

March 13, 2013

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATION
DEPARTMENT OF TRANSPORTATION
RHODE ISLAND CONTRACT NO.2013-DF-043
FEDERAL-AID PROJECT NO. FAP Nos: STP-HRSY(001)

Hurricane Sandy Repairs to the Newport Cliff Walk

Bailey's Beach to Ruggles Avenue

CITY/TOWN OF

COUNTY OF

NOTICE TO PROSPECTIVE BIDDERS

ADDENDUM NO. 2 Prospective bidders and all concerned are hereby notified of the following changes in the Plans, Specifications, Proposal and Distribution of Quantities for this contract. These changes shall be incorporated in the Plans, Specifications, Proposal and Distribution of Quantities, and shall become an integral part of the Contract Documents.

A. Clarification

1. Item Code 212.2000 "Cleaning and Maintenance of Erosion Controls"

Item Code 212.2000 "Cleaning and Maintenance of Erosion Controls" has a minimum acceptable bid price of Five Thousand Dollars And No Cents (\$5,000.00) per Lump Sum.

B. Contract Documents

1. CS-Pages

- a. Page CS-2 (R-1)

Remove page CS-2 (R-1) in its entirety and replace it with revised page CS-2 (R-2) attached to this Addendum No. 2. The title for Sheet No. 30 has been revised.

- b. Pages CS-5 and CS-6

Remove pages CS-5 and CS-6 in their entirety and replace them with revised pages CS-5 (R-1) and CS-6 (R-1) attached to this Addendum No. 2. Sections 13 and 14 have been revised.

- c. Page CS-9

Remove page CS-9 in its entirety and replace it with revised page CS-9 (R-1) attached to this Addendum No. 2. Section 26 has been revised.

2. JS-Pages

- a. Pages JS-i, JS-ii and JS-iii (R-1)

Remove pages JS-i, JS-ii and JS-iii (R-1) and replace them with revised pages JS-i (R-1), JS-ii (R-1) and JS-iii (R-2) attached to this Addendum No. 2. Item Codes 206.9901 "Compost Filter Sock" and 212.2000 "Maintenance and Cleaning of Erosion and Pollution Controls" have been added. Item Code 401.9901 "Bituminous Sidewalk Class 9.5 HMA" has been deleted.

b. Page JS-5a

Insert new page JS-5a attached to this Addendum No. 2. Item Code 206.9901 "Compost Filter Sock" has been added.

c. Page JS-7 (R-1)

Remove Page JS-7 (R-1) in its entirety and replace it with revised page JS-7 (R-2) attached to this Addendum No. 2. The second paragraph has been revised.

d. Page JS-9 (R-1)

Remove page JS-9 (R-1) in its entirety and replace it with revised page JS-9 (R-2) attached to this Addendum No. 2. The second bullet and the first, second and third paragraphs have been revised. The fourth paragraph has been added.

e. Page JS-13a

Insert new page JS-13a attached to this Addendum No. 2. Item Code 212.2000 "Maintenance and Cleaning of Erosion and Pollution Controls" has been added.

f. Page JS-14

Remove page JS-14 in its entirety and replace it with revised page JS-14 (R-1) attached to this Addendum No. 2. The Materials section has been revised.

g. Pages JS-16, JS-17 and JS-18

Remove pages JS-16, JS-17 and JS-18 in their entirety and replace them with revised pages JS-16 (R-1), JS-17 (R-1) and JS-18 (R-1) attached to this Addendum No. 2. This Special Provision has been revised.

h. Page JS-19

Remove page JS-19 in its entirety and replace it with revised page JS-19 (R-1) attached to this Addendum No. 2. This Special Provision has been deleted.

i. Pages JS-50, JS-51 and JS-52

Remove pages JS-50, JS-51 and JS-52 in their entirety and replace them with revised pages JS-50 (R-1), JS-51 (R-1) and JS-52 (R-1) attached to this Addendum No. 2. This Special Provision has been revised.

C. Drawings/Plans - Change/Addition

1. Sheet No. 1 - Title Sheet

Modify this sheet as shown in Sketch No. 1 attached to this Addendum No. 2. The Index of Drawings has been revised.

D. Distribution of Quantities

1. Index Pages 1 (R-1) and 2 (R-1)

Remove Index pages 1 (R-1) and 2 (R-1) in their entirety and replace them with revised Index pages 1 (R-2) and 2 (R-2) attached to this Addendum No. 2. The Index has been revised.

2. Pages 8 (R-1) and 8a

Remove pages 8 (R-1) and 8a in their entirety and replace them with revised pages 8 (R-2) and 8a (R-1) attached to this Addendum No. 2. The quantity for Item Code 303.9901 "Stone Dust Walk" has been revised.



RI Department of Transportation
Chief Engineer

Sheet 7 - 22	General Plan Sheets 1-16
Sheet 23	Plan and Elevation Location 5
Sheet 24	Section and Notes Location 5
Sheet 25	Plan, Elevation & Sections: Location W3, 9, 10 & 14
Sheet 26	Sections: Locations 11, 12 & 13
Sheet 27	Plan & Elevations Location 13
Sheet 28	Sections: Location 16
Sheet 29	Sections: Locations 26 & 27
Sheet 30	Landscape Plan Locations L-3 & 14
Sheet 31	Decorative Railing Details and Fence Details
Sheet 32	Available Construction Access Location at Ledge Road
Sheet 33	Available Construction Access Location at Rough Point
Sheet 34	Available Construction Access Location at Rosecliff
Sheet 35	Available Construction Access Location at Ruggles Avenue
Sheet 36	Standard Plan Symbols & Standard Legend
Sheet 37	Standard Notes -1
Sheet 38	Standard Notes -2

3. MILESTONE SCHEDULE DATES

The following interim and substantial completion dates have been established for the assessment of liquidated damages.

	<u>Completion Date</u>
1. Phase 1	June 1, 2013
2. Phase 2	June 21, 2013
3. Substantial Completion	November 1, 2013

Refer to Code 12.108.1000, "Prosecution and Progress" for the definition of the above Interim and Substantial Completion Dates.

The schedule is based on the following assumptions:

- Multiple crews working 6 days per week on multiple work locations from multiple access points.
- Work hours Monday through Saturday between 7 am and 7 pm.
- No work on Sundays and holidays

The Contractor shall refer to the Construction Access Special Provisions for additional requirements regarding the restoration of the site/access at the available construction access at Newport Restoration Foundations (Rough Point), The Preservation Society of Newport County (Rosecliff), and the available construction access from water.

10. SPECIALTY ITEMS

The following Items are hereby designated "Specialty Items" :

- Plantings
- Seeding

11. EXISTING UTILITIES

Where shown, the location and depth of existing utilities are approximate and have been plotted from the best available information. The Contractor shall check and verify locations of all existing utilities both underground and overhead. Dig Safe shall be contacted prior to commencement of any work.

12. DAMAGE TO EXISTING UTILITIES

Extreme care shall be exercised during construction in the vicinity of the existing drainage structures and other utilities. Damage to these utility elements resulting from the Contractor's operations and/or equipment shall be repaired and restored to their original condition at the Contractor's expense. The Engineer shall be the sole judge in approving the method of restoration prior to its initiation.

13. PROJECT SEQUENCE OF WORK

Except as specified elsewhere in the Contract Documents, no specific sequence of construction is hereby identified. However, the Bidders should note that at several locations the existing slopes have eroded and/or retaining structures have undermined. The Bidder is responsible for evaluating and ascertaining these existing conditions and sequencing construction work accordingly should this be a determining factor in the preparation of the bid and/or construction of the project.

On May 30, 2013, no work is permitted on the Newport Restoration Foundation (Rough Point) property after 12:00 (noon).

14. CONSTRUCTION ACCESS

The Contractor shall note the limited accessibility available to the repair areas. All access to work locations shall be determined by the Contractor.

The Department has obtained Temporary Use Agreements for access through two private properties, obtained permit approval for the use of barges and the construction of four temporary accesses from the water, and provided the requirements for access through local streets. These available construction access areas are shown on the contract drawings. At the discretion of the Contractor, these available construction accesses may be used for construction access to any of the work locations. However, the Contractor shall fully adhere to all the applicable conditions and stipulations as specified in the Contract Documents. Alternate means of access may also be proposed by the Contractor subject to the approval of the Engineer.

The Contractor shall make a thorough site visit to assess and evaluate the size and type of equipment and/or personnel required for access to these construction sites prior to submitting a bid. The Contractor can also coordinate with the City of Newport (Refer to the Paragraph 8 for contact person) if they wish to make a site visit through another access point, excluding private properties, to the Cliff Walk. There shall be no additional compensation for cost that may be incurred as a result of any operation necessitated to provide for said access other than those shown on the Plans. The Contractor is also referred to Special Provision for Construction Access for requirements regarding the work necessary for construction access via the identified available access areas.

The Contractor shall note that access through the identified private properties is with the cooperation of the abutting private property owners. The Contractor shall make all reasonable efforts to minimize disturbance and inconvenience during the duration of the construction contract.

Except for the two properties for which Temporary Use Agreements have been obtained, the Contractor shall not at any time encroach upon adjacent private properties and shall at all times operate within the permit restrictions. The Contractor shall also be responsible for obtaining any and all permits necessary for construction access areas other than those for which permits have been obtained (Also refer to paragraph 26 of these CS pages).

15. STORAGE OF EQUIPMENT AND MATERIAL ON SITE

It shall be the Contractor's responsibility to obtain any and all permits necessary to stockpile or store material and equipment on public streets or private property other than the work zone and staging area identified on the plans.

16. INSPECTION ACCESS

The Contractor shall provide the Engineer and/or its representative(s) full access to all the work sites, as may be required, for the purpose of inspection and/or construction monitoring. This shall include all necessary safety equipment such as safety harness and life vests. No separate payment shall be made for these services. The cost of these items of work shall be included under the item of work for which it is required.

17. PROTECTION OF HISTORIC AND NATURAL RESOURCES

The historic and natural resources outside the limits of the project work shall be protected in their existing condition.

The Contractor's attention is called to the fact that the construction lies within a Historic District and adjacent to historic private mansions and adjacent to/within historic private properties. The Contractor shall conduct his operation in such a manner as to not in any way damage said properties. Any damage caused to said properties as a result of the Contractor's operation and/or equipment shall be repaired and restored to their original condition at the Contractor's expense. The

The Contractor shall adhere to the conditions and stipulations contained in the Permit agreement(s) attached hereto and as described elsewhere in the Contract Documents.

The Contractor shall at all times have on site adequate number of emergency spill kits (at a minimum at each access location) to be used in the immediate response and clean-up of spills, leaks or other discharges of hazardous wastes or materials which potentially may be encountered during the Contractor's operations and work. Adequate number of trained employees familiar with the locations and contents of the spill kits and the procedure(s) to be followed in the event of spills or discharge shall be on site during all construction activity.

All cost associated with the above, and the environmental requirements specified elsewhere in the Contract Documents, shall be included in the various items of work in the contract.

26. TEMPORARY USE AGREEMENTS

The following private properties are available for the Contractor's use in gaining access to perform the work in accordance with the Contract Documents.

- Rough Point, Bellevue Avenue, AP 38, Lot 26, Newport Restoration Foundation
- Rosecliff, Bellevue Avenue, AP 37, Lot 11, The Preservation Society of Newport County

The Contractor shall adhere to the conditions and stipulations contained in the Contract Documents. If the Contractor chooses alternate construction access locations, copies of the temporary use agreements with the affected property owners shall be provided to the Engineer prior to commencing the work.

The Contractor shall be responsible for obtaining any and all permits necessary, should the Contractor choose to utilize or access work areas from locations other than those access/work locations already approved. The Contractor shall prepare and submit a plan with a detailed description of the locations and all anticipated activities proposed outside of the already permitted limits of disturbance (at least 14 days in advance of planned activities) for review and approval. Complete copies of any permits obtained by the Contractor must be included with the submittal. The Engineer will review such submittals in consultation with the RIDOT Cultural Resources and Natural Resources Units for potential impacts to historic and natural resources. The RIDOT Cultural Resources Unit will coordinate the review of all submittals with the Rhode Island Historical Preservation & Heritage Commission before any action is taken. Any proposed access in the vicinity of Locations 20, 21, and/or Sheep Point, will require RIDOT coordination with the RIDEM Natural Heritage Program regardless of agreements between the Contractor and any adjacent landowner.

Procurement of alternate construction access locations shall be at no additional cost to the State.

SPECIFICATIONS – JOB SPECIFIC

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CODE: 206.9901 COMPOST FILTER SOCK

See Section 206 Perimeter Erosion Controls from the Compilation of Approved Specifications (1/2011). For the description see 206.01.4 Compost Filter Sock; for materials see 206.02.4 Compost Filter Sock; for Construction Methods see 206.03.4 Compost Filter Sock; for Method of Measurement see 206.04.4 Compost Filter Sock; and for Basis of Payment see 206.05.4.

Haybales and silt fence are not acceptable alternatives for the Compost Filter Socks on this project.

size and type of equipment and/or personnel required for access to these construction sites prior to submitting a bid. It shall be the Contractor's responsibility to make provisions for any and all construction access to ensure that all operations are conducted in compliance with the contract documents.

Except for the two properties for which Temporary Use Agreements have been obtained, the Contractor shall not at any time encroach upon adjacent private properties and shall at all times operate within the permit restrictions. The Contractor shall also be responsible for obtaining any and all permits necessary for construction access areas other than those for which permits have been obtained (Refer to paragraph 26 of the CS pages).

Should the Contractor choose to use the available construction access areas shown on the plans, the following items of work shall be performed:

- Repair, restore or replace pavement, sidewalk, granite curb, sidewalk and driveway edging and any other items damaged or modified and perform all items of work necessary to return the construction access area to its original and pre-existing conditions. At the Preservation Society of Newport property (Rosecliff), after the completion of the work, the access drive (consisting of the 6" stone bed and the geotextile filter fabric) shall be restored to good condition and left in place
- Repair, restore, or replace in kind all fencing.
- Strip and stockpile (and remove, if necessary) soil as required to construct temporary access and work areas. Existing loam shall be reused where possible, and shall be properly screened to remove stones, sod, and other deleterious material from the soil mixture.
- Install all necessary erosion controls and tree, shrub and other landscape protection as indicated on the Drawings or as directed by the Engineer. Erosion controls and temporary protection devices shall be removed and disposed upon completion of access area restoration.
- Trim trees and other vegetation as required, under the supervision of the property owners and Engineer.
- Except at the Newport Restoration Foundation (NRF), re-establish lawn areas by loam and seeding with a comparable seed mixture in accordance with the applicable provisions of Section L and M of the Rhode Island Standard Specifications for Road and Bridge Construction, including all revisions. The loam source shall be approved by the Owner prior to delivery.

- Remove, stockpile and reset all parking, road and other signs as required to provide construction access to the work locations.
- Remove and dispose in its entirety the armor stone construction access areas in the water. This work shall be completed 1) as soon as it is determined that the access is no longer needed and the work is inspected and approved by the Engineer, and 2) before the path is open to the public.
- Perform all other incidental work necessary to provide temporary access to the work locations, and to restore the affected areas after completion of the work.
- **Refer to the Appendix of this Special Provision for the supplemental requirements specific to the Newport Restoration Foundation (Rough Point) property.**

All work at the Preservation Society of Newport (Rosecliff), as defined in Code 12.108.1000, shall be completed by June 1, 2013.

All work at the Newport Restoration Foundation (Rough Point), as defined in Code 12.108.1000, shall be completed by June 21, 2013.

The only material which has been approved for use for the construction access areas in the water is 4 Ton armor stone (meeting the requirements under the "MATERIALS" Section of Code 920.9907/920.9908, except for color, texture and geological composition). The use of any other material shall require a permit modification and approval by RIDEM, CRMC, and ACOE. All work associated with a permit modification shall be at the Contractor's expense. There shall be no claims by the Contractor for additional payment, nor shall there be an extension of the project Completion Dates for delays resulting from such permit modifications.

All temporary access gates shall remain locked at all times when there is no construction activity (such as after work hours).

The Newport Restoration Foundation has plans to have contractor work performed on their property at the same time as this project. The NRF Contractor shall require access through the fenced off temporary construction work area with gates. It shall be the Contractor's responsibility to coordinate, cooperate, and schedule work with the Engineer, other contractors, property owners and applicable local authorities, so as to minimize impacts to ongoing construction project activities and schedules.

The Contractor shall take all necessary measures to ensure that stockpiled material and items are protected and not damaged during the duration of the project. Any stockpiled material damaged, stolen or missing shall be replaced in kind, by the Contractor at no

CODE 212.2000 MAINTENANCE AND CLEANING OF EROSION AND POLLUTION CONTROLS

DESCRIPTION: **Subsection 212.03.2; Other Requirements, a. Perimeter Controls, Check Dams and Storm Drain Protection**, of the Standard Specifications requires that damaged controls shall be repaired or replaced after each storm or as directed by the Engineer. This shall include the Contractor designating a point of contact for erosion and pollution control issues. The Contractor shall also have the capability of installing additional lengths of Compost Filter Sock within 24 hours of notification by the Engineer that corrective action is required. This may be accomplished by having a subcontractor on-call, or by maintaining a stockpile of the material on site.

Subsection 212.03.3; Failure to Maintain Erosion and Pollution Controls, of the Standard Specifications requires that a daily charge be deducted from monies due the Contractor in the event the Engineer decides that erosion and pollution controls are not in place or have not been adequately maintained. This shall include the failure to comply with the Storm Water Pollution Prevention Plan (SWPPP) provisions. Also, the Contractor shall sign the SWPPP as the Operator at the time the Contract is signed acknowledging that he understands the terms and conditions of the SWPPP and agrees to follow the Best Management Practices described in it. The Contractor shall accept responsibility, as Operator, for proposing SWPPP amendments, including different and/or additional BMP's where needed based on site conditions. The Contractor shall be held responsible for any and all cost associated with fines and clean up activities, over and above the penalty assessed herein resulting from contractor failure in this regard. Any and all work stoppage resulting from the Contractor's failure to maintain erosion controls shall be solely the responsibility of the Contractor and shall not be subject to claim.

For the first violation the charge for this Contract will be \$1,000.00.

For the second violation the charge for this Contract will be \$5,000.00.

For the third and following violations the charge for this Contract will be \$10,000.00 per day.

CODE 303.9901 STONE DUST WALK

DESCRIPTION: This item of work shall consist of furnishing, placing, shaping and compacting stone dust specified for the walks to the limits shown on the plans and details included with the contract documents and the requirements of the Rhode Island Standard Specifications for Road and Bridge Construction.

MATERIALS: Materials used shall conform to the following gradation:

- A. Blue gray, granite type coarse stone sand conforming to the following gradation requirements:

<u>Sieve Size</u>	<u>Percent Passing</u>
3/8"	100%
#4	96 - 100
#8	80 - 96
#16	50 - 80
#30	20 - 50
#50	10 - 20
#100	0 - 10

CONSTRUCTION METHODS: The stone dust walk shall be trimmed and fine graded and properly compacted in accordance with Subsection 301.03.2 of the Rhode Island Standard Specifications.

The fill under the stone dust walk shall be trimmed and fine graded and properly compacted prior to placement of the filter fabric. Measurement and payment for trimming, fine grading and compacting the subbase shall be included under Item Code 204.0100 "TRIMMING AND FINE GRADING".

METHOD OF MEASUREMENT: Item 301.9901 "Stone Dust Walk" will be measured for payment by the "Cubic Yards" of the material actually placed and compacted in accordance with the Contract Documents and/or as directed by the Engineer.

BASIS OF PAYMENT: The accepted quantity of "STONE DUST WALK" will be paid for at its respective contract unit price per "Cubic Yards", as listed in the Proposal. The price so stated shall constitute full and complete compensation for all labor, material, tools, and equipment, and all incidentals required to complete the work as described in

CODE 401.99

CLASS 9.5 HOT MIX ASPHALT

DESCRIPTION:

Class 9.5 shall conform to the requirements of the RI Standard Specifications for Road and Bridge Construction with the following exceptions and modifications.

MATERIALS:

Aggregate. The aggregate shall conform to the 3 to <10 million ESAL requirements of Table 5 in AASHTO M 323. No more than 10% of the aggregate shall be natural sand. All aggregate properties of Section M.03 shall apply.

Performance Graded Binder. The binder shall meet the requirements of PG 64-28, Grade S as specified in AASHTO M 320 and MP 19. The contractor may use an approved warm mix additive (WMA) at a dosage rate recommended by the manufacturer. Only chemical or organic WMA's may be used. Mechanical water injection will not be allowed. If a WMA is used it shall be provided at no additional cost to the State.

Mix Design. HMA mixes shall conform to AASHTO M 323, "Standard Specification for Superpave Volumetric Mix Design". The design procedure shall follow AASHTO R 35 "Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt (HMA)". The design specifications found in AASHTO M 323 shall supersede those found in the Standard Specifications for Road and Bridge Construction. A mix design using PG64-28 Grade S shall be used to determine the design binder content. The following specific requirements and exceptions to AASHTO M 323 shall apply.

- a. N_{initial} shall be 6, N_{design} shall be 50 and N_{max} shall be 75 gyrations.
- b. A moisture susceptibility test will not be required.
- c. The mix shall be designed at 4% voids.
- d. The VMA shall be greater than or equal to 16.5%.
- e. The VFA shall be 70 to 80 percent.
- f. The mix shall be coarse graded as defined in Section 6.1.3 of AASHTO M 323.
- g. The dust to binder ratio ($P_{0.075}/P_{\text{be}}$) shall be 0.5 – 1.0. The design effective binder content shall be used to calculate this ratio.

- h. No RAP will be allowed in the mix.
- i. In addition to the sieves listed in Table 3 of AASHTO M 323, the 0.600 mm, 0.300 mm and 0.150 mm sieves will be required. The 50.0 mm and 37.5 mm sieves will not be required.

The following procedures shall be adhered to for the mix design:

- Three trial blends shall be submitted and accepted before beginning the mix design procedure.
- All trial mixture data and calculations determined for Section 9 of AASHTO R 35 shall be submitted to the Engineer. The Engineer will determine which trial mixture shall be used for the mix design procedure.
- After the mix design is completed it shall be submitted to the Engineer for acceptance.
- The correction factors for the ignition furnace in the plant lab shall be provided.

The gyratory cores and Rice (AASHTO T 209) samples at the design binder content shall be submitted to the Engineer.

A successful plant trial batch shall be performed before production of the HMA begins.

CONSTRUCTION METHODS:

Plant Laboratory. In addition to the requirements of Section 930, the contractor provided lab shall be equipped with the following:

Gyratory compactor conforming to AASHTO T 312 and two molds.

All equipment required to determine the theoretical maximum specific gravity in accordance with AASHTO T 209 Test Method A and Section 13.1. A metal pycnometer and electronic digital vacuum gauge shall also be provided.

All sieves required for the mix design process.

Facilities and equipment to perform a wet-wash in accordance with AASHTO T-30 and a faucet spray hose shall be provided.

Mix Production. Samples will be taken at the plant every 600 tons. The following mix production tolerances shall apply:

- a. The air voids (V_a) shall be 3.0 – 5.0 percent.

The following tolerances for gradation shall apply:

12.5mm	100%
9.5mm	90% - 100%
4.75mm	90% max
2.36mm	Established by the mix design $\pm 5\%$
0.075mm	Greater than or equal to 2.0%

In-place density shall be 92% of the theoretical maximum density obtained at the plant.

METHOD OF MEASUREMENT:

Subsection 401.04 of the RI Standard Specifications for Road and Bridge Construction will be used as the method of measurement.

BASIS OF PAYMENT:

Subsection 401.05 of the RI Standard Specifications for Road and Bridge Construction will be used as the basis of payment.

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CODE 920.9904 EROSION CONTROL MAT

DESCRIPTION: This item of work shall consist of furnishing and placing a semi-permanent erosion control mat (blanket) on prepared and sound embankment and re-vegetated slopes surfaces within the limits and locations indicated on the Plans or as directed by the Engineer. The work shall be performed as detailed on the contract drawings and in accordance with these Special Provisions.

MATERIALS: The extended-term double net erosion control blanket shall be a machine-produced 100% biodegradable blanket of 70% agricultural straw and 30% coconut fiber with a functional longevity of at least 18 months. (Note: functional longevity may vary depending upon climatic conditions, soil, geographical location, and elevation). The blanket shall be of consistent thickness with the straw and coconut evenly distributed over the entire area of the mat. The blanket shall be covered on the top and bottom sides with 100% biodegradable woven natural organic fiber netting. The top netting shall consist of machine directional strands formed from two intertwined yarns with cross directional strands interwoven through the twisted machine strands (commonly referred to as a Leno weave) to form an approximate 0.5 x 1.0 inch (1.27 x 2.54 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread.

The blanket shall meet requirements established by the Erosion Control Technology Council (ECTC) Specification and the US Department of Transportation, Federal Highway Administration's (FHWA) Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03 Section 713.17 as a type 3.B Extended-term Erosion Control Blanket.

The Blanket can consist of installation staple patterns clearly marked on the erosion control blanket with environmentally safe paint. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches from the edge) as an overlap guide for adjacent mats. Manufacturers must specify staple pattern for specific material based on site conditions.

Material Content		
Matrix	70% Straw Fiber	0.35 lbs/square yard
	30% Coconut Fiber	0.15 lbs/square yard
Nettings	Top - Leno Woven 100% Biodegradable organic jute	9.3 lb/ 1000 square feet
	Bottom – 100% biodegradable organic jute fiber	7.7 lb/ 1000 square feet
Thread	Biodegradable	

Index Value Properties:

Property	Test Method	Typical
Thickness	ASTM D6525	0.28 in
Resiliency	ECTC Guidelines	86%
Water Absorbent	ASTM D1117	169%
Mass/Unit Area	ASTM 6475	9.66 oz/square yard
Swell	ECTC Guidelines	46%
Smolder Resistance	ECTC Guidelines	Yes
Stiffness	ASTM D1388	0.42 oz-inch
Light Penetration	ECTC Guidelines	14.1%
Tensile Strength – MD	ASTM D6818	164.4 lbs/ft
Elongation – MD	ASTM D6818	7.2%
Tensile Strength – TD	ASTM D6818	226.8 lbs/ft
Elongation - TD	ASTM D6818	10.1%

Bench Scale Testing* (NTPEP):

Test Method	Parameters	Results
ECTC Method 2 Rainfall	50 mm(2in)/hr for 30 min	SLR** = 9.98
	100 mm(4in)/hr for 30 min	SLR** = 13.01
	150 mm(6in)/hr for 30 min	SLR** = 16.95
ECTC Method 3 Shear Resistance	Shear at 0.50 inch soil loss	2.27 lbs/square feet
ECTC Method 4 Germination	Top Soil, Fescue, 21 day incubation	723% improvement of biomass
*Bench Scale tests should not be used for design purposes		
** Soil Loss Ratio = Soil loss with Bare Soil/Soil Loss with RECP (Soil loss is based on regression analysis)		

Performance Design Values:

Maximum Permissible Shear Stress	
Un-vegetated Shear Stress	2.10 lbs/square feet
Un-vegetated Velocity	8.00 ft/s

Slope Design Data: C Factors			
Slope Length (L)	Slope Gradients (S)		
	≤3:1	3:1 – 2:1	≥2:1
Less than or equal to 20 ft	0.001	0.029	0.063
20-50 ft	0.051	0.055	0.092
Greater than or equal to 50ft	0.10	0.080	0.120

Roughness Coefficients –Unvegetated	
Flow Depth	Manning's n
<0.50 ft	0.050
0.50 – 2.0 ft	0.050 – 0.018
≥2.0 ft	0.018

CONSTRUCTION METHODS: The Contractor shall place erosion control blankets in accordance with Section L.05.03 of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction.

METHOD OF MEASUREMENT: Item 920.9904 "EROSION CONTROL MAT" will be measured for payment by the "Square Yards" in the face area of the vegetated surface in accordance with the Contract Documents and/or as directed by the Engineer. Overlapped, trenched and extended portion of the mat shall also not be measured for payment.

BASIS OF PAYMENT: The accepted quantity of Item "EROSION CONTROL MAT" will be paid for at its respective contract unit price per "Square Yards" as listed in the Proposal. The price so stated shall constitute full and complete compensation for all labor, material, tools, and equipment, and all other incidentals required to complete the work as described in these Special Provisions and elsewhere in the Contract Documents, complete and accepted by the Engineer.

INDEX OF DRAWINGS

<u>SHEET No.</u>	<u>DESCRIPTION</u>
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2	KEY PLAN
3	GENERAL NOTES & LEGEND - JOB SPECIFIC
4-6	STANDARD DETAILS SHEET 1-3
7-22	GENERAL PLANS SHEET 1-16
23	PLAN AND ELEVATION LOCATION 5
24	SECTIONS AND NOTES LOCATION 5
25	PLAN, ELEVATION & SECTIONS: LOCATIONS W3, 9,10 & 14
26	SECTIONS: LOCATIONS 11, 12 & 13
27	PLAN & ELEVATIONS LOCATION 13
28	SECTIONS: LOCATION 16
29	SECTIONS: LOCATIONS 26 & 27
30	LANDSCAPE PLAN LOCATIONS L-3 & 14 
31	DECORATIVE RAILING & FENCE DETAILS
32	AVAILABLE CONSTRUCTION ACCESS LOCATION AT LEDGE ROAD
33	AVAILABLE CONSTRUCTION ACCESS LOCATION AT ROUGH POINT
34	AVAILABLE CONSTRUCTION ACCESS LOCATION AT ROSECLIFF
35	AVAILABLE CONSTRUCTION ACCESS LOCATION AT RUGGLES AVENUE
36	STANDARD PLAN SYMBOLS & STANDARD LEGEND
37	STANDARD NOTES -1
38	STANDARD NOTES - 2

COMMONWEALTH ENGINEERS & CONSULTANTS, INC. 400 SMITH STREET PROVIDENCE, RI 02908	TITLE OF SKETCH TITLE SHEET	R.I. Contract No. 2013-DF-043	Sketch No. 1
	MARCH 11, 2013	ADDENDUM NUMBER 2	Revision to Sheet No. 1

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
025	302.0100 Cont.	LOCATION 5				
		LOCATION 5		14.00	0028	01
		LOCATION 7				
		LOCATION 7		19.00	0028	01
		LOCATION W2				
		LOCATION W2		12.00	0028	01
		LOCATION W3				
		LOCATION W3		87.00	0028	01
Item 302.0100 Total:				214.00		
026	303.9901	STONE DUST WALK	CY			
		LOCATION 16				
		LOCATION 16		61.00	0028	01
		LOCATION 7				
		LOCATION 7		8.00	0028	01
		LOCATION W3				
		LOCATION W3		30.00	0028	01
Item 303.9901 Total:				99.00		
027	401.9901	BITUMINOUS SIDEWALK CLASS 9.5 HMA	TON			
		LOCATION 1				
		LOCATION 1		1.00	0028	01
		LOCATION 23				
		LOCATION 23		1.00	0028	01
Item 401.9901 Total:				2.00		
028	603.1000	CONTROLLED LOW STRENGTH MATERIAL	CY			
		LOCATION 13				
		LOCATION 13		100.00	0028	01
		LOCATION 26				
		LOCATION 26		68.00	0028	01

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028	603.1000 Cont.	LOCATION 27				
		LOCATION 27		19.00	0028	01