOCATION SHALL BE REPLACED AND / OR RELOCATED UNDER THE PAY ITEM FOR "MAINTENANCE AND MOVEMENT TRAFFIC PROTECTION."
9. THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS SHALL NOT BE PARKED ON THE TRAVEL LANES OR SHOULDERS. THEY MAY BE PARKED WITHIN THE STATE RIGHT-OF-WAY ONLY IN AREAS 30' BEYOND THE OUTSIDE EDGE OF THE TRAVEL LANES AND/OR IN AREAS APPROVED BY THE ENGINEER.
10. TEMPORARY CONSTRUCTION SIGNS AND OTHER TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE INSTALLED PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC, AND SHALL BE REMOVED AS SOON AS PRACTICAL WHEN THEY ARE NO LONGER APPROPRIATE.
11. THE INTENDED VEHICLE PATHS THROUGH EACH WORK ZONE SHALL BE CLEARLY MARKED AT ALL TIMES. WATERBORNE PAVEMENT MARKINGS SHALL BE INSTALLED BEFORE THE END OF THE WORK SHIFT ON ALL COLD-PLANED AND NEW ROADWAY SURFACES THAT WILL BE OPENED TO TRAFFIC AT THE END OF THE SHIFT.

REVISIONS		
NO.	DATE	BY
1	4/07	TRB
2	11/07	TRB
2	3/10	RBH

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

STANDARD NOTES - 2

CHECKED BY _____ DATE _____ SCALE NO SCALE

CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

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S:\2205.04 - RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_004_STDNOTES02.dwg (.) Plotted May 11, 2020 at 8:29pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	5	22

GENERAL NOTES

1. PROPERTY LINES, STATE RIGHT-OF-WAY LINES, AND BASELINES SHOWN ON THIS PLAN ARE APPROXIMATE.
2. IN THE AREAS OF OVERHEAD WIRES, THE CONTRACTOR SHALL KEEP ALL EQUIPMENT A MINIMUM OF 10 FEET FROM POWER LINES.
3. ALL ITEMS NOT REFORMED FOR MODIFICATION WILL BE "EXISTING TO REMAIN" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIALS WITHIN THE ROOT ZONE OF ANY TREES OR SHRUBS WITHIN THE PROJECT LIMITS.
5. NO BARRIER SHALL BE REMOVED UNLESS IT IS REPLACED BY NEW BARRIER AT THE END OF THE SAME WORKING DAY OR REPLACED BY A TEMPORARY PRECAST MEDIAN BARRIER. IF THE CONTRACTOR ELECTS TO UTILIZE TEMPORARY PRECAST MEDIAN BARRIER THE TEMPORARY MEDIAN BARRIER AND ANY APPROACH PROTECTION SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
6. CONSTRUCTION OF ALL EMBANKMENTS AND BACKFILL FOR THE INFILTRATION BMPs SHALL CONFORM TO SUBSECTIONS 202.03.2 AND 202.03.3 OF THE SPECIFICATIONS. UNLESS OTHERWISE NOTED, EMBANKMENTS AND BACKFILL SHALL BE CONSTRUCTED USING SUITABLE EARTH EXCAVATION MATERIAL THAT CONFORMS TO SUBSECTION M.01.01 AND IS FREE FROM ORGANIC SOIL, VEGETATIVE MATTER, AND ROCK OR ROCK FRAGMENTS GREATER THAN 6 INCHES.

DRAINAGE AND EROSION CONTROL NOTES:

1. ANY DRAINAGE STRUCTURES, PIPES OR CULVERTS DAMAGED BY THE CONTRACTOR WHILE CARRYING OUT THIS CONTRACT SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.

FLOOD ZONE NOTE:

1. PROPOSED WORK ALONG POST ROAD EXTENSION IS SHOWN TO BE WITHIN FLOOD ZONE X (AREA OF MINIMAL FLOOD HAZARD) ON THE FEMA FLOOD INSURANCE RATE MAP FOR KENT COUNTY, RHODE ISLAND, PANEL 129 OF 251, MAP NO. 440030129J, REVISED OCTOBER 2, 2015.
2. PROPOSED WORK ALONG OLD FORGE ROAD IS SHOWN TO BE WITHIN FLOOD ZONE X (AREA OF MINIMAL FLOOD HAZARD) AND FLOOD ZONE ON THE FEMA FLOOD INSURANCE RATE MAP FOR KENT COUNTY, RHODE ISLAND, PANEL 139 OF 251, MAP NO. 44003C0139H, REVISED SEPTEMBER 18, 2013.

REMOVE AND RELOCATE LIGHT STANDARDS NOTES

1. THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO RELOCATE EXISTING LIGHTING STANDARDS N6966 AND N6967 TO NEW CONCRETE LIGHT STANDARD BASES (R.I. STD. 18.1.0), TO BE INSTALLED BY THE CONTRACTOR, AS SHOWN ON DRAINAGE AND UTILITY PLAN NOS. 4 AND 5.
2. EXISTING WIRE SHALL BE REUSED. THE CONTRACTOR SHALL PULL EXISTING WIRE BACK TO AN ADJACENT HANDHOLE (N6965 OR N6968) AND THEN RE-PULL THE EXISTING WIRE THROUGH THE NEW CONDUIT AND NEW HANDHOLES INSTALLED BY THE CONTRACTOR. ALL SPLICING AND ANY NEW WIRE, IF REQUIRED, SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
3. SPLICES SHALL BE SEMI-PERMANENT, PRE-MOLDED, 600-VOLT SUBMERSIBLE TYPE (4-WAY). THERE SHALL BE NO HAND-TAPED SPLICES FOR PERMANENT INSTALLATIONS.
4. IN-LINE PRE-MOLDED FUSING KITS SHALL BE USED AT EACH HANDHOLE AT THE BASE OF THE LIGHT STANDARD.
5. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
6. ALL MATERIALS AND CONSTRUCTION METHODS USED TO CARRY OUT THIS WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, INCLUDING SECTIONS T.02, T.03, T.04, T.05, T.06, AND T.08.

DRAINAGE SYSTEM MAINTENANCE NOTES

UPON PROJECT COMPLETION, THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION SHALL ADHERE TO THE FOLLOWING MAINTENANCE RECOMMENDATIONS:

1. MOWING:

   THE INFILTRATION SWALE SIDESLOPES AND EMBANKMENT MUST BE MOWED ANNUALLY TO PREVENT WOODY GROWTH AND TO CONTROL WEEDS. AS A PART OF THE MOWING OPERATION, ALL LITTER AND DEBRIS MUST BE REMOVED FROM THE SWALES.

2. INSPECTIONS:

   AN INSPECTION MUST OCCUR ON AN ANNUAL BASIS BY QUALIFIED PERSONNEL TO ENSURE PROPER OPERATION. THE INSPECTION SHOULD CONCENTRATE ON THE FOLLOWING:

   - EROSION
   - OUTLET STABILIZATION
   - DEBRIS AND SEDIMENT ACCUMULATION
   - STRUCTURAL CONDITION (CRACKING, ALIGNMENT, SETTLEMENT, ETC.)
   - FLOW RESTRICTIONS
   - ENCROACHMENTS
   - DAMAGE TO COVERS AND GRATES
   - EVIDENCE OF STANDING WATER
   - STRUCTURAL ALIGNMENT/INTEGRITY

   ANY DEFICIENCY NOTED IS TO BE REPAIRED TO THE ORIGINAL DESIGN CONDITION.

3. SEDIMENT REMOVAL:

   FOLLOWING CONSTRUCTION, A SCHEDULE FOR CLEANING THE PROPOSED STORMWATER TREATMENT UNIT (STU) SHALL BE ESTABLISHED BASED UPON ONGOING INSPECTIONS. THE STU SHALL BE CLEANED OF ACCUMULATED SEDIMENT AT LEAST ONCE EVERY TEN YEARS. THE SWALES ARE TO BE DEWATERED PRIOR TO SEDIMENT REMOVAL, AND ALL DEWATERING FLOW MUST BE ADEQUATELY FILTERED PRIOR TO FLOWING INTO WETLANDS OR PERIMETER WETLANDS. THE RESULTING SWALE CONDITIONS AFTER SEDIMENT REMOVAL MUST BE THE ORIGINAL DESIGN CONDITIONS. ALL REMOVED SEDIMENT IS TO BE TESTED TO DETERMINE POLLUTANT CONTENT. THE SEDIMENT IS TO BE PROPERLY DISPOSED IN UPLAND AREAS BASED UPON THE TEST RESULTS AND LOCAL, STATE, AND FEDERAL REGULATIONS.

4. CATCH BASIN, MANHOLES AND DRAIN LINES:

   AN INSPECTION MUST OCCUR ON AN ANNUAL BASIS BY QUALIFIED PERSONNEL TO ENSURE PROPER OPERATION. THE INSPECTION SHOULD, AS A MINIMUM, CONCENTRATE ON THE FOLLOWING:

   - DAMAGE TO GRATE/COVER
   - EVIDENCE OF STANDING WATER
   - DEBRIS REMOVAL
   - STRUCTURAL ALIGNMENT/INTEGRITY

   ANY DEFICIENCY NOTED DURING THE INSPECTION WILL BE IMMEDIATELY REPAIRED OR REPLACED. CATCH BASINS MUST BE CLEANED ON AN ANNUAL BASIS.

JOB SPECIFIC LEGEND

18.1.0	CONCRETE LIGHT STANDARD BASE, R.I. STD. 18.1.0
18.1.1	BREAKAWAY SUPPORT COUPLINGS FOR LIGHT STANDARDS, R.I. STD. 18.1.1
18.3.1	ALUMINUM POLE GROUNDING DETAIL
18.3.2	TYPICAL LUMINAIRE – WIRING DIAGRAM
18.3.5	RECESSED BOLT COUPLINGS FOR LIGHT STANDARDS
A	2" MODIFIED CLASS 12.5 HOT MIX ASPHALT 4" CLASS 19.0 HOT MIX ASPHALT 12" GRAVEL BORROW SUBBASE COURSE
DFP	REMOVE AND DISPOSE FLEXIBLE PAVEMENT (APPROXIMATELY 9" TOTAL)
DLF	REMOVE AND DISPOSED LIGHT STANDARD FOUNDATION
ETR	EXISTING TO REMAIN
FFS	COMPOST FILTER SOCK
FS	FILTER STRIP: JUTE MESH 4" LOAM AND SEED 5" GRAVEL BORROW
ISCD	INLET SEDIMENT CONTROL DEVICE
LRA	LANE REDUCTION ARROW
RDC	REMOVE AND DISPOSE CONDUIT
RLS	REMOVE AND RELOCATE LIGHT STANDARD (SEE NOTES THIS SHEET AND DETAIL ON DRAINAGE AND UTILITY DETAIL PLAN NO. 3)
SCD	STONE CHECK DAM

JOB SPECIFIC PLAN SYMBOLS

S/L	EXISTING LIGHTING CONDUIT
S/L	PROPOSED LIGHTING CONDUIT
	EXISTING HANDHOLE
A	PROPOSED TYPE "A" HANDHOLE

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

JOB SPECIFIC
PLAN SYMBOLS, LEGEND & NOTES

CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

CHECKED BY _____ DATE _____ SCALE NO SCALE

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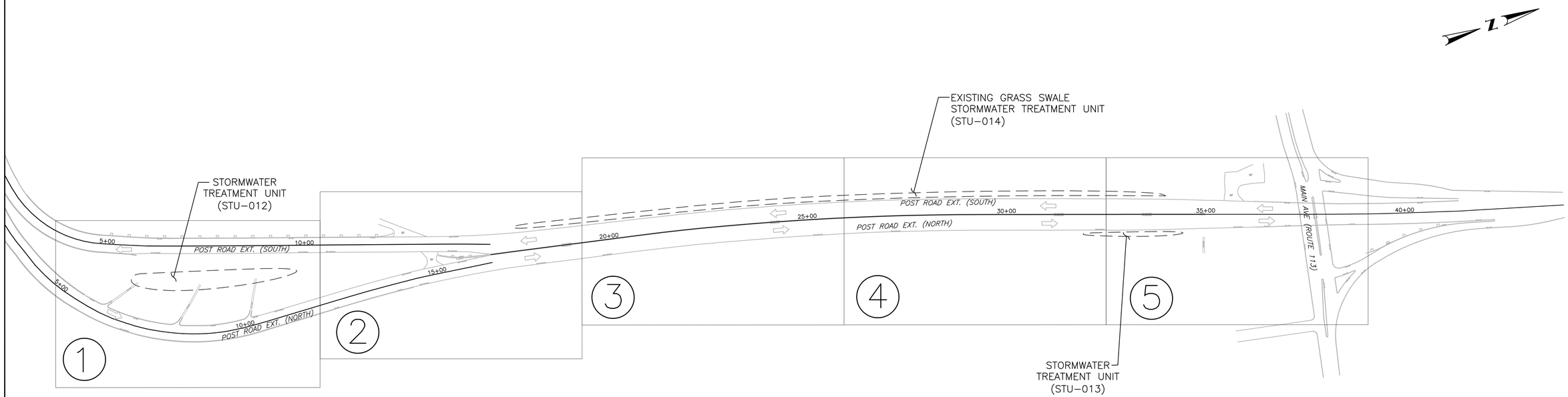
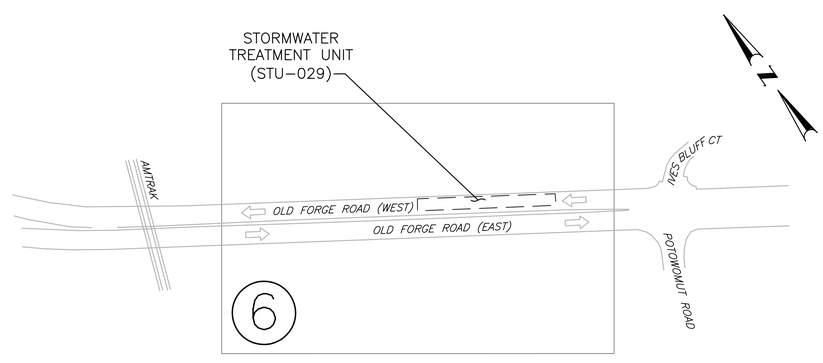
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	6	22



GREENWOOD CREEK (RI0007025R-11)

1. REFER TO D&U PLAN NO. 1 & SIGNING AND STRIPING PLAN NO. 1
2. REFER TO D&U PLAN NO. 2 & SIGNING AND STRIPING PLAN NO. 2
3. REFER TO D&U PLAN NO. 3 & SIGNING AND STRIPING PLAN NO. 3
4. REFER TO D&U PLAN NO. 4 & SIGNING AND STRIPING PLAN NO. 4
5. REFER TO D&U PLAN NO. 5 & SIGNING AND STRIPING PLAN NO. 5
6. REFER TO D&U PLAN NO. 6



GREENWICH COVE (RI0007025E-05A)

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

KEY PLAN

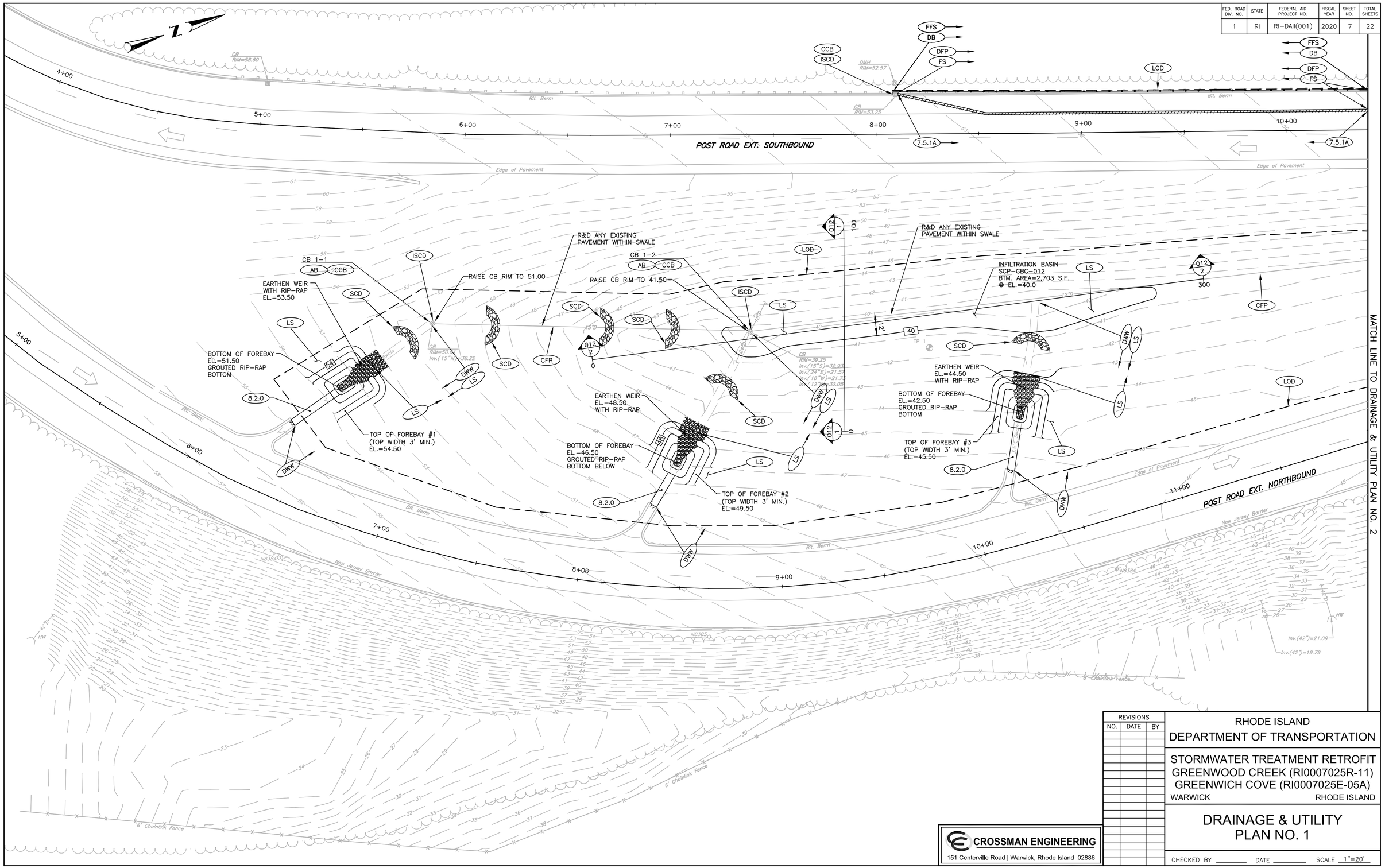
CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

CHECKED BY _____ DATE _____ SCALE 1"=120'

0197E_V1_006_KEY001

S:\2205.04 - RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_006_KEY001.dwg () Plotted May 11, 2020 at 8:30pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	7	22



REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

DRAINAGE & UTILITY PLAN NO. 1

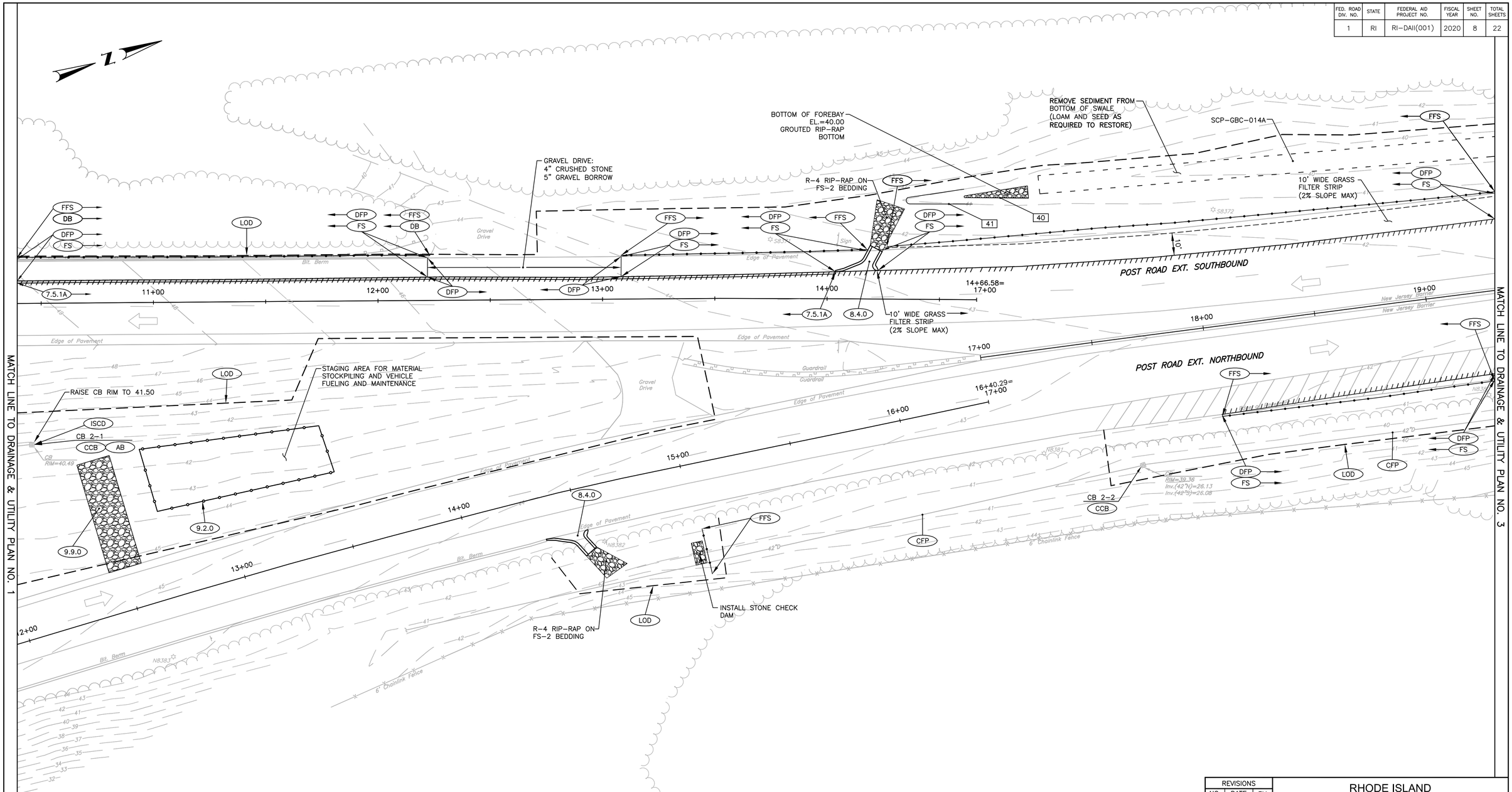
CHECKED BY _____ DATE _____ SCALE 1"=20'

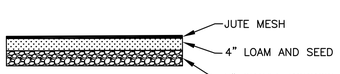
CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

0197E_V1_007_D&U001

S:\2205.04 - RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_007_D&U001.dwg (Layout1) Plotted May 12, 2020 at 8:18pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	8	22





FILTER STRIP
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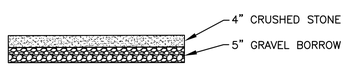


GRAVEL DRIVE DETAIL
NOT TO SCALE

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

DRAINAGE & UTILITY PLAN NO. 2

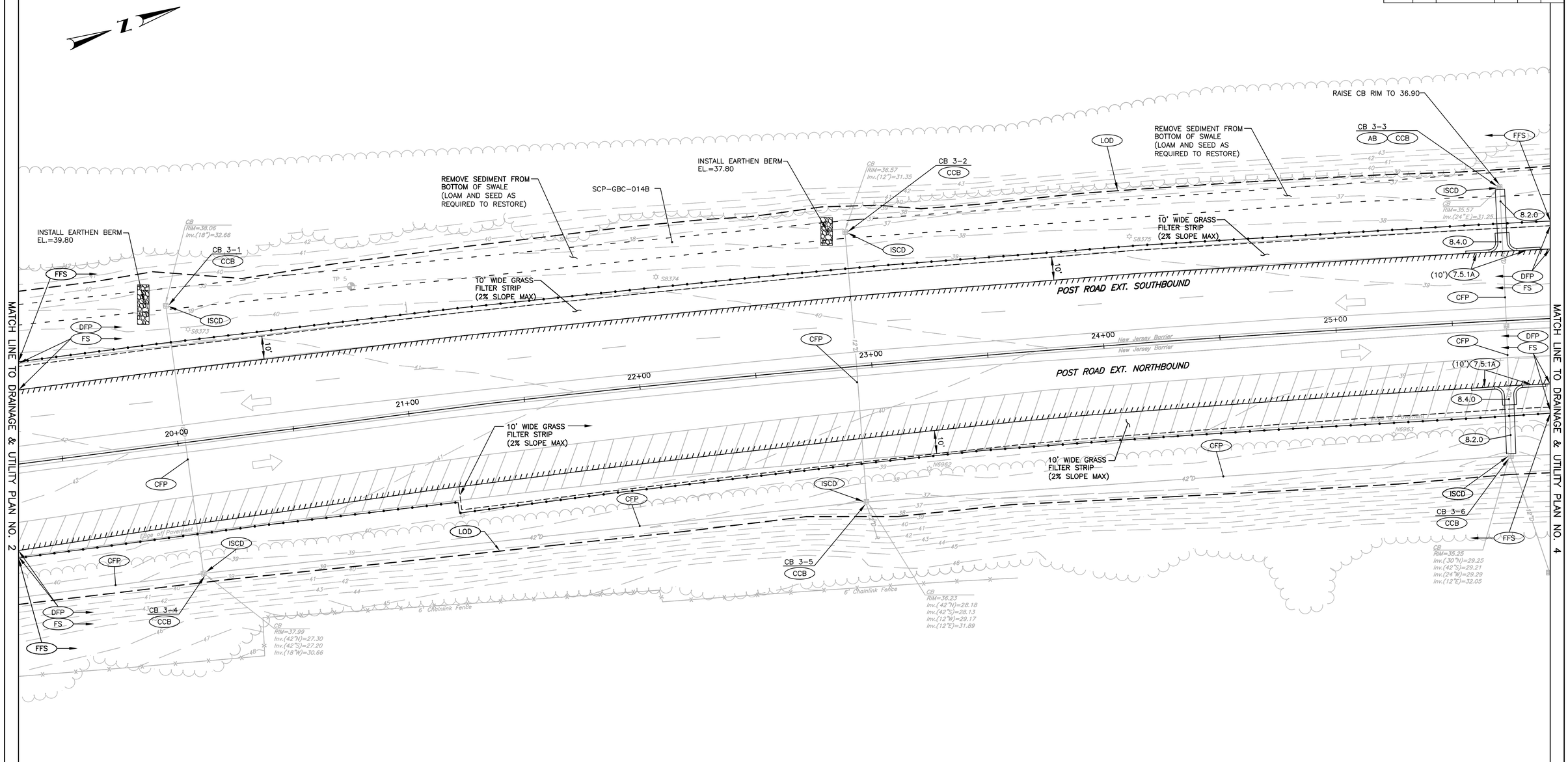
CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

CHECKED BY _____ DATE _____ SCALE 1"=20'

0197E_V1_008_D&U002

S:\2205.04 – RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_008_D&U002.dwg (Layout1) Plotted May 12, 2020 at 8:15pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	9	22



REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)

WARWICK RHODE ISLAND

DRAINAGE & UTILITY PLAN NO. 3

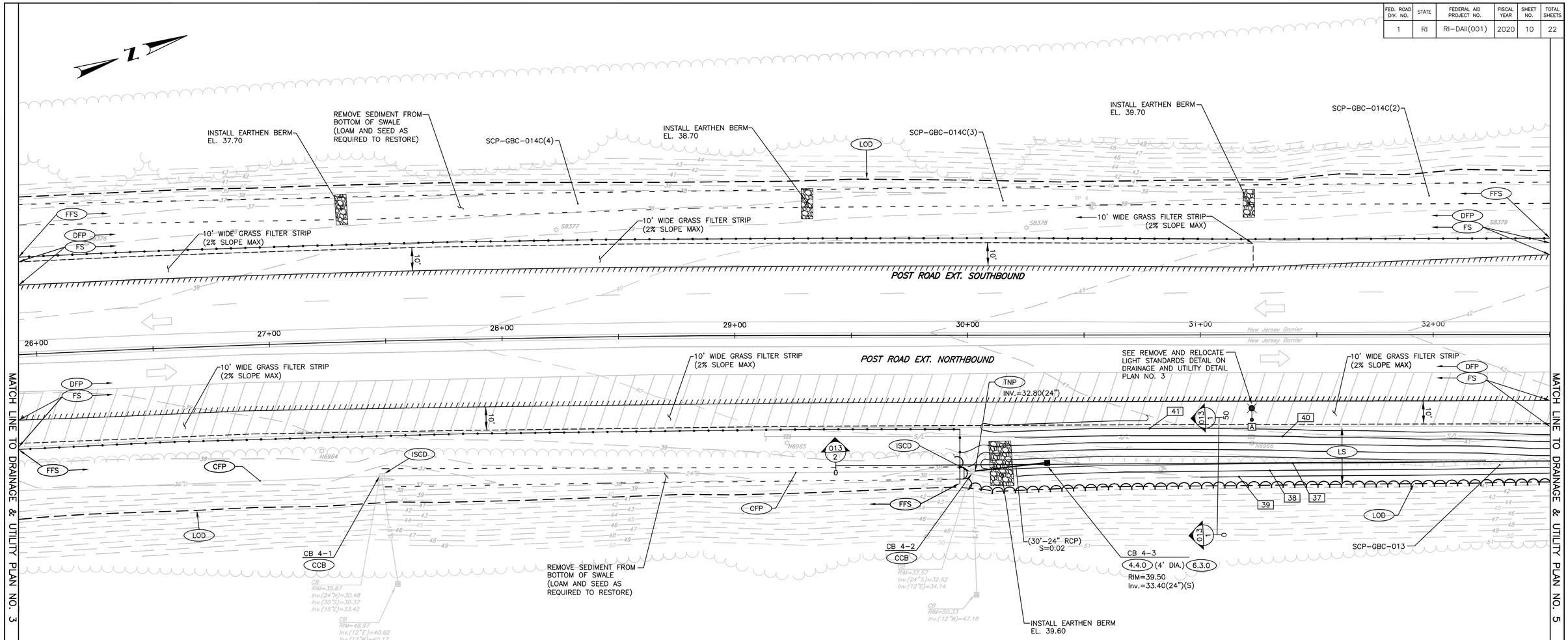
CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

CHECKED BY _____ DATE _____ SCALE 1"=20'

0197E_V1_009_D&U003

S:\2205.04 – RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_009_D&U003.dwg (9) Plotted May 12, 2020 at 8:32pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	10	22



REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

DRAINAGE & UTILITY PLAN NO. 4

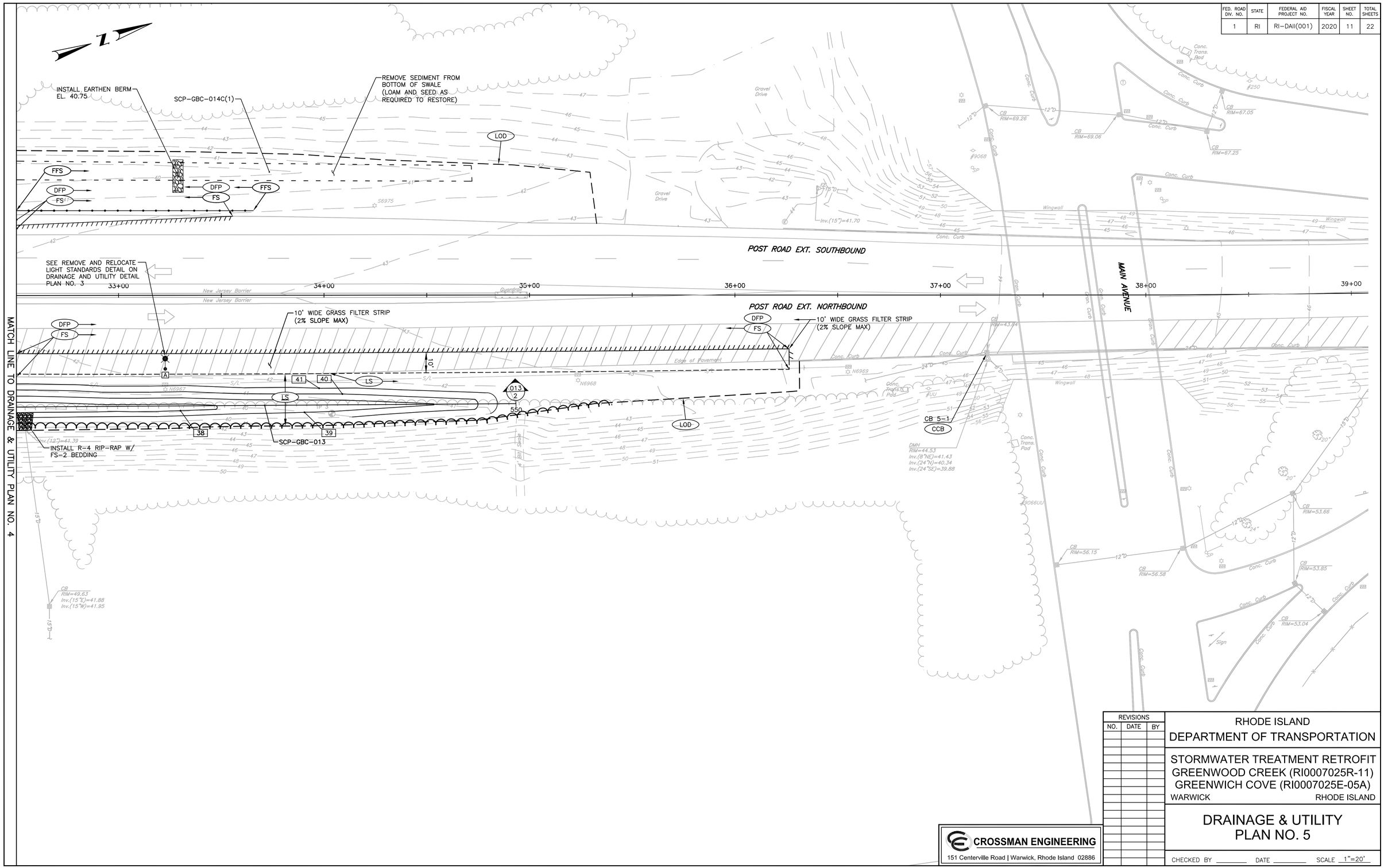
CHECKED BY _____ DATE _____ SCALE 1"=20'

CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

0197E_V1_010_D&U004

S:\2205.04 – RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_010_D&U004.dwg (10) Plotted May 12, 2020 at 8:30pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	11	22



MATCH LINE TO DRAINAGE & UTILITY PLAN NO. 4

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

DRAINAGE & UTILITY
PLAN NO. 5

CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

CHECKED BY _____ DATE _____ SCALE 1"=20'

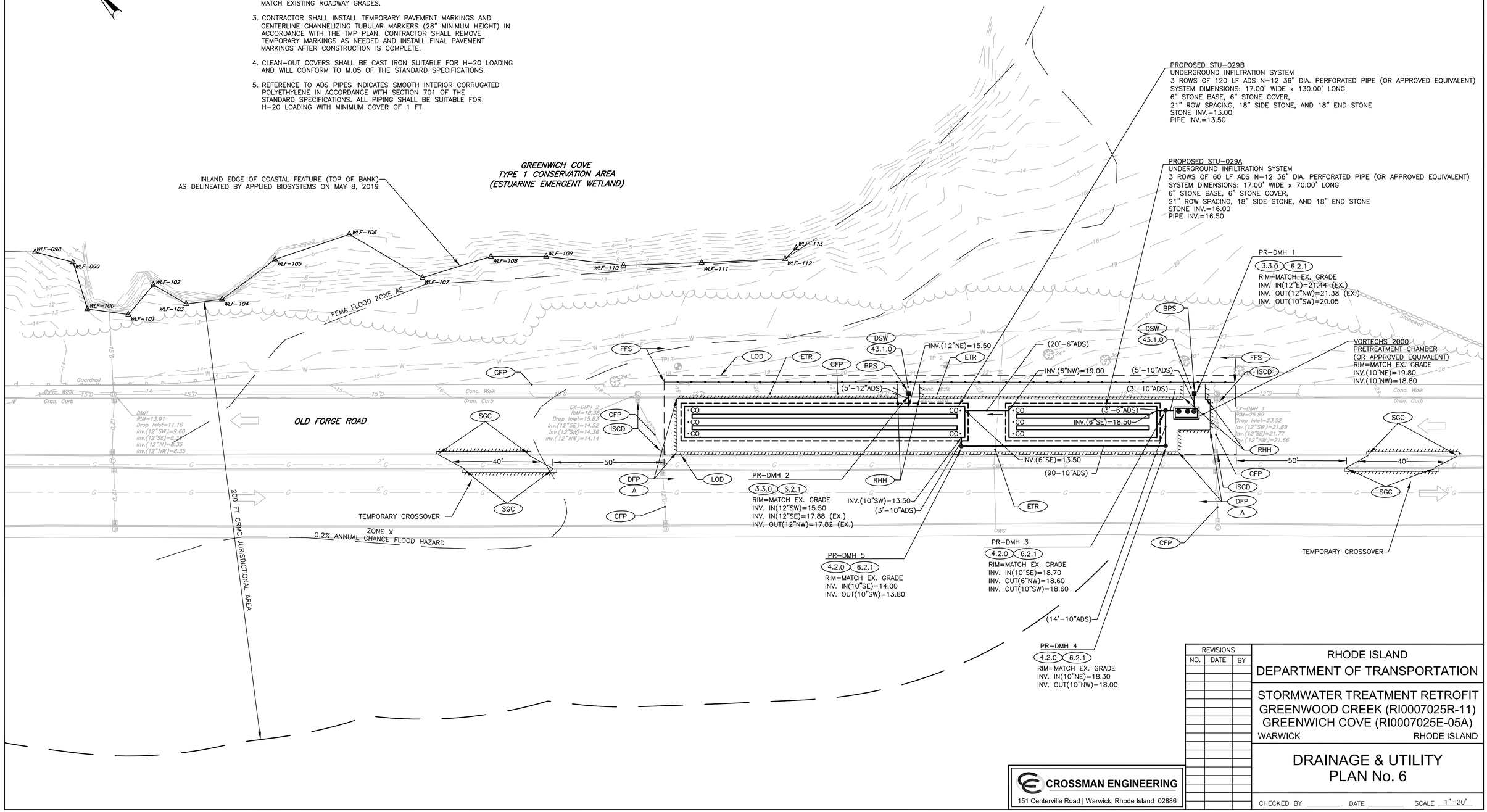
0197E_V1_011_D&U005

S:\2205.04 - RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_011_D&U005.dwg (11) Plotted May 12, 2020 at 8:33pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	12	22

NOTES:

1. TEMPORARY CROSSOVER:
   - –REMOVE EXISTING LOAMY TOPSOIL
   - –EXCAVATE TO A DEPTH OF 2" BELOW EXISTING ROADWAY SURFACE AND REPLACE WITH 2" OF ASPHALT
   - –INSTALL STOCKPILED GRANITE CURBING AFTER CONSTRUCTION OF UIC
   - –INSTALL LOAM & SEED AFTER CONSTRUCTION OF UIC
2. CONTRACTOR SHALL SURVEY EXISTING ROADWAY GRADES PRIOR TO ANY WORK. CONTRACTOR SHALL INSTALL FINAL PAVEMENT ELEVATIONS TO MATCH EXISTING ROADWAY GRADES.
3. CONTRACTOR SHALL INSTALL TEMPORARY PAVEMENT MARKINGS AND CENTERLINE CHANNELIZING TUBULAR MARKERS (28" MINIMUM HEIGHT) IN ACCORDANCE WITH THE TMP PLAN. CONTRACTOR SHALL REMOVE TEMPORARY MARKINGS AS NEEDED AND INSTALL FINAL PAVEMENT MARKINGS AFTER CONSTRUCTION IS COMPLETE.
4. CLEAN-OUT COVERS SHALL BE CAST IRON SUITABLE FOR H-20 LOADING AND WILL CONFORM TO M.05 OF THE STANDARD SPECIFICATIONS.
5. REFERENCE TO ADS PIPES INDICATES SMOOTH INTERIOR CORRUGATED POLYETHYLENE IN ACCORDANCE WITH SECTION 701 OF THE STANDARD SPECIFICATIONS. ALL PIPING SHALL BE SUITABLE FOR H-20 LOADING WITH MINIMUM COVER OF 1 FT.



REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

DRAINAGE & UTILITY
PLAN No. 6

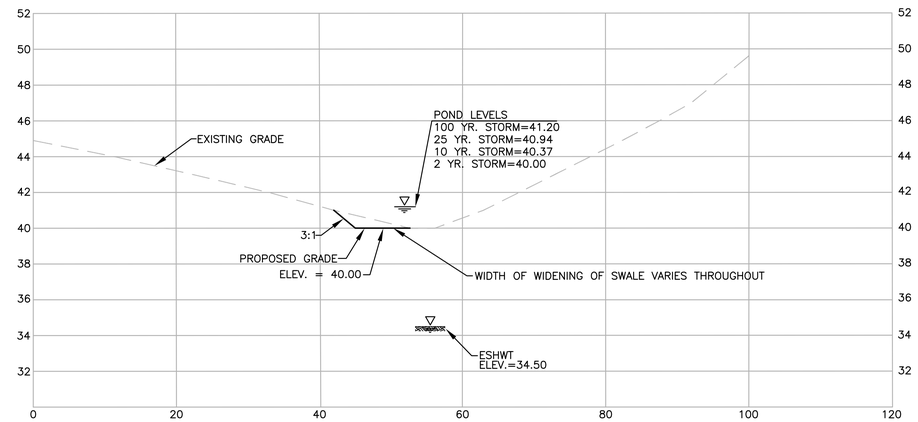
CHECKED BY _____ DATE _____ SCALE 1"=20'

CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

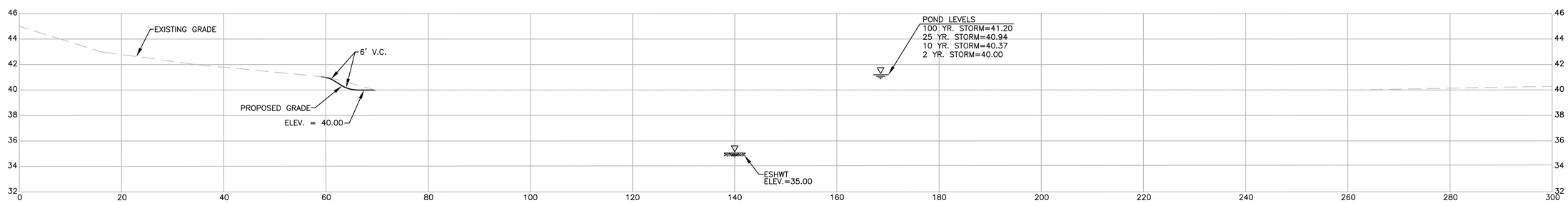
0197E_V1_012_D&U006

S:\2205.04 – RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_012_D&U006.dwg (Layout1) Plotted May 12, 2020 at 8:05pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	13	22



STU-012 INFILTRATION BASIN – SECTION 1–1
HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 4'



STU-012 INFILTRATION BASIN – SECTION 2–2
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'

NOTE:
THE FOLLOWING SHALL BE COMPLETED FOR INFILTRATION BASIN STU-012
1. LOAM REMOVED FROM BOTTOM OF BASIN
2. BOTTOM OF BASIN TILLED
3. 4" MULCH INSTALLED

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

CROSS SECTION
STU-012

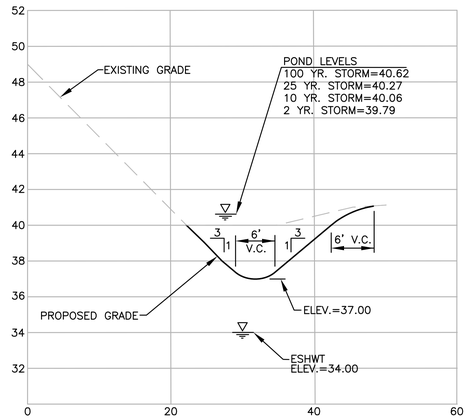
CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

CHECKED BY _____ DATE _____ SCALE AS NOTED

0197E_V1_013_SECTION001

S:\2205.04 – RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_013_SECTION001.dwg (STU-012) Plotted May 12, 2020 at 7:48pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	14	22



STU-013 INFILTRATION SWALE – SECTION 1-1

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 4'

SOIL EVALUATION DATA

SOIL EVALUATION WAS CONDUCTED ON MAY 1, 2019
SOIL EVALUATOR LICENSE NUMBER D-4032

TEST PIT 1

0"	Dark Brown Sandy Loam	HTM-1 (Friable)
5"	Dark Yellowish Brown Sandy Loam	HTM-2 (Friable)
10"	Very Dark Grayish Brown Gravelly Sand	HTM-3 (Loose)
18"	Dark Grayish Brown Gravelly Sand	HTM-3 (Loose)
26"	Black Sand	HTM-4 (Loose)
60"	Brown Gravelly Sand	2C (Loose)
90"		

Soil Class: C
No Groundwater Seepage
Total Depth of Test Pit=90"
No Ledge
Estimated Seasonal High Water Table=90"±

TEST PIT 2

0"	Black Loamy Sand	HTM-1 (Very Friable)
9"	Very Dark Grayish Brown Loamy Sand	HTM-2 (Very Friable)
14"	Dark Yellowish Brown Sandy Loam	HTM-3 (Friable)
19"	Brown Coarse Sand	2C-1 (Loose)
29"	Light Brownish Gray Gravelly Coarse Sand	2C2 (Loose)
60"		

Soil Class: HTM/C
Groundwater Seepage=60"
Total Depth of Test Pit=60"
No Ledge
Estimated Seasonal High Water Table=60"±

TEST PIT 3

0"	Black Loamy Sand	HTM-1 (Very Friable)
6"	Very Dark Grayish Brown Loamy Sand	HTM-2 (Very Friable)
10"	Dark Yellowish Brown Sandy Loam	HTM-3 (Friable)
16"	Brown Gravelly Coarse Sand	2C-1 (Loose)
28"	Light Brownish Gray Coarse Sand	2C2 (Loose)
60"		

Soil Class: HTM/C
Groundwater Seepage=60"
Total Depth of Test Pit=60"
No Ledge
Estimated Seasonal High Water Table=60"±

TEST PIT 4

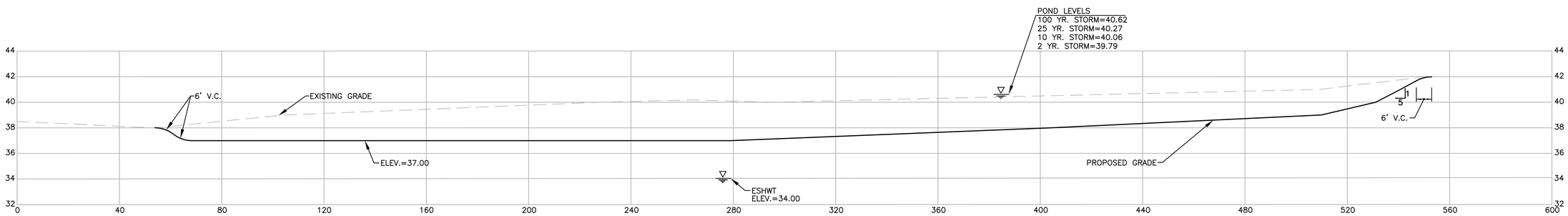
0"	Black Sand	HTM-1 (Very Friable)
3"	Black Loamy Sand	HTM-2 (Very Friable)
9"	Dark Brown Sandy Loam	HTM-3 (Friable)
16"	Brown Gravelly Sand	2C-1 (Loose)
27"	Light Brownish Gray Fine Sand	2C2 (Loose)
72"		

Soil Class: HTM/C
Groundwater Seepage=72"
Total Depth of Test Pit=72"
No Ledge
Estimated Seasonal High Water Table=72"±

TEST PIT 5

0"	Dark Brown Loamy Sand	HTM (Very Friable)
9"	Grayish Brown Gravelly Coarse Sand	2C (Loose)
78"		

Soil Class: HTM/C
Groundwater Seepage=78"
Total Depth of Test Pit=78"
No Ledge
Estimated Seasonal High Water Table=78"±



STU-013 INFILTRATION SWALE – SECTION 2-2

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

CROSS SECTION
STU-013

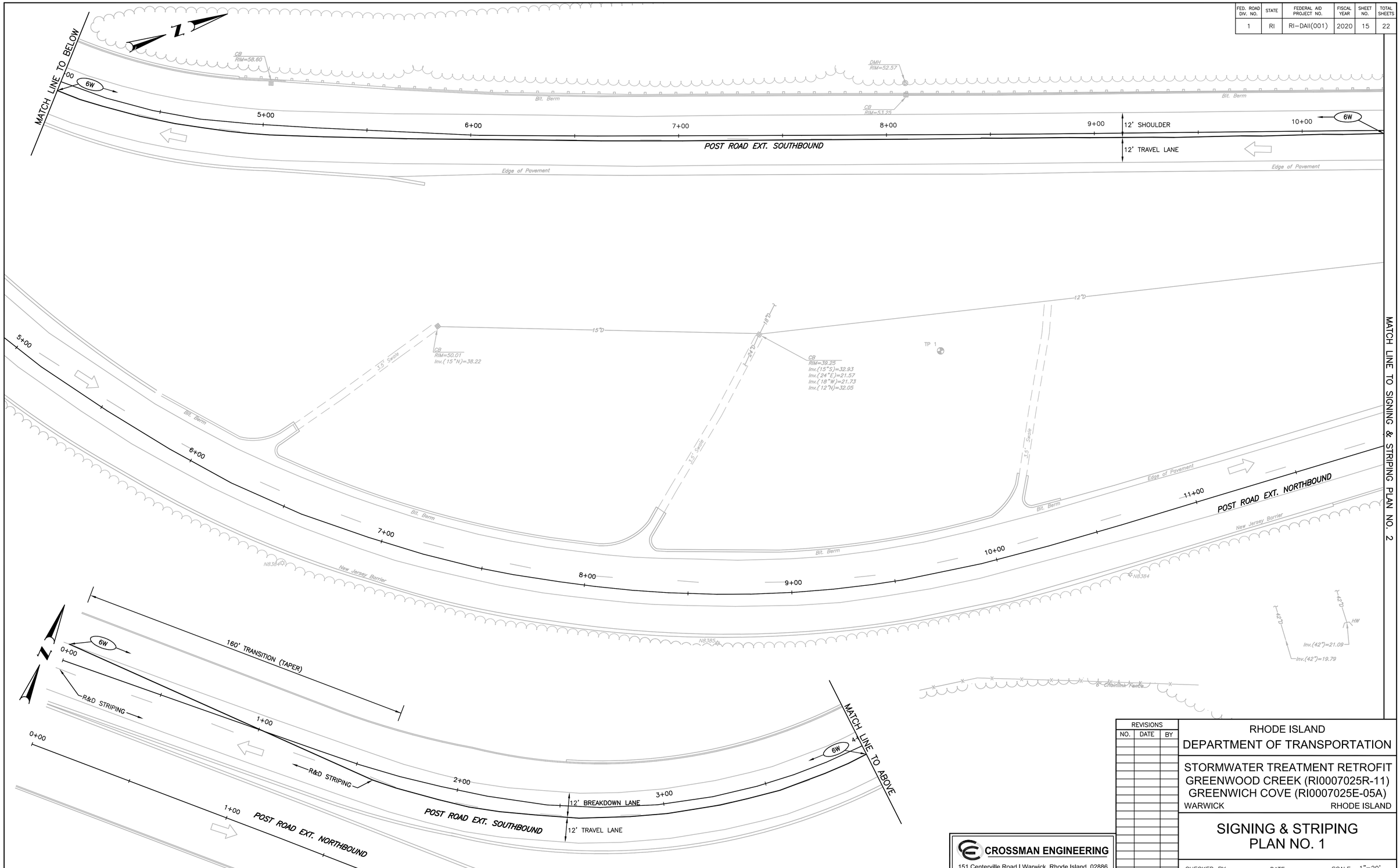
CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

CHECKED BY _____ DATE _____ SCALE AS NOTED

0197E_V1_014_SECTION002

S:\2205.04 – RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_014_S Plotted May 11, 2020 at 8:55pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	15	22



REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

SIGNING & STRIPING PLAN NO. 1

SIGNING & STRIPING PLAN NO. 2

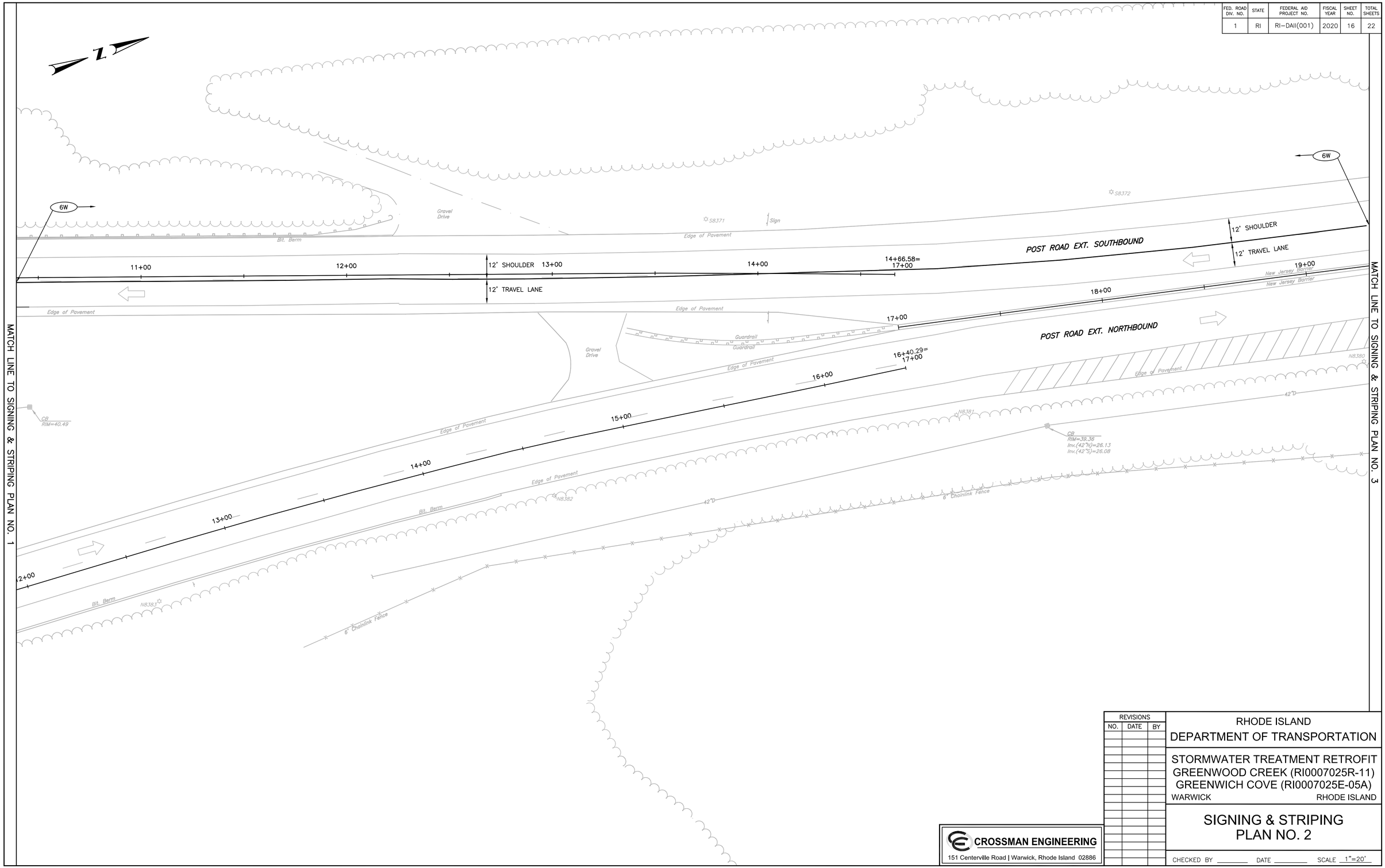
CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

CHECKED BY _____ DATE _____ SCALE 1"=20'

0197E_V1_015_SIGN-STRIPING001

S:\2205.04 - RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_015_SIGN-STRIPING001.dwg (Layout1) Plotted May 11, 2020 at 8:56pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	16	22



REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

SIGNING & STRIPING PLAN NO. 2

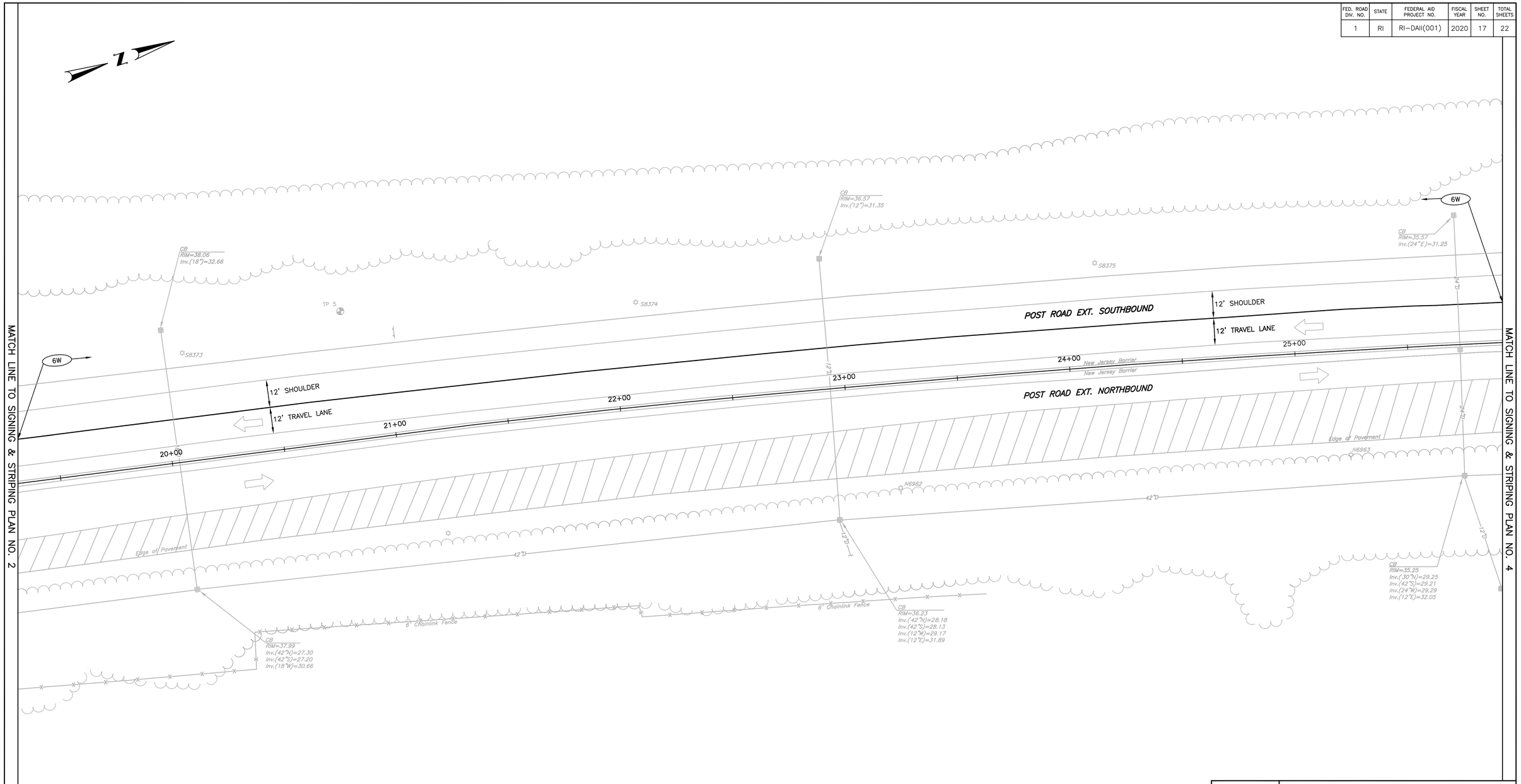
CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

CHECKED BY _____ DATE _____ SCALE 1"=20'

0197E_V1_016_SIGN-STRIPING002

S:\2205.04 - RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_016_SIGN-STRIPING002.dwg (Layout1) Plotted May 11, 2020 at 8:57pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	17	22



REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)

WARWICK RHODE ISLAND

SIGNING & STRIPING PLAN NO. 3

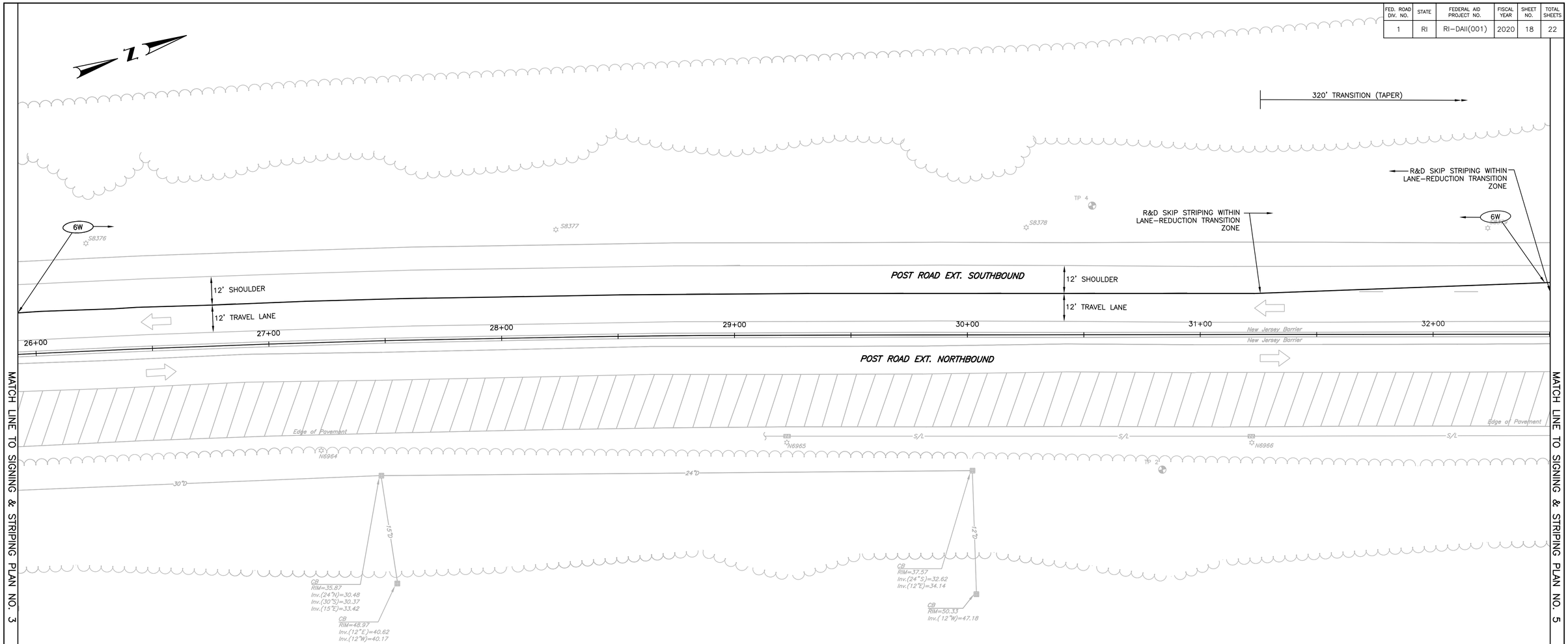
CHECKED BY _____ DATE _____ SCALE 1"=20'

CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

0197E_V1_017_SIGN-STRIPING003

S:\2205.04 - RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_017_SIGN-STRIPING003.dwg (Layout1) Plotted May 11, 2020 at 8:57pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	18	22



MATCH LINE TO SIGNING & STRIPING PLAN NO. 3

MATCH LINE TO SIGNING & STRIPING PLAN NO. 5

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)

WARWICK RHODE ISLAND

SIGNING & STRIPING
PLAN NO. 4

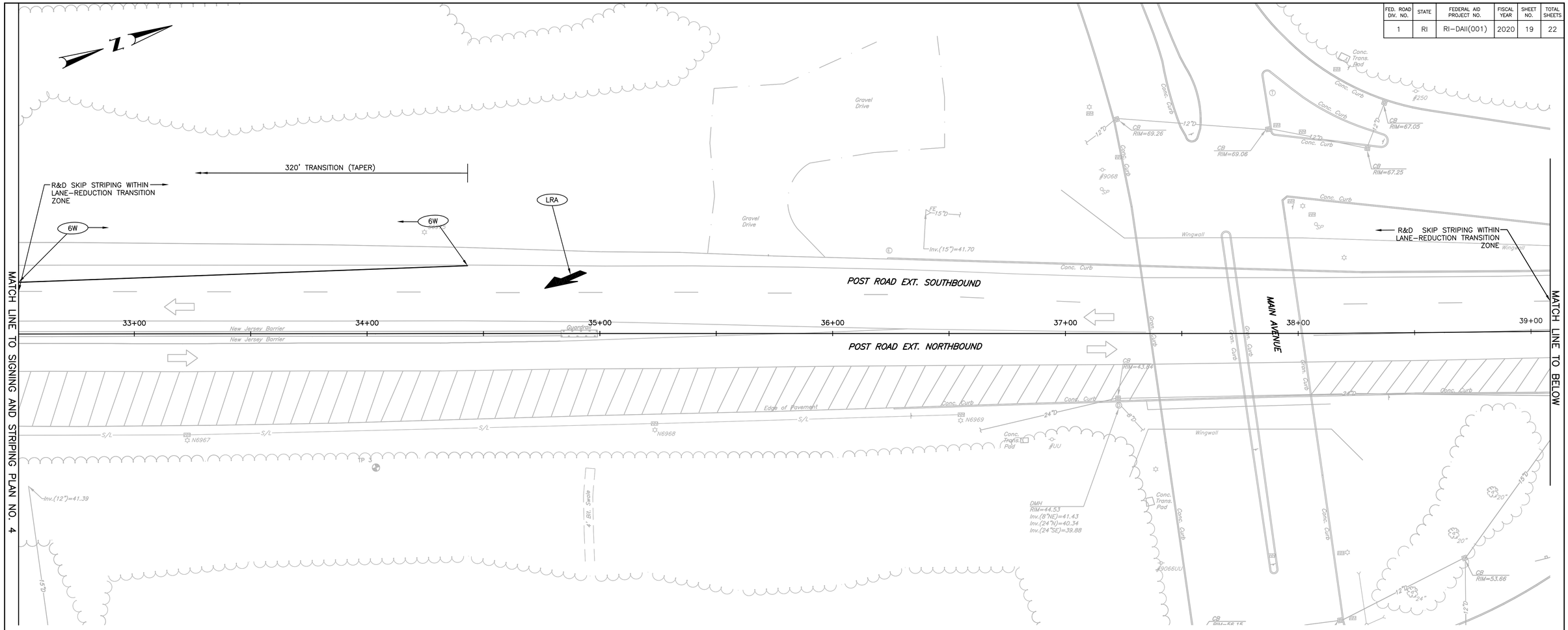
CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

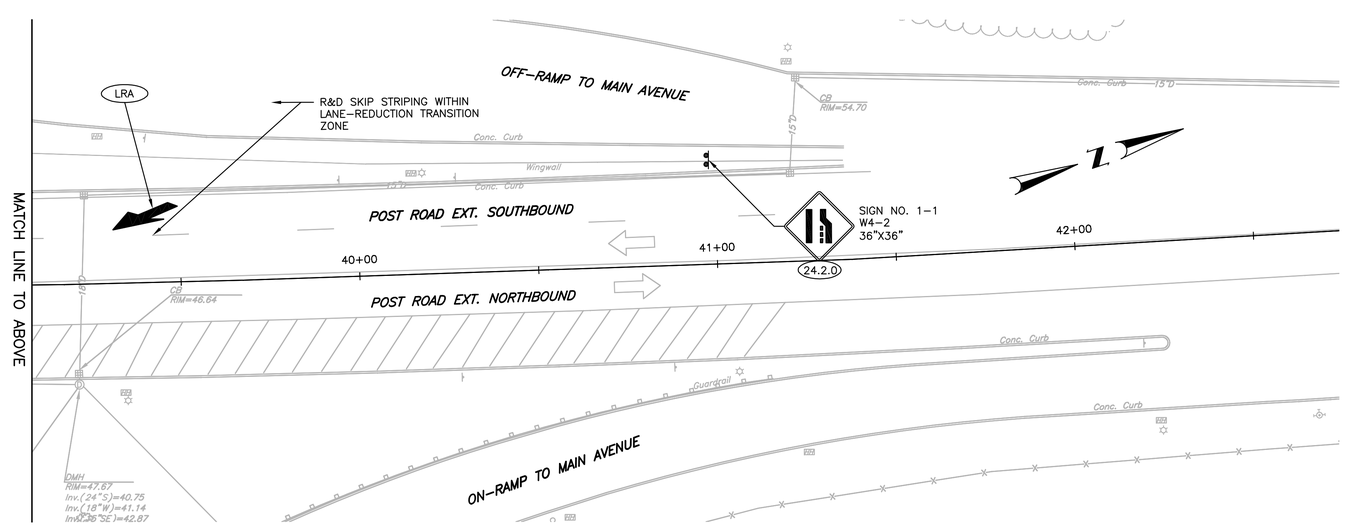
CHECKED BY _____ DATE _____ SCALE 1"=20'

0197E_V1_018_SIGN-STRIPING004

S:\2205.04 - RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_018_SIGN-STRIPING004.dwg (Layout1) Plotted May 11, 2020 at 8:58pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	19	22





REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

SIGNING & STRIPING PLAN NO. 5

CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

CHECKED BY _____ DATE _____ SCALE 1"=20'

0197E_V1_019_SIGN-STRIPING005

S:\2205.04 - RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_019_SIGN-STRIPING005.dwg (Layout1) Plotted May 11, 2020 at 8:58pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	20	22

DUST CONTROL NOTES

ON AN AS-NEEDED BASIS OR AS DIRECTED BY RIDOT OR RIDEM, THE CONTRACTOR SHALL UTILIZE ONE OF THE FOLLOWING METHODS TO CONTROL DUST:

A. THE EXPOSED SOIL SURFACE SHOULD BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.

B. CALCIUM CHLORIDE SHOULD BE EITHER LOOSE DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH A SPREADER AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE.

THE METHODS SHOULD BE REPEATED AS NEEDED, AND SPECIAL ATTENTION MUST BE GIVEN TO THE ACCESS DRIVES.

INSPECTION/MAINTENANCE NOTES

1. PRIOR TO COMMENCING EARTHWORK, FILTERSOXX SHALL BE PLACED INSIDE SAWCUT EDGE TO PREVENT SEDIMENT FROM ENTERING EXISTING ROADWAY DRAINAGE SYSTEM, WETLAND AREAS AND ABUTTING PROPERTIES. PERIMETER EROSION CONTROLS SHALL BE INSTALLED ALONG THE LIMITS OF DISTURBANCE AND WHERE SHOWN ON THE SITE PLANS.
2. R.I. STD. 9.9.0 CONSTRUCTION ACCESS MUST BE INSTALLED AT ALL ENTRANCE LOCATIONS INTO THE CONSTRUCTION SITE. THE LOCATION OF THESE ACCESS POINTS MAY VARY THROUGHOUT THE CONSTRUCTION PROCESS DUE TO THE SIZE AND SCOPE OF THE PROJECT. THE CONDITION AND LOCATIONS OF THE CONSTRUCTION ACCESS PADS MUST BE MAINTAINED THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS. ALL CONSTRUCTION ACCESSES SHALL BE INSTALLED PRIOR TO ANY VEHICLE TRAFFIC.
3. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING THE DRAINAGE SYSTEM.
4. ALL DISTURBED AREAS WHICH BECOME SUBJECT TO EROSIVE TENDENCIES WHETHER THEY BE NEWLY FILLED OR EXCAVATED SHALL RECEIVE SLOPE PROTECTION – SUCH AS EROSION CONTROL BLANKETS OR RIP-RAP.
5. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING PERIODS OF RAINFALL.
6. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE AND SHALL INSPECT / REPLACE DAILY DURING CONSTRUCTION, FOLLOWING RAINFALL AND WEEKLY DURING NON CONSTRUCTION PERIODS.
7. ADDITIONAL SILT FENCE, FILTERSOXX OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
8. THE LATEST VERSION OF THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE R.I. STATE CONSERVATION COMMITTEE, MUST BE UTILIZED BY THE CONTRACTOR AS A GUIDE.
9. THE CONTRACTOR IS RESPONSIBLE FOR ALL DUST CONTROL AND FOR THE ENTIRE PROJECT DURATION, INCLUDING TEMPORARY SHUT-DOWN PERIODS, MUST MONITOR AND REPAIR, AS NEEDED, ALL SLOPES TO ENSURE A STABLE PRODUCT.

GENERAL PROJECT WIDE NOTES

1. CONTRACTOR SHALL INSTALL TEMPORARY MEASURES SUCH AS; FIBER MATTING, CRUSHED STONE, HAY OR STRAW IN AREAS WHERE SLOPES OR STABILIZATION HAS FAILED.
2. THE CONTRACTOR WILL BE REQUIRED TO INSTALL SILT SACK OR APPROVED EQUAL UNDER THE EXISTING CATCH BASIN GRATES WHERE PROPOSED. REMOVE AFTER CONSTRUCTION.
3. SILT FENCE OR FILTREXX FILTER SOXX (OR APPROVED EQUAL) SHALL BE INSTALLED AROUND THE PERIMETER OF THE AREA TO BE DISTURBED BY CONSTRUCTION. ADDITIONAL APPLICATIONS OF THESE CONTROLS MEASURES MAY BE REQUIRED DURING THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL INSPECT THE SITE AT A MINIMUM OF ONCE PER WEEK OR WITHIN 24 HOURS AFTER A STORM EVENT.
4. IF EROSION OR EROSIVE TENDENCIES ARE APPARENT ON THE SITE, THE CONTRACTOR IS RESPONSIBLE TO INSTALL ADDITIONAL CONSTRUCTION BMP'S SUCH AS SAND BAGS AS DIRECTED BY RIDEM, RIDOT, OR ENGINEER DURING CONSTRUCTION.
5. IF SEDIMENT OR DEBRIS IS TRACKED ONTO EXISTING PAVED AREAS ADJACENT TO THE CONSTRUCTION AREA, THE CONTRACTOR IS REQUIRED TO SWEEP THE PAVEMENT ON A DAILY BASIS. THE AREA SHALL BE INSPECTED DAILY.
6. THE CONTRACTOR IS RESPONSIBLE TO KEEP THE SITE CLEAN OF TRASH. RECOMMENDED DAILY PATROL OF THE CONSTRUCTION SHOULD BE CONDUCTED TO PICK-UP TRASH. THE OPERATOR SHALL REQUIRE THE CONTRACTOR TO HAVE PORTABLE SANITARY FACILITIES ON SITE. ROUTINE CLEANING AND WASTE DISPOSAL OF THESE PORTABLE SANITARY FACILITIES IS REQUIRED.

FILTREXX SOXX NOTE

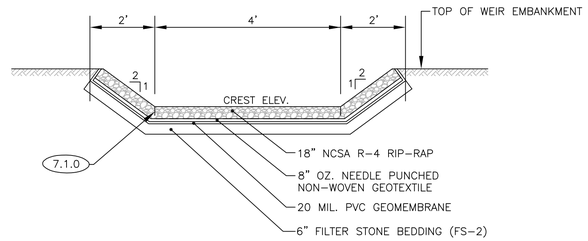
CONTRACTOR IS RESPONSIBLE TO BECOME FAMILIAR WITH THE FILTREXX PRODUCTS AND COORDINATE INSTALLATION SCHEDULES AND METHODS WITH THE ENGINEER PRIOR TO PLACEMENT.

SOIL EROSION AND SEDIMENT CONTROL PLAN NOTES

1. THE CONTRACTOR SHALL REFER TO THE DRAINAGE & UTILITY PLANS FOR THE SOIL EROSION AND SEDIMENT CONTROL MEASURES. ALL EXISTING AND PROPOSED DRAINAGE STRUCTURES WITHIN THE PROJECT LIMITS REQUIRE INLET PROTECTION. RIDEM AND RIDOT RESERVE THE RIGHT TO REQUIRE THE CONTRACTOR TO INSTALL ADDITIONAL EROSION CONTROL MEASURES WHERE DEEMED NECESSARY.
2. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING THE DRAINAGE SYSTEM, WETLAND AREAS, ADJACENT PROPERTIES, AND ROADWAYS.
3. TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW, OR FIBER MULCH PROTECTIVE COVERS, SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE OWNER.
4. HAY OR STRAW APPLICATIONS SHALL BE IN THE AMOUNT OF 3,000-4,000 LBS/ACRE.
5. STOCKPILES SHALL HAVE NO SLOPE STEEPER THAN 2:1 AND SHALL BE SURROUNDED BY 12-INCH COMPOST FILTER SOCK OR SILT FENCE.
6. STOCKPILES EXPOSED FOR EXCESSIVE PERIODS SHALL RECEIVE TEMPORARY TREATMENT CONSISTING OF HAY, STRAW OR FIBER MATTING.
7. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE AND SHALL INSPECT/REPLACE AS NEEDED.
8. ADDITIONAL EROSION CONTROLS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER, OWNER, MUNICIPAL REPRESENTATIVES OR LOCAL D.O.T.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DUST CONTROL AT NO ADDITIONAL COST TO THE OWNER.
10. ALL CATCH BASINS ADJACENT TO AND WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED BY SILT SACKS. ALL CATCH BASINS IN AREAS WITH EXPOSED SUBSOILS SHALL RECEIVE SILT SACKS.
11. THE FILTREXX FILTER SOXX MAY BE INSTALLED ON THE EXISTING PAVEMENT /IMPERVIOUS AREAS WITHOUT STAKES. CONTRACTOR SHALL INSPECT DAILY, IF SOIL EROSION OR SEDIMENT IS OBSERVED IN THESE AREAS, THE CONTRACTOR SHALL RELOCATE OR INSTALL ADDITIONAL FILTREXX FILTER SOXX IN LOCATIONS THAT CAN BE STAKED.
12. THE CONTRACTOR SHALL MAINTAIN (AND CLEAN) THE EXISTING DRAINAGE INFRASTRUCTURE ON AN AS NEEDED BASIS TO MAINTAIN STORMWATER RUNOFF FLOWS IN A POSITIVE DIRECTION.

INFILTRATION SYSTEM CONSTRUCTION NOTE:

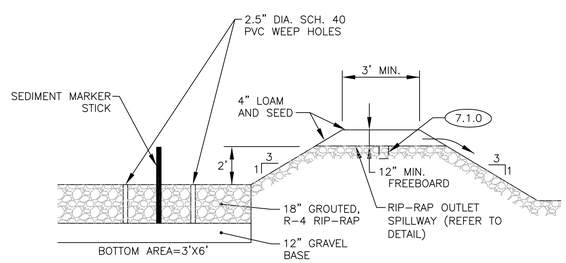
1. WITHIN THE INFILTRATION BASIN/SWALE, THE CONTRACTOR SHALL REMOVE ALL TOPSOIL AND SUBSOIL AREAS AND ANY EXISTING SOILS THAT YIELD A PERMEABILITY RATE <8.27 INCHES/HOUR. CONTRACTOR SHALL COORDINATE A BOTTOM BED INSPECTION WITH OWNER AND ENGINEER. IF NECESSARY THE AREA SHALL BE PREPARED WITH SAND FILL SOIL MEETING THE MEDIA REQUIREMENTS OF SAND FILTERS, AS DESCRIBED IN THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL (R.I.S.D.I.S.M.), MARCH 2015, SECTION 5.5 (ASTM C-33 SAND). THE DEPTH OF EXISTING SOIL REMOVAL SHALL BE VERIFIED BY THE ENGINEER. PLACEMENT OF THE SAND FILL (ASTM C-33 SAND), SHALL BE USED TO BRING THE BOTTOM OF BASIN TO THE DESIGN ELEVATIONS.
2. INFILTRATION SYSTEM CONSTRUCTION AND MATERIALS SHALL CONFORM TO RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, MARCH 2015, APPENDIX F.3 CONSTRUCTION STANDARDS/SPECIFICATIONS FOR INFILTRATION BMP'S. AFTER CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE FINAL INSPECTIONS WITH THE OWNER IN ACCORDANCE WITH TABLE F-5 IN APPENDIX F.3.
3. THE CONTRACTOR IS REQUIRED TO SUBMIT A LIST OF MATERIALS, GRADATIONS AND THE NAME AND ADDRESS OF THE SUPPLIERS TO THE ENGINEER FOR APPROVAL PRIOR TO BRINGING MATERIAL ON SITE. MATERIAL CERTIFICATIONS SHALL ALSO BE REQUIRED FOR REVIEW AND APPROVAL.
4. THE CONTRACTOR IS RESPONSIBLE TO BECOME FAMILIAR WITH THE R.I.S.D.S.M. AND THE RIDOT LINEAR STORMWATER MANUAL.
5. GREAT CARE MUST BE TAKEN TO PREVENT THE INFILTRATION AREA FROM COMPACTION BY MARKING OFF THE INFILTRATION UNDERGROUND SYSTEM LOCATION BEFORE THE START OF CONSTRUCTION, AND BY CONNECTING UPSTREAM DRAINAGE AREAS ONLY AFTER CONSTRUCTION IS COMPLETE AND THE CONTRIBUTING AREA IS STABILIZED.
6. IF LARGE ROCKS OR BOULDERS ARE FOUND WITHIN 36" BELOW THE INFILTRATION SYSTEMS, OR WITHIN A 10' PERIMETER AROUND SYSTEM, THE CONTRACTOR SHALL REMOVE THE ROCKS/BOULDERS AND REPLACE WITH GRAVEL BORROW. CONTRACTOR SHALL COORDINATE WITH ENGINEER.



NOTE:
RIP RAP SHALL CONTINUE ON INSIDE AND OUTSIDE OF SLOPE AT OVERFLOW WEIR LOCATION.

TYPICAL EARTHEN WEIR DETAIL

NOT TO SCALE

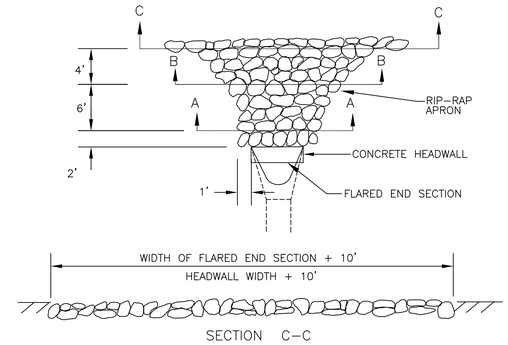


NOTES

1. GROUT SHALL BE NON-SHRINK GROUT HAVING 4,000 psi, 28-DAY COMPRESSIVE STRENGTH AND 2,400 psi, 7 DAY COMPRESSIVE STRENGTH.
2. PROVIDE 2-2.5" DIA. SCH. 40 PVC AS WEEP HOLES IN THE BOTTOM OF EACH SEDIMENT FOREBAY.
3. PROVIDE SEDIMENT MARKER STICK IN THE BOTTOM OF THE SEDIMENT FOREBAY. PROVIDE LINE ON SEDIMENT MARKER STICK 12" ABOVE BOTTOM OF FOREBAY.

TYPICAL SEDIMENT FOREBAY DETAIL

NOT TO SCALE

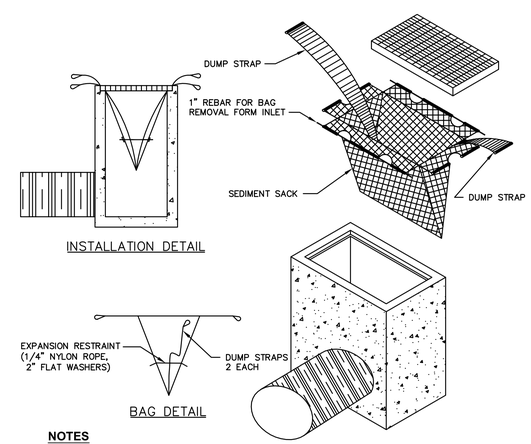


NOTES:

1. UNLESS OTHERWISE SPECIFIED, PLACED RIP-RAP SHALL BE USED.
2. DIMENSIONS MAY BE SHOWN OTHERWISE ON THE PLANS AND MAY BE MODIFIED BY THE ENGINEER TO MEET FIELD CONDITIONS.
3. RIP-RAP APRONS SHALL CONSIST OF 18" DEEP NSA NO. R-4 STONE WITH A 6" THICK FS-2 BEDDING.
4. PLACE A LAYER OF FILTER FABRIC AND GEOMEMBRANE BETWEEN THE STONE AND BEDDING.
5. CONCRETE HEADWALLS SHALL CONSIST OF CLASS XX CONCRETE.

TYPICAL LAYOUT OF RIP-RAP OUTLET PROTECTION AT FLARED END SECTIONS AND CONCRETE HEADWALLS

NOT TO SCALE

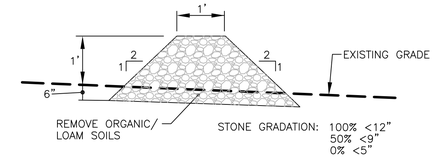


NOTES

1. INSTALL SILT SACK AT CATCH BASINS IN VICINITY OF CONSTRUCTION.
2. CONTRACTOR SHALL SUBMIT SILT SACK PRODUCT TO ENGINEER FOR APPROVAL.

SILT SACK INSTALLATION DETAIL

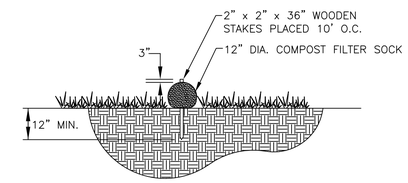
NOT TO SCALE



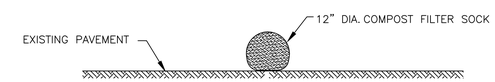
NOTE:
STONE CHECK DAMS WILL BE INSTALLED EXCLUSIVELY AT SCP-GBC-012 ON D&U PLAN NO. 1.

TYPICAL STONE CHECK DAM DETAIL

NOT TO SCALE



COMPOST FILTER SOCK SECTION



COMPOST FILTER SOCK PAVEMENT OPTION

NOTE

1. COMPOST FILTER SOCK MAY BE USED IN LIEU OF SILT FENCE.
2. CONTRACTOR IS RESPONSIBLE TO BECOME FAMILIAR WITH THE MANUFACTURER'S PRODUCTS AND COORDINATE INSTALLATION SCHEDULES AND METHODS WITH THE ENGINEER PRIOR TO PLACEMENT.
3. ALL MATERIAL SHALL MEET MANUFACTURER'S SPECIFICATIONS.
4. AFTER USE, COMPOST MATERIAL TO BE DISPERSED ON SITE AS DETERMINED BY ENGINEER.

COMPOST FILTER SOCK DETAIL

NOT TO SCALE

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

DRAINAGE & UTILITY
DETAIL PLAN No. 1

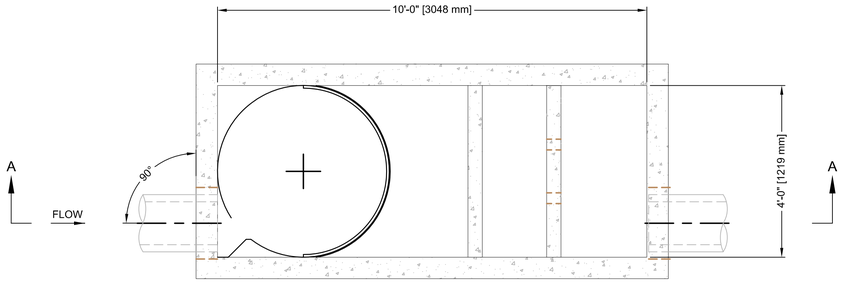
CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

CHECKED BY _____ DATE _____ SCALE 1"=20'

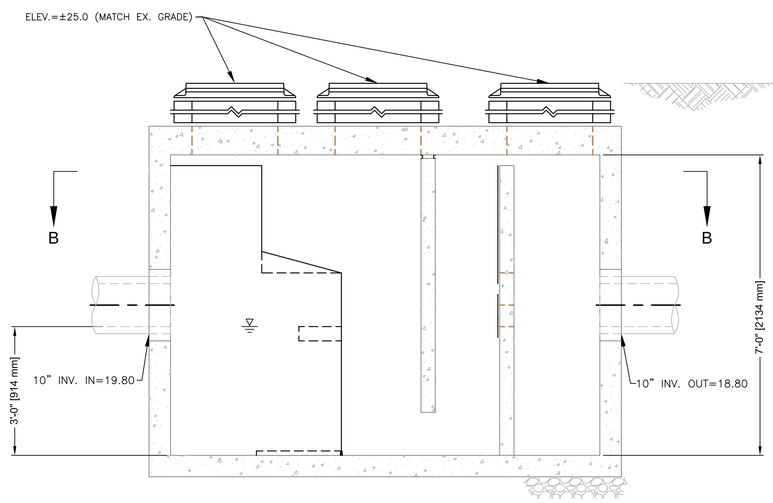
0197E_V1_020_DETAIL001

S:\2205.04 – RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_020_DETAIL001.dwg (Layout) Plotted May 12, 2020 at 8:34pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	21	22



SECTION B-B



SECTION A-A

NOTE:
ALL FRAME AND COVERS SHALL BE RIDOT STANDARD 6.2.1

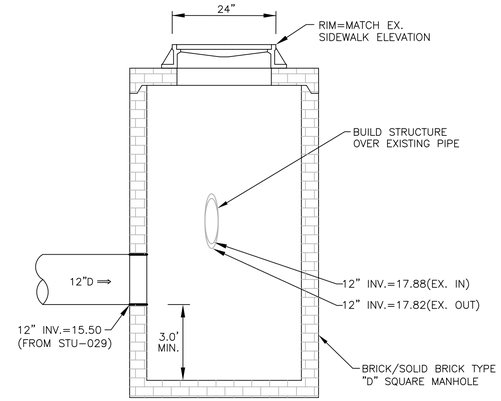
VORTECHS 2000 DETAIL
NOT TO SCALE

NOTE: THE VORTECH SYSTEM IS DEPICTED FOR REFERENCE ONLY. RIDOT SHALL ACCEPT A SYSTEM DEEMED TO BE EQUIVALENT.

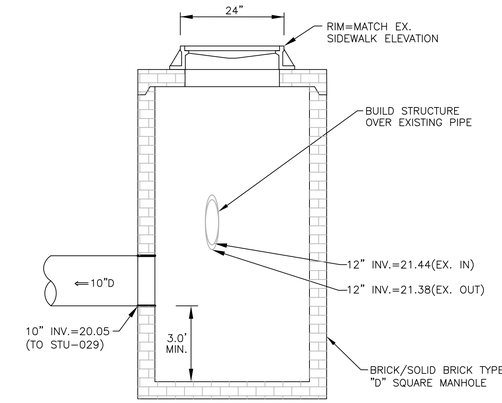
VORTECHS 2000 DESIGN NOTES
VORTECHS 2000 RATED TREATMENT CAPACITY IS 2.8 CFS, OR PER LOCAL REGULATIONS. IF THE SITE CONDITIONS EXCEED RATED TREATMENT CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED. **THE STANDARD INLET/OUTLET CONFIGURATION IS SHOWN. FOR OTHER CONFIGURATION OPTIONS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. www.ContechES.com**

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. www.ContechES.com
4. VORTECHS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET AASHTO M306 LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. INLET PIPE(S) MUST BE PERPEDICULAR TO THE VAULT AND AT THE CORNER TO INTRODUCE THE FLOW TANGENTIALLY TO THE SWIRL CHAMBER. DUAL INLETS NOT TO HAVE OPPOSING TANGENTIAL FLOW DIRECTIONS.
7. OUTLET PIPE(S) MUST BE DOWN STREAM OF THE FLOW CONTROL BAFFLE AND MAY BE LOCATED ON THE SIDE OR END OF THE VAULT. THE FLOW CONTROL WALL MAY BE TURNED TO ACCOMODATE OUTLET PIPE KNOCKOUTS ON THE SIDE OF THE VAULT.

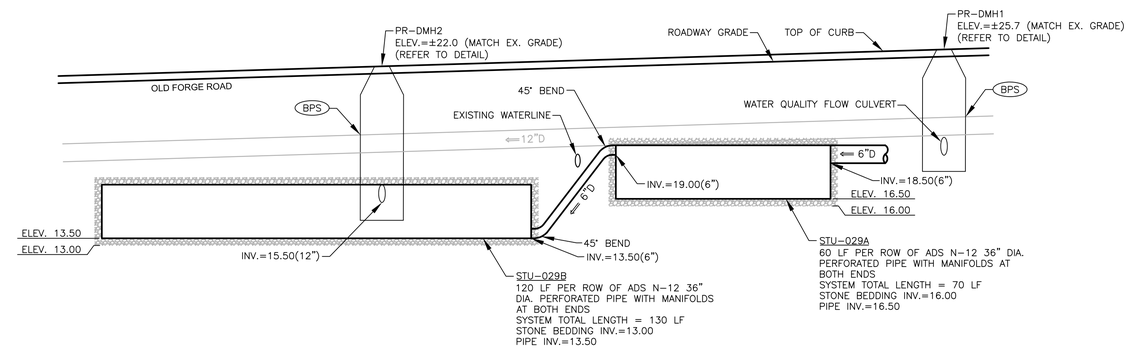
INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE VORTECHS STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



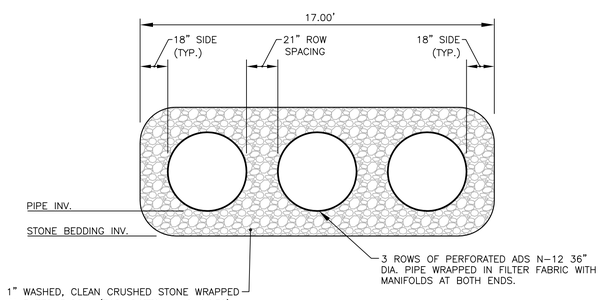
STU-029 OUTLET CONTROL STRUCTURE (DMH 2)
NOT TO SCALE



STU-029 DIVERSION STRUCTURE DETAIL (DMH 1)
NOT TO SCALE



UNDERGROUND INFILTRATION SYSTEM (STU-029) PROFILE
NOT TO SCALE



STONE THICKNESSES:
TOP-6"
BOTTOM-6"
SIDES AND ENDS-18"
ROW SPACING-21"

STONE GRADATION SHALL CONFORM TO SECTION M.01.09 TABLE I, COLUMN V "FILTER STONE" OF THE SPECIFICATIONS.

STU-029A
60 LF PER ROW
SYSTEM TOTAL LENGTH = 70 LF
STONE BEDDING INV.=16.00
PIPE INV.=16.50

STU-029B
120 LF PER ROW
SYSTEM TOTAL LENGTH = 130 LF
STONE BEDDING INV.=13.00
PIPE INV.=13.50

UNDERGROUND INFILTRATION SYSTEM (STU-029) CROSS-SECTION (TYP.)
NOT TO SCALE

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

DRAINAGE & UTILITY
DETAIL PLAN No. 2

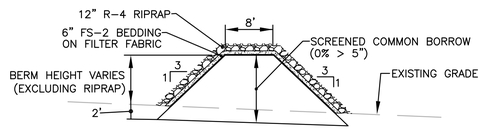
CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

CHECKED BY _____ DATE _____ SCALE 1"=20'

0197E_V1_021_DETAIL002

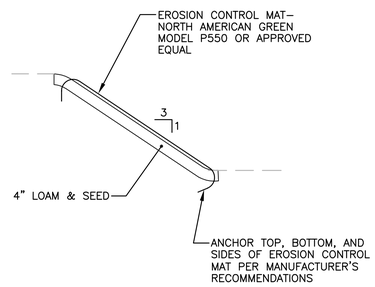
S:\2205.04 – RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_021_DETAIL002.dwg (Layout1) Plotted May 11, 2020 at 9:00pm

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	RI	RI-DAII(001)	2020	22	22



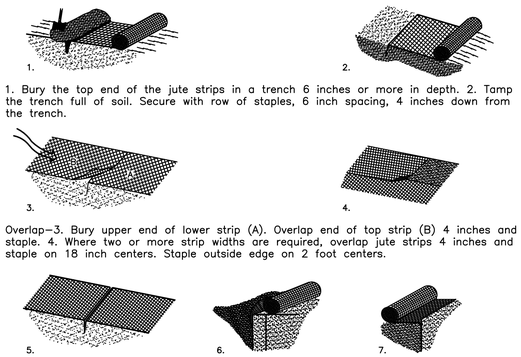
TYPICAL EARTHEN BERM DETAIL

NOT TO SCALE



3:1 INFILTRATION SWALE SLOPE (SCP-GBC-013)
TYPICAL SECTION

NOT TO SCALE



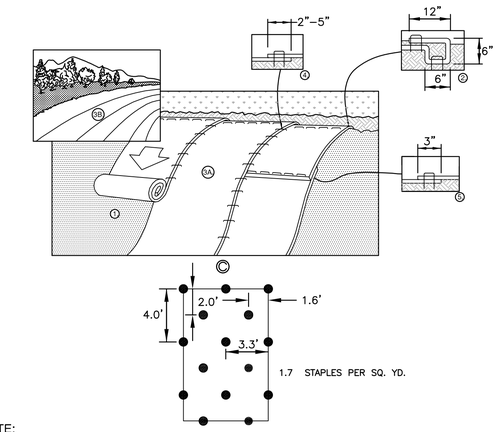
1. Bury the top end of the jute strips in a trench 6 inches or more in depth. 2. Tamp the trench full of soil. Secure with row of staples, 6 inch spacing, 4 inches down from the trench.

Overlap-3. Bury upper end of lower strip (A). Overlap end of top strip (B) 4 inches and staple. 4. Where two or more strip widths are required, overlap jute strips 4 inches and staple on 18 inch centers. Staple outside edge on 2 foot centers.

Erosion stop - 5. Fold of jute buried in silt trench and tamped; double row of staples. Anchoring ends at structures - 6. Place the end of the net in a 6 inch slot on the up-channel side of the structure. Fill the trench and tamp firmly. 7. Roll the net up the channel. Place staples at 12 inch intervals along the anchor of the net.

FIGURE 5-1 DETAIL FOR INSTALLATION OF JUTE NETTING
R.I. SOIL EROSION and SEDIMENT CONTROL HANDBOOK

NOT TO SCALE



NOTE:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.

2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.

3. ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.

4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.

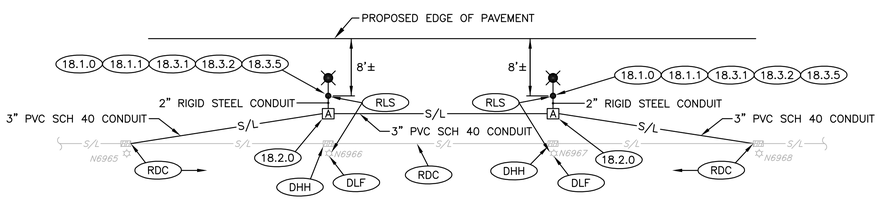
5. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH.

6. ALL REQUIRED EROSION CONTROL BLANKET (MAT) OVERLAPS AND ANCHORS SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE.

NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

EROSION CONTROL BLANKET (MAT)
PERMANENT AND TEMPORARY INSTALLATION DETAIL

NOT TO SCALE



REMOVE AND RELOCATE LIGHT STANDARDS DETAIL

NOT TO SCALE

NOTE:

1. SEE REMOVE AND RELOCATE LIGHT STANDARDS NOTES ON SHEET NO. 5 "JOB SPECIFIC PLAN SYMBOLS, LEGEND AND NOTES".

2. REFER TO DRAINAGE AND UTILITY PLAN NOS. 4 AND 5 FOR LOCATIONS.

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

STORMWATER TREATMENT RETROFIT
GREENWOOD CREEK (RI0007025R-11)
GREENWICH COVE (RI0007025E-05A)
WARWICK RHODE ISLAND

DRAINAGE & UTILITY
DETAIL PLAN No. 3

CHECKED BY _____ DATE _____ SCALE 1"=20'

CROSSMAN ENGINEERING
151 Centerville Road | Warwick, Rhode Island 02886

0197E_V1_022_DETAIL003

S:\2205.04 - RIDOT On Call Stormwater, Greenwich Bay SCP\Current\ACAD Dwg\DESIGN-PLANS\COMBINED (OFR-PRE)\0197E_V1_022_DETAIL003.dwg (Layout1) Plotted May 12, 2020 at 8:35pm

Appendix - I

Required Contract Forms - Must Be Signed and Submitted With Bid Offer

Revised: 4/12/2002

Greenwich Bay Coastal 2019-CM-073

ANTI-COLLUSION CERTIFICATE FOR CONTRACT AND FORCE ACCOUNT
[Unsworn Declaration]

Title 23, United States Code, Section 112(c), requires, as a condition precedent to approval by the Director of Public Roads of the contract for this work, that there be filed an unsworn declaration executed by, on behalf of, the person, firm, association, or corporation submitting the bid certifying that such person, firm, association, or corporation has not either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action, in restraint of free competitive bidding in connection with the submitted bid. This unsworn statement shall be in the form of a declaration executed under penalty of perjury under the laws of the United States.

To the: **STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS**
DEPARTMENT OF TRANSPORTATION, DIVISION OF PUBLIC WORKS

State of _____

County of _____

I, _____, _____, under penalty under the laws of the United States, do depose and say:

On behalf of _____, of_____ that said Contractor has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with Rhode Island Contract Number _____, Federal-Aid Project Number _____ , County of _____ Town-City _____, Road-Bridge _____.

Greenwich Bay Coastal – 2019-CM-073

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS PRIMARY COVERED TRANSACTIONS

In accordance with the code of Federal Regulations, Part 49 CFR Section 29.5 10, the prospective primary participant _____, _____, being duly sworn (or executed under penalty of perjury under the laws of the United States), certifies to the best of his/her knowledge and belief, that its principals:

a.) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily Excluded from covered transactions by any Federal department or agency;

b.) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statues or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c.) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (l)(b) of this certification;

d.) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall list exceptions below.

Exceptions will not necessarily result in denial of award, but, will be considered in determining contractor responsibility. For any exception noted, indicate below to whom it applies, the initiating agency, and the dates of the action. Providing false information may result in criminal prosecution or administrative sanctions. If an exception is noted the contractor must contact the Department to discuss the exception prior to award of the contract.

Greenwich Bay Coastal – 2019-CM-073

Conflicts Disclosure Policy

To ensure that the Rhode Island Department of Transportation (RIDOT) maintains the continued confidence and trust of the people of Rhode Island in carrying out its mission, prospective vendors must disclose any family (or other personal) relationships, associations or connections that the vendor, its affiliates, or employees, may currently have with any RIDOT employee. A Conflicts Disclosure Statement shall be submitted to RIDOT from the following:

- Owners;
- Directors;
- Principals:
- Officers, board members, or individuals with corporate authority;
- If the vendor is a partnership, the applicant's partners;
- If the vendor is a limited liability company, its members and managers;
- Employees with decision-making authority, including executive directors, managers or individuals in a similar position with corporate authority; and
- Shareholders with a controlling interest.

Conflicts Disclosure Statement

RE:

I, BLANK hereby certify as follows:
I am employed as a BLANK of BLANK and to the best of my knowledge:

PLEASE CHECK THE APPROPRIATE CIRCLE:

- o I have no family or personal relations currently employed either on a full-time or part-time basis at the Rhode Island Department of Transportation.
- o I do have family or personal relations currently employed at the Rhode Island Department of Transportation. Please list their name(s), title(s), and RIDOT Division(s) (if known):

Name	Title	RIDOT Division

If necessary, please add any additional names as attachments hereto.

FOR ILLUSTRATIVE PURPOSES, FAMILY RELATIONS SHALL INCLUDE, WHETHER BY BLOOD, ADOPTION OR MARRIAGE, ANY OF THE FOLLOWING RELATIONSHIPS:

Father, Mother, Son, Daughter, Brother, Sister, Grandfather, Grandmother, Grandson, Granddaughter, Father-In-Law, Mother-In-Law, Brother-In-Law, Sister-In-Law, Son-In-Law, Daughter-In-Law, Stepfather, Stepmother, Stepson, Stepdaughter, Stepbrother, Stepsister, Half-Brother Or Half-Sister, Niece, Nephew, And Cousin

- *If you are unsure whether a relationship, association, or connection you have may need to be disclosed, please consult with RIDOT's Legal Office at (401) 222-6510.*

SIGNATURE DATE

By signing this form you: (1) certify that the information contained in this form is complete and accurate to the best of your knowledge; and (2) acknowledge your continuing obligation to complete and submit a new Disclosure form when there is any change in your family or personal relations during the course of this Contract.

This document is used for internal RIDOT purposes only in order to address and avoid any potential conflicts at the inception of the contract process and to avoid any impropriety or the appearance of impropriety during the contract process. Any disclosures made hereto will not prejudice prospective vendors from selection.

Approved by OMB
0348-0046

Greenwich Bay Coastal – 2019-CM-073

Disclosure of Lobbying Activities

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure)

1. Type of Federal Action: a. contract ____ b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance	**2. Status of Federal Action:** a. bid/offer/application _____ b. initial award c. post-award	**3. Report Type:** a. initial filing _____ b. material change **For material change only:** Year _____ quarter _____ Date of last report_____
4. Name and Address of Reporting Entity: ____ Prime _____ Subawardee Tier_____, if Known: **Congressional District,** *if known*:	**5. If Reporting Entity in No. 4 is Subawardee,** Enter Name and Address of Prime: **Congressional District,** *if known*:	
6. Federal Department/Agency:	**7. Federal Program Name/Description:** CFDA Number, *if applicable*: _____	
8. Federal Action Number, *if known:*	**9. Award Amount**, *if known:* **$**	
10. a. Name and Address of Lobbying Registrant *(if individual, last name, first name, MI):*	**b. Individuals Performing Services** *(including address if different from No. 10a)* *(last name, first name, MI):*	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.	**Signature: _____** **Print Name: _____** **Title: _____** **Telephone No.: _____ Date: _____**	
Federal Use Only	**Authorized for Local Reproduction** **Standard Form - LLL (Rev. 7-97)**	

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.

2. Identify the status of the covered Federal action.

3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.

4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.

5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.

6. Enter the name of the federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.

7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.

8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitations for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Included prefixes, e.g., "RFP-DE-90-001."

9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.

10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

    (b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).

11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503

Greenwich Bay Coastal – 2019-CM-073

BID CONDITIONS

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL OPPORTUNITY
(Executive Order 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

Timetables	Goals for Minority Participation for Each Trade	Goals for Female Participation in Each Trade
	3.0% R.I. Except Newport County	6.9%
	3.1% Newport County	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs through the Area Director, OFCCP, 169 Weybosset Street, Providence, Rhode Island 02903, within 10 working days of award of any construction subcontract in excess of $10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the Subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

4. As used in this Notice, and in the contract resulting from this Solicitation, the "covered area" is the State of Rhode Island.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (Executive Order 11246)

1. As used in these specifications:

(a) "Covered area" means the geographical area described in the solicitation from which this contract resulted.

(b) "Director" means Director, Office of Federal Contract Compliance Programs United States Department of Labor, or any person to whom the Director delegates authority.

(c) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

(d) "Minority" includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identifi- cation).

2. Whenever the Contractor, or any Subcontractor at any tier subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $ 10,000.00 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in a approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4, The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction Contractors performing construction work in geographical areas where they do not have a

Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical

area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability to employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

(a) Ensure and maintain a working environment free of harassment, intimidation and coercion at all sites, and in all facilities at which the Contractors employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all on site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

(b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization responses.

(c) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

(d) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contactor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(e) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved

by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.

(f) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation is assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

(g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, Supervisors, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(h) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contactor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

(i) Direct its recruitment efforts, both oral and written, to minority female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection procedures.

(j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

(k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

(1) Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

(m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

(n) Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

(o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor associations, joint contractor union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contactor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected-in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of

actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though a Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area

residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program.).

(a) A Form 257, Monthly Employment Utilization Report, is to be completed by both Contractor and Subcontractors, and signed by the designated EEO Officer or an authorized representative of the prime or subcontractor. The reports are to be submitted by the 5th of each month during the term of the contract. The Contractor shall submit an aggregate Form 257 showing its entire work force, minority work force, and female work force (in work hours), on all construction work (Federal and non-federally assisted) in the covered area. The Contractor shall collect and submit reports for each Subcontractor's aggregate work force, providing the same information as above.

(b) The Contractor shall submit a Form PR-1391 , Federal-Aid Highway Construction Contractors' Annual EEO Report, to be completed by the Contractor and each Subcontractor for every month of July, during which work was performed and submitted to the State. A separate report is to be completed for each Contractor and subcontractor holding contracts or subcontracts exceeding $10,000.00, except where specified. The employment data entered should reflect the work force on board during all or any part of

the last payroll period preceding the end of the month of July.

NOTE: Include the R.I. Contract Number in the upper right-hand corner of the form.

(c) The Contractor shall submit a Form EEO-10, Federal-Aid Highway Construction Contractors' Semiannual Training Report, to be completed by the Contractor semiannually for each individual employed on this contract (including any subcontractors under it who have provided training during the reporting period under the training special provision). This report is to be submitted by the 20th of the month following the reporting period (July 20 and January 20). The original of this report is to be furnished to the trainee, and two (2) copies submitted to the State.

These reports are required by the Public Laws of Rhode Island (1960), Chapters 85, 96, & 88; 23 U.S.C., 140(a); 23 CFR, Part 23; and Executive Order 11246.

Name _____

Date _____

USDOT Standard Title VI/Nondiscrimination Assurances for Contractors DOT Order 1050.2A

Project: **Greenwich Bay Coastal – 2019-CM-073**

I, _____, _____Job Title _____, a duly authorized representative of _____Company Name _____ do hereby certify that the organization affirmatively agrees to the provisions set forth by *U.S. DOT Order 1050.2A, DOT Standard Title VI Assurances and Non-Discrimination Provisions (April 11, 2013)*

_____
Signature of Authorized Official

_____
Date

APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the Federal Highway Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

    a. withholding payments to the contractor under the contract until the contractor complies; and/or
    b. cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions**: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

<u>Pertinent Non-Discrimination Authorities:</u>

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq*., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);

- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq*.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq*.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq*.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq*).

Last Update: November 2017