

Appendix I

Draft Storm Water Pollution
Prevention Plan





DiPrete Engineering

DRAFT STORM WATER POLLUTION PREVENTION PLAN

LONG-TERM POLLUTION PREVENTION PLAN & LONG-TERM OPERATION & MAINTENANCE



DiPrete Engineering

2 Stafford Court

Cranston, Rhode Island 02920

**BIWF and BITS
Substations**

Deepwater Wind Block Island, LLC and Deepwater
Wind Block Island Transmission, LLC

May 2012

TABLE OF CONTENTS

	Page
I. Overview	1
II. Storm Water Pollution Prevention Plan: Construction Period	1
1. Erosion and Sedimentation Control Plan	1
2. Structural Practices	1
a. Hay bale Barrier Controls	1
b. Silt Fence Barrier Controls	2
c. Inlet Protection	3
d. Surface Roughening	4
e. Construction Entrance	4
f. Temporary Berms, Swales, & Sedimentation Basins	5
3. Stabilization Practices	5
a. Temporary Seeding	5
b. Mulching	6
c. Netting	7
d. Land Grading	7
e. Topsoiling	8
f. Preserving Natural Vegetation	8
g. Permanent Seeding	9
4. Dust Control	10
5. Non-Stormwater Discharges	10
6. Stockpiling Material	11
7. Stockpiling Equipment	11
8. Solid Waste Disposal	11
9. Material Management Plan	11
10. Temporary Sanitary Waste Disposal	13
11. Snow Management Plan	14
12. Inspection/Maintenance	14
Certification Statement	
Long-Term Pollution Prevention Plan	
Long Term Operation & Maintenance Plan	
BMP Inspection/Maintenance Task Schedule	
SWPPP Inspection Report	

I. Overview

Project Introduction: The project proponent (Deepwater Wind) proposes to use a portion of the existing Block Island Power Company (BIPCO) site, located in New Shoreham, Rhode Island, for a new electrical substation (Block Island Substation) and the expansion of the existing BIPCO substation. The Block Island Substation will facilitate transfer of electricity from a new offshore wind farm (the Block Island Wind Farm) to the Block Island electric grid and to a new transmission line, which will connect Block Island to the mainland electrical grid (the Block Island Transmission System). This transmission line will terminate on the Rhode Island mainland at either the Narragansett Switchyard or the Bonnet Shores Switchyard both located in Narragansett Rhode Island. Once the final locations are chosen and final design has been completed site-specific plans will be prepared.

Project Definition: The work proposed herein as Block Island Substation is defined as:

- Construction of substation/switchyard
- Installation of utility poles
- Minor expansion of the existing substation
- Installation of below ground utility trench
- Selective vegetative clearing for utility pole maintenance

Narragansett Switchyard is defined as:

- Construction of substation/switchyard
- Installation of utility poles
- Installation of below ground utility trench
- Selective vegetative clearing for utility pole maintenance

Or

Bonnet Switchyard is defined as:

- Construction of substation/switchyard
- Installation of utility poles
- Installation of below ground utility trench
- Selective vegetative clearing for utility pole maintenance

Purpose: This Draft Stormwater Pollution Prevention Plan (SWPPP) details the measures to be taken during construction to prevent stormwater pollution from leaving the site (defined above) and/or entering resource areas. This SWPPP has been prepared in accordance with the requirements the Rhode Island Pollutant Discharge Elimination System (RIPDES) permit program which is administered by the Rhode Island Department of Environmental Management (RIDEM). Contractors will be required to maintain compliance with the final SWPPP. Upon the completion of construction and once the permanent stormwater management system is fully functioning, Deepwater Wind will terminate the construction phase RIPDES permit and this plan will no longer apply. Post construction operations and maintenance is detailed in a separate plan entitled "Operations and Maintenance".

II. Storm Water Pollution Prevention Plan: Construction Period

The Storm Water Pollution Prevention Plan was developed in accordance with the following:

Rhode Island Department of Environmental Management, USDA Soil Conservation Service, and Rhode Island State Conservation Committee. "Rhode Island Soil Erosion and Sediment Control Handbook." 1989. Web. 2012.

http://www.dot.ri.gov/documents/enviro/stormwater/Soil_Erosion_Sediment_Control_Handbook.pdf

Rhode Island Department of Environmental Management, and Coastal Resources Management Council. "Rhode Island Stormwater Design and Installation Standards Manual" December 2010. Web. 2012.

<http://www.dem.ri.gov/pubs/regs/regs/water/swmanual.pdf>

Rhode Island Department of Transportation. "Standard Specifications for Road and Bridge Construction" Amended December 2010. Web. 2012.

http://www.dot.state.ri.us/documents/engineering/BlueBook/Bluebook_2010.pdf

United States Environmental Protection Agency. "Storm water Management for Construction Activities, Developing pollution Prevention Plan, and Best Management Practices." 2012. Web. March 2012. <http://www.epa.gov/>

1. Erosion and Sedimentation Control Plan

Erosion and Sedimentation will be controlled at the site by utilizing Structural Practices, Stabilization Practices, and Dust Control as outlined within the proposed limit of work on the attached plans.

2. Structural Practices

Hay bales and/or silt fence barriers shall be installed as specified on the final engineering design drawings in accordance with the following guidelines as detailed on the attached site plans:

a. Hay bale Barrier Controls – When required, a hay bale barrier will be constructed along downward slopes abutting wetlands, proposed roadways, retaining walls and stockpile areas. These controls will be installed prior to any soil disturbance.

Hay Bale Barrier Design/Construction Requirements

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

- 1) All individual bales should be either wire-bound or string-tied. Straw bales should be installed so that the bindings are oriented around the sides rather than along the tops and bottoms of the bales in order to prevent deterioration of the bindings. The barrier should be entrenched and backfilled. A trench

should be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. The trench must be deep enough to remove all grass and other materials which might allow underflow. After the bales are staked and chinked (filled by wedging), the excavated soil should be backfilled against the barrier. Backfill soil should conform to the ground level on the downhill side and should be built up to 4 inches against the uphill side of the barrier.

- 2) Each bale should be securely anchored by at least 2 stakes or re-bars driven through the bale. The first stake in each bale should be driven toward the previously laid bale to force the bales together. Stakes or re-bars should be driven deep enough into the ground to securely anchor the bales. For safety reasons, wooden stakes should not extend above the bales but should be driven in flush with the top of the bale.
 - 3) The gaps between the bales should be chinked (filled by wedging) with straw to prevent water from escaping between the bales. Wedging must be done carefully in order to not separate the bales.
 - 4) Hay bale barriers should be removed when they have served their usefulness, but not before the upslope areas have been permanently stabilized.
- b. Silt Fence Barrier Controls** - When required, a silt fence will be constructed along downward slopes adjacent to wetlands, abutting the proposed roadways, retaining walls and stockpile areas. This control will be installed prior to any soil disturbance.

Silt Fence Barrier Design/Construction Requirements

Silt Fence should be placed in a single row, lengthwise on the contour, with the ends of adjacent fence tightly abutting one another.

- 1) Dig a small toe-in trench along the line where silt fence is to be placed. The trench should be a minimum of 6 inches deep and 6 inches wide. Place the excavated material on the front or upstream side of the trench to facilitate backfilling later.
- 2) Drive the fence posts into the back or downstream side of the trench. The posts should be driven so that at least 1/3 of the height of the post is in the ground. When installing a pre-fabricated silt fence with fabric attached to the posts, the posts should be driven so that at least 6 inches of fabric will be buried in the ground. Place posts between 2 feet and 10 feet apart depending on the anticipated volume of sediment runoff at the site. Most Pre-fabricated silt fence have posts spaced approximately 7 to 10 feet apart, which is usually adequate. If there is a low spot where most sediments tend to collect, closer spacing may be required and pre-fabricated silt fence can be backed up with extra posts. Posts constructed of hardwood or metal with sufficient strength to support a full load of deposited sediment are recommended.

-
- 3) If pre-fabricated silt fence is not being used the fabric must be attached to the posts. The appropriate method of attaching the fabric to the posts depends upon the type of fabric used. If using a fabric with sewn pockets, insert the posts into the pockets before driving them to ensure proper fit and spacing. Fabrics with a reinforcing cord sewn in the top hem should be slit in the hem at the location of the post. Be sure to not slit the cord. Pull cord out slightly (approximately 4 to 6 inches), twist into a loop and place tightly over the top of the post. Make the loop so that tension on the Silt Fence will tighten the loop around the post.
 - 4) Backfill the trench with the excavated material and tamp down so that at least 6 inches of the fabric is securely toed into the ground to prevent undermining.
 - 5) Silt fences should be inspected in accordance with specifications below and the Project specific Soil Erosion and Sediment Control Plan. Large build ups of sediment must be removed so that the silt fence can continue to function as intended. As an alternative, an additional row of silt fence may be installed up slope from the initial row.

Hay Bale or Silt Fence Barrier Inspection/Maintenance

- 1) Hay bale and/or silt fence barriers should be inspected within 24 hours of a storm event or 7 days, whichever comes first. A storm event is defined as any storm of 0.25 inches of rain or greater in a 24 hour period. Inspections shall occur at least daily during prolonged rainfall.
- 2) Close attention should be paid to the repair of damaged bales/fence, undercutting beneath bales/fence, and flow around the ends of the bales/fence.
- 3) Necessary repairs to barriers or replacement of bales/fence should be accomplished promptly.
- 4) Sediment deposits should be checked after each runoff-producing rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.
- 5) Any sediment deposits remaining in place after the straw bale/fence barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.
- 6) Contractor shall maintain all sediment barriers throughout construction. Extreme care shall be taken to ensure that sediments do not spill over the sediment barrier.
- 7) All hay bales, silt fence, or other temporary protection shall remain in place until an acceptable stand of grass or approved ground cover is established. An acceptable stand of grass or ground cover shall be defined as a non erodible surface.

c. Inlet Protection - Inlet Protection (silt sack or approved equal) will be utilized around the catch basin grates located adjacent to the proposed construction entrance. The inlet protection will allow the storm drain inlets to be used before final stabilization. This structural practice will allow early use of the drainage system if the detention basins are already stabilized.

Inlet Protection Inspection/Maintenance Requirements

- 1) All trapping devices and the structures they protect should be inspected after every rain storm and repairs made as necessary.
- 2) Sediment should be removed from the trapping devices after the sediment has reached a maximum depth of one-half the depth of the trap.
- 3) Sediment should be disposed of in a suitable area and protected from erosion by either structural or vegetative means.
- 4) Temporary traps should be removed and the area repaired as soon as the contributing drainage area to the inlet has been completely stabilized.

d. Surface Roughening - Roughening surface slopes is a temporary measure that will improve the success of vegetative stabilization, encourage water infiltration and decreases runoff velocity. The grooved slopes create irregularities in the soil surface to catch rainwater and retain lime, fertilizer, and seed. The soil surface is roughened by the creation of horizontal grooves or slight depressions (1-3" deep and 6-15" apart) parallel to the slope contour. Roughening can be used with both seeding and planting and temporary mulching to stabilize an area.

Surface Roughening Design/Construction Requirements

- 1) Roughening should be done as soon as possible after the vegetation has been removed from the slope and grading activities have ceased.
- 2) Roughening methods include stair-step grading, grooving, and tracking.
- 3) Graded areas with slopes greater than 3:1 but less than 2:1 should be roughened before seeding. Graded areas steeper than 2:1 should be stair-stepped with benches.
- 4) Areas which will be mowed (should have slopes less steep than 3:1) may have small furrows left by disking, harrowing, raking, or seed-planting machinery operated on the contour. The areas need to be smoothed.
- 5) It is important to avoid excessive compacting of the soil surface when scarifying. Tracking with bulldozer treads is preferable to not roughening at all, but is not as effective as other forms of roughening because the soil compaction inhibits vegetation growth and causes higher runoff speed.

Surface Roughening Inspection/Maintenance

- 1) Surface roughened areas should be seeded as quickly as possible.
- 2) Regular inspections should be made. If rills appear, they should be regraded and reseeded immediately.

e. Construction Entrance – Construction traffic shall be limited to the existing access roads shown on the site plans, staging areas, and areas to be graded. A stone stabilization pad is to be installed at the existing site entrance to reduce the tracking or flowing of sediment onto the public right of way. Please reference the site plans for additional details.

Construction Entrance Construction Requirements

- 1) The construction entrances as shown on the site plans shall conform to Rhode Island Department of Transportation Standard 9.9.0 and Section 211 “Construction Access” of the Rhode Island Department of Transportation Standard Specifications.

Construction Entrance Inspection/Maintenance

- 1) The construction entrances as shown on the site plans shall be maintained by the contractor throughout construction.
- 2) Maintenance shall include top dressing with additional stone or additional length as conditions demand or as directed by the engineer
- 3) All sediments spilled, dropped, washed, or tracked on the public right of way must be removed immediately by the contractor.

e. Temporary Swales, Berms, and Sedimentation Basins – The contractor shall install and maintain Temporary Swales, Berms, and Sedimentation Basins as required and/or as directed by the engineer. Reference the “Rhode Island Soil Erosion and Sediment Control Handbook” prepared by the USDS Soil Conservation Service 1989, as a guide.

3. Stabilization Practices

Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased, with the following exceptions:

- Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
- Where construction activity will resume on a portion of the site within 21 days from

when activities ceased, (e.g. the total time period construction activity is temporarily ceased is less than 21 days) then stabilization measures do not have to be initiated on that portion of the site by the 14th day after construction activity temporarily ceased.

a. Temporary Seeding - Temporary seeding will allow a short-term vegetative cover on disturbed site areas that may be in danger of erosion. The temporary seeding will be done at stock piles and disturbed portions of the site where construction activity will temporarily cease for at least 21 days. The temporary seeding will stabilize cleared and unvegetated areas that will not be brought to final grade for several weeks or months.

Temporary Seeding Procedures

- 1) Seeding may be done between March 15th and November 15th, with approval of the owner's representative, according to Rhode Island Department of Transportation Standard Specification, L.02.03.1. If seeding is done in the months of July and August, irrigation may be required. If seeding is done between October 1st and March 31st, mulching should be applied immediately after seeding.

The temporary seeding design mix shall be comprised of the following:

<u>Type</u>	<u>% By Weight</u>
Annual Rye Grass	40
Perennial Rye Grass	60

The New England Erosion Control/Restoration seed mix shall be comprised of the following:

<u>Type</u>	<u>% By Weight</u>
Upland Bentgrass	1.0
Creeping Bentgrass	1.0
Big Bluestem	8.0
New England Aster	1.0
Fox Sedge	8.0
Virginia Wild Rye	28.0
Boneset	1.0
Grass Leaved Goldenrod	1.0
Creeping Red Fescue	24.0
Soft Rush	0.5
Sensitive Fern	1.0
Switch Grass	8.0
Little Bluestem	15.0
Green Bullrush	1.0
Wool Grass	0.5
Blue Vervain	1.0

The general purpose seed mix shall be URI #2 and comprised of the following:

<u>Type</u>	<u>% By Weight</u>
Creeping Red fescue	40
Improved Perennial Rye Grass	20
Improved Kentucky Bluegrass	30
Kentucky Bluegrass	10

- 2) Before seeding, install structural practice controls as defined in Section 2 above.
- 3) The seedbed should be firm with a fairly fine surface. Perform all cultural operations across or at right angles to the slope. A minimum of 2 to 4-inches of tilled topsoil is required. All topsoil shall comply with Rhode Island Department of Transportation Standard Specification M.18.01.
- 4) Apply uniformly 2 tons of ground limestone per acre (100 lbs. per 1,000 sq.ft.) or according to soil test. Apply uniformly 10-10-10 analysis fertilizer at the rate of 400 lbs. per acre (14 lbs. Per 1,000 sq.ft.) or as indicated by soil test. Forty percent of the nitrogen should be in organic form. Work in lime and fertilizer to a depth of 4-inches using any suitable equipment.
- 5) Use an effective mulch, such as clean grain straw; tacked and/or tied with netting to protect seedbed and encourage plant growth.

Temporary Seeding Inspection/Maintenance

- 1) Inspect within 6 weeks of planting to see if stands are adequate. Check for damage within 24 hours of the end of a heavy rainfall, defined as a 2-year storm event (i.e., 3.2 inches of rainfall within a twenty-four hour period). Stands should be uniform and dense. Fertilize, reseed, and mulch damaged and sparse areas immediately. Tack or tie down mulch as necessary.
- 2) Seeds should be supplied with adequate moisture. Furnish water as needed, especially in abnormally hot or dry weather. Water application rates should be controlled to prevent runoff.

b. Mulching - Mulching will provide immediate protection to exposed soils during the period of short construction delays, or over winter months through the application of plant residues, or other suitable materials, to exposed soil areas. In areas which have been seeded either for temporary or permanent cover, mulching should immediately follow seeding. On steep slopes, mulch must be supplemented with netting. The preferred mulching material is straw.

Mulch (Hay or Straw) Materials and Installation

- 1) Straw has been found to be one of the most effective organic mulch materials. The specifications for straw are described below, but other material may be appropriate.

The straw should be air-dried; free of undesirable seeds & coarse materials. The application rate per 1,000 square feet is 90-100 lbs. (2-3 bales) and the application rate per acre is 2 tons (100-120 bales). The application should cover about 90% of the surface. The use of straw mulch is appropriate where mulch is maintained for more than three months. Straw mulch is subject to wind blowing unless anchored, is the most commonly used mulching material, and has the best micro-environment for germinating seeds.

Mulch Maintenance

- 1) Inspect after rainstorms to check for movement of mulch or erosion. If washout, breakage, or erosion occurs, repair surface, reseed, remulch, and install new netting.
- 2) Straw or grass mulches that blow or wash away should be repaired promptly.
- 3) If plastic netting is used to anchor mulch, care should be taken during initial mowings to keep the mower height high. Otherwise, the netting can wrap up on the mower blade shafts. After a period of time, the netting degrades and becomes less of a problem.
- 4) Continue inspections until vegetation is well established.

c. Netting - Netting such as jute netting, nylon mesh, North American Green erosion control blankets, or equal will be used in combination with other practices such as mulching to stabilize slopes.

Netting Installation

- 1) Netting and matting require firm, continuous contact between the materials and the soil. If there is no contact, the material will not hold the soil and erosion will occur underneath the material.

Netting Inspection/Maintenance

- 1) In the field, regular inspections should be made to check for cracks, tears, or breaches in the fabric. The appropriate repairs should be made.

d. Land Grading - Grading on fill slopes, cut slopes, and stockpile areas will be done with full siltation controls in place.

Land Grading Design/Construction Requirements

- 1) Areas to be graded should be cleared and grubbed of all timber, logs, brush, rubbish, and vegetated matter that will interfere with the grading operation. Topsoil should be stripped and stockpiled for use on critical disturbed areas for establishment of vegetation. Cut slopes to be topsoiled should be thoroughly scarified to a minimum depth of 3-inches prior to placement of topsoil.

-
- 2) Fill materials should be generally free of brush, rubbish, rocks, and stumps. Frozen materials or soft and easily compressible materials should not be used in fills intended to support buildings, parking lots, roads, conduits, or other structures. All fill materials shall conform to Rhode Island Department of Transportation Standard Specifications Section 202.
 - 3) Earth fill intended to support structural measures should be compacted to a minimum of 95 percent of the Modified Proctor Test (ASTM D1557) density with proper moisture control, or as otherwise specified by the engineer responsible for the design. Compaction of other fills should be to the density required to control sloughing, erosion or excessive moisture content. Maximum thickness of fill layers prior to compaction should not exceed 12 inches.
 - 4) The uppermost one foot of fill slopes should be compacted to at least 85 percent of the Modified Proctor Test (ASTM D1557). This is usually accomplished by running heavy equipment over the fill.
 - 5) All disturbed areas should be free draining, left with a neat and finished appearance, and should be protected from erosion.

Land Grading Stabilization Inspection/Maintenance

- 1) All slopes should be checked periodically to see that vegetation is in good condition. Any rills or damage from erosion and animal burrowing should be repaired immediately to avoid further damage.
- 2) If seeps develop on the slopes, the area should be evaluated to determine if the seep will cause an unstable condition. Subsurface drains or gravel mulch may be required to solve seep problems. However, no seeps are anticipated.
- 3) Areas requiring vegetation should be repaired immediately. Slopes should be limed and fertilized as necessary to keep vegetation healthy. Control undesirable vegetation such as weeds and woody growth to avoid bank stability problems in the future.

e. Topsoiling - topsoiling will help establish vegetation on all disturbed areas throughout the site during the seeding process. Please reference the landscape plans for specific locations of grass and plants requiring topsoil. The soil texture of the topsoil to be screened loose, friable, fine sandy loam, or sandy loam as defined by USDA's Soil Conservation Service in the Soil Survey Manual issued in 1993. Organic Matter shall constitute not less than 5% nor more than 20% of the loam. All topsoil shall comply with Rhode Island Department of Transportation Standard Specification M.18.01.

Topsoiling Placement

- 1) Topsoil should not be placed while in a frozen or muddy condition, when the subgrade is excessively wet, or when conditions exist that may otherwise be detrimental to proper grading or proposed seeding.

-
- 2) Do not place topsoil on slopes steeper than 2:1, as it will tend to slip off.
 - 3) If topsoil and subsoil are not properly bonded, water will not infiltrate the soil profile evenly and it will be difficult to establish vegetation. The best method is to actually work the topsoil into the layer below for a depth of at least 6 inches.

f. Preserving Natural Vegetation - The trees to be saved will be clearly flagged or marked with a bright colored ribbon. If there is sufficient room, snow fencing will be set at the drip/spread line of the trees to be protected. Machinery will be kept away from tree roots. Within the immediate vicinity of the roadway, tree protection devices will be used.

g. Permanent Seeding - Permanent Seeding should be done after the final design grades are achieved. Seeding should be planted according to Rhode Island Department of Transportation Standard Specification L.02.03.1. Permanent seeding shall be done between April 1 to May 31 or August 15 to October 15. Seeding outside this time period may be only be completed with permission from the owner's representative. Native species of plants should be used to establish perennial vegetative cover on disturbed areas. The re-vegetation should be done early enough in the fall so that a good cover is established before cold weather comes and growth stops until the spring. A good cover is defined as vegetation covering 75 percent or more of the ground surface.

Permanent Seeding Seedbed Preparation

- 1) Over infertile or coarse-textured subsoil, it is best to utilize stockpiled topsoil re-spread over the finished slope at a minimum 2 to 6-inch depth and roll it to provide a firm seedbed. The topsoil shall comply with Rhode Island Department of Transportation Standard Specification M.18.01. If construction fill operations have left soil exposed with a loose, rough, or irregular surface, smooth with blade and roll.
- 2) Loosen the soil to a depth of 3-5 inches with suitable agricultural or construction equipment.
- 3) Areas not to receive topsoil shall be treated to firm the seedbed after incorporation of the lime and fertilizer so that it is depressed no more than ½-1 inch when stepped on with a shoe. Areas to receive topsoil shall not be firmed until after topsoiling and lime and fertilizer is applied and incorporated, at which time it shall be treated to firm the seedbed as described above.

Permanent Seeding Grass Selection/Application

- 1) Select an appropriate cool or warm season grass based on site conditions and seeding date. Apply the seed uniformly by hydroseeding, broadcasting or by hand. Uniform seed distribution is essential. On steep slopes, hydroseeding may be the most effective seeding method. Surface roughening is particularly important when preparing slopes for hydroseeding.

-
- 2) Lime and fertilize.
 - 3) Mulch the seedlings with straw applied at the rate of ½ tons per acre. Anchor the mulch with erosion control netting or fabric on sloping areas.

Permanent Seeding Inspection/ Maintenance

- 1) Frequently inspect seeded areas for failure and make necessary repairs and reseed immediately. Conduct a follow-up survey after one year and replace failed plants where necessary.
- 2) If vegetative cover is inadequate to prevent rill erosion, overseed and fertilize in accordance with soil test results.
- 3) If a stand has less than 40% cover, reevaluate choice of plant materials and quantities of lime and fertilizer. Re-establish the stand following seedbed preparation and seeding recommendations, omitting lime and fertilizer in the absence of soil test results. If the season prevents resowing, mulch or jute netting is an effective temporary cover.
- 4) Seeded areas should be fertilized during the second growing season. Lime and fertilize thereafter at periodic intervals, as needed.

4. Dust Control

Dust control will be utilized throughout construction, as needed. The following are methods of Dust Control that may be used on-site:

Vegetative Cover - The most practical method for disturbed areas not subject to traffic.

Sprinkling - The site may be sprinkled until the surface is wet. Sprinkling will be effective for dust control on haul roads and other traffic routes.

Stone - Stone will be used to stabilize construction roads; it will also be effective for dust control.

The general contractor will have an on-site water source to control dust.

5. Non-Stormwater Discharges

Non-stormwater discharges will be directed to recharge groundwater and to replenish wetland resource areas as follows:

- A) Water from line flushing will be conserved for recharge and replenishing, if in compliance with applicable regulations.
- B) Uncontaminated groundwater from de-watering excavations will be conserved for recharge and replenishing.

The project will comply with the E.P.A's Final General Permit for Construction De-watering Discharges, (N.P.D.E.S., Section 402 and 40 C.F.R. 122.26(b) (14) (x).

6. Stockpiling Material

Topsoil and subsoil from the site grading will be stockpiled in the material and staging area as shown on the final engineering design drawings.

Stockpile Material Construction Procedure

- 1) Topsoil and subsoil that are stripped will be stockpiled for later distribution on disturbed areas.
- 2) The stockpiles will be located as per the final engineering design drawings.
- 3) Either seed or cover stockpiles with clear plastic or other mulching materials within 7 days of the formation of the stockpile. The stockpiles must be stable and the side slopes should not exceed 2:1.
- 4) Sediment Fence/Hay Bale Barrier erosion control measures should be placed surrounding each stockpile.
- 5) As needed, the stockpiled topsoil and subsoil are to be redistributed throughout the site.

7. Stockpiling Equipment

All machinery, tools, and building materials will be stockpiled in the material and staging areas as shown on the final engineering design drawings and/or as directed by the owner's representative. This area must be kept orderly.

8. Solid Waste Disposal

This disposal of building materials and other construction site wastes will be managed carefully. Construction Wastes that may be encountered on site include the following:

- 1) Trees and shrubs removed during clearing and grubbing.
- 2) Packaging materials (including wood, paper, plastic, etc).
- 3) Scrap or surplus building materials (scrap metals, rubber, plastic and glass pieces, masonry products, and other solid waste materials).
- 4) Paints and paint thinners.

Construction Waste Disposal

Before construction begins, an area within the project limits will be designated as a waste collection area. A waste collection time will be arranged so that the containers do not overflow. In the event that a container does spill, cleanup will be provided immediately. The construction waste will be collected, removed, and disposed of only at authorized disposal areas. All waste shall be disposed of in a manner consistent with federal, state and local regulations.

9. Material Management Plan

An inventory, including Material Safety Data Sheets, will be kept of all reportable materials and all materials with a reportable quantity on site. There will be neat and orderly storage of hazardous materials. Regular garbage, rubbish, construction waste, and sanitary waste disposal will be employed.

There will be prompt cleanup of any spills, either liquid or dry materials. The following practices will be used to avoid problems associated with the disposal of hazardous materials.

- Check with local waste management authorities to determine what the requirements are for disposing of hazardous materials.
- Use the entire product before disposing of the container.
- Do not remove the original product label from the container, since it contains important information.
- If surplus products must be disposed, do not mix products together unless specifically recommended by the manufacturer.
- The correct method of disposal of hazardous materials varies with the product use. Follow the manufacturer's recommended method, which is often found on the label.

Hazardous Products: Hazardous Products may include but are not limited to paints, acids for cleaning masonry surfaces, cleaning solvents, and concrete curing compounds and additives. The following practices will help to avoid pollution of storm water by these products.

- Have equipment to contain and clean up spills of hazardous materials in the areas where these materials are stored or used.
- Contain and clean up spills immediately after they occur.
- Keep materials in a dry covered area.

Pesticides: Pesticides may include but are not limited to insecticides, rodenticides, and herbicides. The following practices should be utilized to reduce the risks of using pesticides.

- Handle the materials as infrequently as possible.
- Observe all applicable Federal, State, and local regulations when using, handling, or disposing of these materials.

Petroleum Products: Oil, gasoline, lubricants, and asphaltic substances such as paving materials are considered petroleum products. Petroleum products will most likely be used in areas where road construction of some type is occurring and at vehicle storage areas or areas of onsite fueling or equipment maintenance. The following practices should be utilized to reduce the pollution risks from using petroleum products.

- Have equipment to contain and clean up petroleum spills in fuel storage areas or on board maintenance and fueling vehicles.
- Where possible, store petroleum products and fuel vehicles in covered areas and construct dikes to contain any spills.
- Contain and clean up petroleum spills immediately.
- Preventive maintenance for onsite equipment should be done to prevent leakage. This may include checking for and fixing gas or oil leaks in construction vehicles on a regular basis.
- Proper application of asphaltic substances (see manufacturers' instructions) will also reduce the risk of a spill.

Fertilizers/Detergents: Fertilizers and detergents contain nutrients such as phosphorous and nitrogen which can contribute to water pollution. The following practices should be utilized to reduce the risks of

using fertilizers/detergent products.

- Limit the application of fertilizers to the minimum area and the minimum recommend amounts.
- Reduce the exposure of nutrients to storm water runoff by working the fertilizer deep into the soil (depth of 4 to 6 inches) instead of letting it remain on the surface.
- Apply fertilizer more frequently, but at lower application rates.
- Hydro-seeding where lime and fertilizers are applied to the ground surface in one application should be limited where possible.
- Limit the use of detergents onsite; wash water containing detergents should not be discharged into the storm water system.
- Apply fertilizer and use detergents only in the recommended manner and only in recommended amounts.

Concrete Trucks: Concrete trucks may be allowed to wash out or discharge surplus concrete or drum wash water on the site. However, this material must be disposed of in a manner that prevents contact between these materials and storm water runoff.

Spills: The Contractor will create a Spill Prevention and Response Plan that will be reviewed and approved by the Owner. The Spill Prevention and Response Plan will includes measures to stop the source of the spill, contain the spill, clean up the spill, dispose of materials contaminated by the spill, and identify and train personnel responsible for spill prevention and control. The following measures will be appropriate for the plan:

- 1) Store and handle materials to prevent spills.
 - a) Tightly seal containers.
 - b) Make sure all containers are clearly labeled.
 - c) Stack containers neatly and securely.
- 2) Reduce storm water contact if there is a spill.
 - a) Have cleanup procedures clearly posted.
 - b) Have cleanup materials readily available.
 - c) Contain any liquid.
 - d) Stop the source of the spill.
 - e) Cover spill with absorbent materials such as kitty litter or sawdust.
- 3) Dispose of contaminated materials according to manufacturer's instructions or according to state or local requirements.
- 4) Identify personnel responsible for responding to a spill of toxic or hazardous materials.
 - a) Provide personnel spill response training.
 - b) Post names of spill response personnel.
 - c) Keep the spill area well ventilated.
 - d) If necessary, use a private firm that specializes in spill cleanup.
- 5) Spills that exceed Reportable Quantity (RQ) levels must be reported and documented.

10. Temporary Sanitary Waste Disposal

All sanitary waste from workers during construction activities will be confined to temporary facilities. Domestic waste haulers licensed by the State of Rhode Island will be contracted to regularly remove the sanitary waste and to maintain the facilities in good working order.

11. Snow Management Plan

The proper management of snow and snow melt, in terms of snow removal and storage, use of de-icing compounds, and other practices will prevent or minimize the major runoff and pollutant loading impacts. The following practices should be employed to avoid pollution impacts from snow.

- 1) Snow Removal and Storage: Place plowed snow in pervious areas where it can slowly infiltrate. This can be accomplished in the right-of-way grassed region.
- 2) Blow snow from paved areas to grassed or pervious areas.

12. Inspection/Maintenance

Contractor may employ a properly trained individual to inspect the construction site at least once every 7 calendar days and within 24 hours of a storm event of 1-inch or greater (inspector). The Owner or project proponent shall be responsible to secure the services of a design professional or similar professional (inspector) on an on-going basis throughout all phases of the project. Refer to the Inspection/Maintenance Requirements presented earlier in the "Structural and Stabilization Practices." The inspector should look for three primary things when inspecting erosion and sediment controls:

- 1) Whether or not the measure was installed/performed correctly.
- 2) Whether or not there has been damage to the measure since it was installed or performed.
- 3) What should be done to correct any problems with the measure?

The inspector should prepare a report documenting the finding. The inspector should request the required maintenance or repair for the pollution prevention measures when he/she finds that it is necessary for the measure to be effective. If the inspector determines that the SWPPP should be changed to allow for unexpected conditions, the inspector should request the changes via the owner's representative.

Record keeping: The inspector must document all inspections in accordance with the RIDEM permit to be received for this project and the RIDEM Construction Site Stormwater Compliance Handbook (revised July 2011). Inspection records will be used to request maintenance and repair and to document that the inspection and maintenance were performed. SWPPP inspection and maintenance forms have been drafted and are included herein. The forms list each of the measures to be inspected on the site, the inspector's name, the date of the inspection, the condition of the measure/area inspected, maintenance or repair performed and any changes to the SWPPP that the inspector recommends. At a minimum the inspection forms will be provided to the owner's representative every 7 days (within 24-hours of routine inspection). If any repairs are identified during a storm event inspection the inspection form will be provided to the owner's representative on the same day that the inspection is completed.

The owner's representative will submit copies of all SWPPP inspection reports to the Town and RIDEM. Both the owner's representative and the contractor's inspector will maintain a current SWPPP compliance binder that will be available for review for review by regulatory agencies at any time.

CERTIFICATION STATEMENT

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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.”

Print name and title: _____

Signature: _____

Date: _____

Long-Term Pollution Prevention Plan

For this project, the responsible parties for the long term maintenance of the SWPPP will be:

**Deepwater Wind Block Island, LLC &
Deepwater Wind Block Island Transmission, LLC
ATTN: Aileen Kenney
Vice President of Permitting and Environmental Affairs
56 Exchange Terrace, Suite 101
Providence, RI 02903
401-648-0607
akenney@dwwind.com**

The responsible parties should follow the standard inspection and maintenance procedures:

- good housekeeping;
- spill prevention and response;
- proper management of deicing and snow removal, and;
- routine inspections and maintenance of stormwater BMPs.
- vehicle washing;
- storing materials and waste products inside or under cover;
- maintenance of lawns, gardens, and other landscaped areas;
- pet waste management, and;
- storage and use of fertilizers, herbicides, and pesticides.

Long-Term Operation & Maintenance Plan

For this project, the responsible parties for the long term operations & maintenance plan (see separate O&M plan for specifics) will be:

**Deepwater Wind Block Island, LLC &
Deepwater Wind Block Island Transmission, LLC
ATTN: Aileen Kenney
Vice President of Permitting and Environmental Affairs
56 Exchange Terrace, Suite 101
Providence, RI 02903
401-648-0607
akenney@dwwind.com**

The responsible party should follow the standard operations and maintenance procedures:

1. Management of the stormwater system(s)
2. The routine and non-routine maintenance tasks to be undertaken after construction are outlined in the Operations and Maintenance Plan

SWPPP Inspection Report

Project Information			
Name			
Location			
DEM Permit No.			
Site Owner		Phone	Email
Site Operator		Phone	Email
Inspection Information			
Inspector (name & certification)		Phone	Email
Inspection Date		Start/End Time	
Inspection Type <input type="checkbox"/> Weekly <input type="checkbox"/> Pre-storm event <input type="checkbox"/> During storm event <input type="checkbox"/> Post-storm event <input type="checkbox"/> Other			
Weather Information			
Last Rain Event			
Date:	Duration (hrs):	Approximate Rainfall (in):	
Rain Gauge:			
Weather at time of this inspection:			

<p>Certification statement: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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."</p>		
Inspector:		
Print Name:	Signature:	Date:
<p>The Site Operator acknowledges the receipt of this SWPPP inspection report, and understands the requirements set forth in the RIDEM RIPDES Construction General Permit regarding the implementation and maintenance of erosion and sedimentation controls and pollution prevention measures.</p>		
Site Operator:		
Print Name:	Signature:	Date:

Project:

Inspection Date:

Site-specific BMPs

Number the structural and non-structural BMPs identified in the SWPPP on the site map and list them below (add as necessary). Bring a copy of this inspection form and numbered site map with you during your inspections. This list will help ensure that you are inspecting all required BMPs at your site.

	Location/Station	BMP Description	Installed & Operating Properly?	Assoc. Photo/ Figure #	Corrective Action Needed (Yes or No; if 'Yes', please detail action required)
1			<input type="checkbox"/> Yes <input type="checkbox"/> No		
2			<input type="checkbox"/> Yes <input type="checkbox"/> No		
3			<input type="checkbox"/> Yes <input type="checkbox"/> No		
4			<input type="checkbox"/> Yes <input type="checkbox"/> No		
5			<input type="checkbox"/> Yes <input type="checkbox"/> No		
6			<input type="checkbox"/> Yes <input type="checkbox"/> No		
7			<input type="checkbox"/> Yes <input type="checkbox"/> No		
8			<input type="checkbox"/> Yes <input type="checkbox"/> No		
9			<input type="checkbox"/> Yes <input type="checkbox"/> No		
10			<input type="checkbox"/> Yes <input type="checkbox"/> No		
11			<input type="checkbox"/> Yes <input type="checkbox"/> No		
12			<input type="checkbox"/> Yes <input type="checkbox"/> No		
13			<input type="checkbox"/> Yes <input type="checkbox"/> No		
14			<input type="checkbox"/> Yes <input type="checkbox"/> No		
15			<input type="checkbox"/> Yes <input type="checkbox"/> No		

Project:

Inspection Date:

	Location/Station	BMP Description	Installed & Operating Properly?	Assoc. Photo/ Figure #	Corrective Action Needed (Yes or No; if 'Yes', please detail action required)
16			<input type="checkbox"/> Yes <input type="checkbox"/> No		
17			<input type="checkbox"/> Yes <input type="checkbox"/> No		
18			<input type="checkbox"/> Yes <input type="checkbox"/> No		
19			<input type="checkbox"/> Yes <input type="checkbox"/> No		
20			<input type="checkbox"/> Yes <input type="checkbox"/> No		
21			<input type="checkbox"/> Yes <input type="checkbox"/> No		
22			<input type="checkbox"/> Yes <input type="checkbox"/> No		
23			<input type="checkbox"/> Yes <input type="checkbox"/> No		
24			<input type="checkbox"/> Yes <input type="checkbox"/> No		
25			<input type="checkbox"/> Yes <input type="checkbox"/> No		
26			<input type="checkbox"/> Yes <input type="checkbox"/> No		
27			<input type="checkbox"/> Yes <input type="checkbox"/> No		
28			<input type="checkbox"/> Yes <input type="checkbox"/> No		
29			<input type="checkbox"/> Yes <input type="checkbox"/> No		
30			<input type="checkbox"/> Yes <input type="checkbox"/> No		

(add more as necessary)

Project:

Inspection Date:

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Please customize this list as needed for conditions at the site. If item is not applicable, please note why.

	Location/Station		Assoc. Photo/ Figure #	Corrective Action Needed (If 'Yes', please detail action required and include location/station)
1	Have erosion controls been installed to cover all potential erosion hazards on site?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
2	Have sediment controls been installed on all disturbed side slopes and downslopes, including those that may direct runoff to adjacent properties or water bodies?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
3	Are all slopes and disturbed areas not actively being worked properly stabilized?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
4	Are natural resource areas (e.g., streams, wetlands, trees, etc.) protected with barriers or similar BMPs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
5	Is the owner/operator ensuring that sediment ponds or traps are not filled beyond half capacity?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
6	Are perimeter controls and sediment barriers adequately installed and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
7	Are discharge points and receiving waters free of sediment deposits?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
8	Are storm drain inlets properly protected?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
9	Does the site have graveled access entrance and exit drives and parking areas to reduce tracking of sediment from vehicles and if so are these areas in need of maintenance?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
10	Is there evidence of sediment being tracked into the street?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
11	Have provisions been made for wind erosion and dust control?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
12	Is trash/litter from work areas collected and placed in covered dumpsters?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
13	Are washout facilities (e.g. paint, concrete) available, clearly marked, and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
14	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		

Project:

Inspection Date:

	Location/Station		Assoc. Photo/ Figure #	Corrective Action Needed (If 'Yes', please detail action required and include location/station)
15	Are hazardous materials spill kits in place and are there enough materials as prescribed in the SWPPP to adequately prevent spills from entering any storm water drainage systems?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
16	Are materials that are potential stormwater contaminants stored inside or under cover?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
17	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
18	Is there evidence of previous or ongoing discharges?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
19	Are additional BMPs required?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
20	Have material stockpiles been stabilized or isolated?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
21	Is sediment and/or debris visible at drains and discharge locations that should be removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
22	Have soil stabilization practices been implemented in locations where land disturbance activities have permanently ceased and in locations where land disturbance activities have been halted temporarily and are not planned to resume within the next fourteen (14) days?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
23	Are plans and materials in place to ensure that soil erosion and sedimentation controls will be installed to protect post-construction BMPs prior to bringing them online?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
24	Will construction activities be phased properly to avoid compacting soil during construction, particularly in the location of infiltrating stormwater practices and qualifying pervious areas?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
25	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		

(add more as necessary)

Project:
General Field Comments:

Inspection Date:

Project:

Inspection Date:

Photos:

(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.)

Photo #:	Station:
(insert Photo here)	Description:

Photo #:	Station:
(insert Photo here)	Description:

Photo #:	Station:
(insert Photo here)	Description:

Photo #:	Station:
(insert Photo here)	Description:

Photo #:	Station:
(insert Photo here)	Description:

Photo #:	Station:
(insert Photo here)	Description:

Project:

Inspection Date:

(add more as necessary)

