

**Stormwater Pollution Prevention Plan  
For Stormwater Discharges Associated with Construction Activity  
Under the RIPDES Construction General Permit**

**For:**

Rhode Island Recycled Metals, Inc.  
Assessors Plot 47 Lot 601  
434 Allens Avenue  
Providence, RI 02903

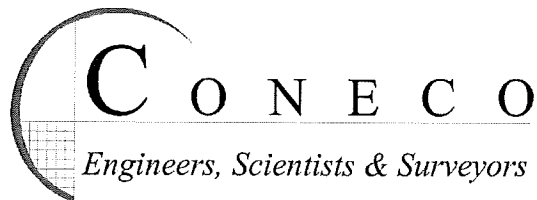
**Owner:**

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**Operator(s):**

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**SWPPP Contact(s):**



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**SWPPP Preparation Date:**

08/31/2011 by Garofalo and Associates, Inc.  
*Resubmitted 08/23/2012 by Coneco Engineers & Scientists, Inc.*  
*Revised 12/28/2012 by Coneco Engineers & Scientists, Inc.*

## DISCLAIMER

The report body contained herein is based on the RI Model SWPPP Template, made available by the State of Rhode Island Department of Environmental Management Office of Water Resources.

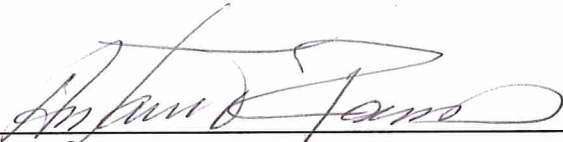
Site-specific data contained herein is based on the Stormwater Pollution Prevention Plan for Rhode Island Recycled Metals, Inc., produced by Garofalo & Associates, Inc., originally dated June 21, 2011 and amended through August 31, 2011. These materials are on file and may be reviewed at:

Rhode Island Department of Environmental Management  
Office of Water Resources  
RIPDES Permitting  
235 Promenade Street  
Providence, RI 02908-5767

## OWNER CERTIFICATION

*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 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.*

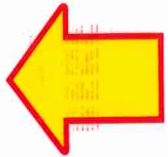
*I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I am aware that it is the responsibility of the owner/operator to implement and amend the SWPPP as appropriate in accordance with the requirements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

  
Owner Signature: \_\_\_\_\_ Date \_\_\_\_\_

Owner Name: Antonio Ramos

Owner Title: Sole Member

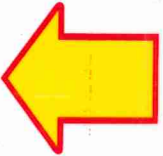
Company Name: ACR Realty, LLC.



# OPERATOR CERTIFICATION

*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 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.*



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Operator Signature:

Date

Operator Representative: Edward Sciaba, Jr.

Title: Applicant/Operator

Company Name: Rhode Island Recycled Metals

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## INTRODUCTION

This Construction Site Stormwater Pollution Prevention Plan (SWPPP) has been prepared for ACR Realty, LLC for the Rhode Island Recycled Metals (RIRM) site improvements project. In accordance with the RIDEM Rhode Island Pollutant Discharge Elimination System (RIPDES) General Permit for Stormwater Discharge Associated with Construction Activity (RIPDES Construction General Permit), projects that disturb one (1) or more acres require the preparation of a SWPPP. This SWPPP provides guidance for complying with the terms and conditions of the RIPDES Construction General Permit, however, this document does not negate or eliminate the need to understand and adhere to all applicable RIPDES regulations.

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

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

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

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

## ADDITIONAL RESOURCES

Rhode Island Department of Environmental Management  
Office of Water Resources  
RIPDES Permitting Program  
235 Promenade Street  
Providence, RI 02908-5767  
phone: 401-222-4700  
email: [waterresources@dem.ri.gov](mailto:waterresources@dem.ri.gov)

RIDEM Office of Water Resources website  
<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:

- Rhode Island Recycled Metals (RIRM)
- The facility located at 434 Allens Avenue (see the General Location Maps in Appendix A) operates as a scrap facility which processes and recycles ferrous and non-ferrous metals. The 5.80-acre parcel, located on the western bank of the Providence River, consists mainly of hard packed gravel areas with several scattered concrete pads, site buildings and trailers for disassembly of equipment to be recycled. There is currently no stormwater management system located on-site. Stormwater runoff is contained on site or flows overland southeasterly, discharging into the Providence River.

Project Street/Location:

- 434 Allens Avenue, Providence RI 02903
- Refer to Appendix A for the General Location Maps

#### **1.2 Nature and Sequence of Construction Activity**

- The proposed site work consists of the construction of a concrete pad, which will be sloped to direct stormwater runoff to a proposed stormwater management system consisting of catch basins and trench drains, routed through pipes to a Stormceptor water quality unit, stored in subsurface detention pipes, treated by a StormwaterRx pressurized roughing sand filter and ultimately discharged to a flared end section with stone protection onto the bank of the Providence River.

Due to equipment delivery schedule constraints, construction will begin at the shredder building area with the drilling and installation of support piles and structure foundation. The shredder building will then be constructed and prepared for arrival of the Ing. Bonfiglioli 'Drake' mill/shredder. Next, the gravity-dependent drainage BMP's and piping will be installed, followed by the StormwaterRx 'Retenu' sand filter unit and armored flared end/plunge pool outlet. The concrete containment pad will be formed and poured, and will be allowed to cure while new weight scales, control building, and vehicle decommission building are being constructed. Extension of the existing railway will be completed, followed by the compacted gravel area resurfacing, the wider front entrance, front landscaping, decorative retaining walls and fence. Following appropriate as-built surveying and inspections by local and state offices, the project will be completed 4 (FOUR) MONTHS from initial construction start-up.

Refer to the construction schedule table below, as well as the Construction Sequencing and Erosion Control Plan within Appendix B, for further details.

Estimated Project Start Date: January 14, 2013  
 Estimated Project Completion Date: May 10, 2013  
 Estimated Number of Months: 4

<b>Construction Milestone</b>	<b>Estimated Start Date</b>	<b>Estimated Completion Date</b>
<u><i>Phase 1, 2, 3 – Shredder Area</i></u>		
<i>Layout</i>	January 14, 2013	January 15, 2013
<i>Construction Entrance Installation</i>	January 14, 2013	January 15, 2013
<i>Clearing/Excavation</i>	January 15, 2013	January 16, 2013
<i>Support Pile Installation</i>	January 17, 2013	January 28, 2013
<i>Form &amp; Pour Foundation</i>	January 29, 2013	January 31, 2013
<i>Construction of Shredder Enclosure</i>	February 1, 2013	February 22, 2013
<i>Delivery, Installation, &amp; Operation of Bonfiglioli Shredder</i>	February 25, 2013	February 28, 2013
<u><i>Phase 4 – Gravity-Fed Drainage Components</i></u>		
<i>Clearing</i>	February 1, 2013	February 1, 2013
<i>Layout</i>	February 1, 2013	February 4, 2013
<i>Demolition/Excavation</i>	February 5, 2013	February 8, 2013
<i>Catch Basins/Drain Pipe Installation</i>	February 7, 2013	February 13, 2013
<i>Backfill and Repair of Cap (if Necessary)</i>	February 14, 2013	February 19, 2013
<u><i>Phase 5 – Pumped Drainage Components and Outlet</i></u>		
<i>Clearing</i>	February 19, 2013	February 19, 2013
<i>Layout</i>	February 20, 2013	February 21, 2013
<i>Form and Pour Pad for Unit</i>	February 22, 2013	February 25, 2013
<i>Installation and Calibration of Retenu Unit and Piping</i>	February 28, 2013	March 4, 2013

<b>Construction Milestone</b>	<b>Estimated Start Date</b>	<b>Estimated Completion Date</b>
<i>Installation of Flared End Section and Armored Plunge Pool</i>	March 4, 2013	March 5, 2013
<u><i>Phase 6 – Concrete Containment Pad</i></u>		
<i>Clearing</i>	March 6, 2013	March 7, 2013
<i>Perimeter Layout</i>	March 7, 2013	March 8, 2013
<i>Grading and Excavation</i>	March 8, 2013	March 12, 2013
<i>Form &amp; Pour Concrete Pad</i>	March 13, 2013	March 15, 2013
<i>Casting Adjust</i>	March 18, 2013	March 18, 2013
<u><i>Phase 7 – Weight Scales and Control House</i></u>		
<i>Layout</i>	March 18, 2013	March 18, 2013
<i>Regrading and Excavation</i>	March 19, 2013	March 21, 2013
<i>Installation of Weight Scales and Wiring</i>	March 22, 2013	March 28, 2013
<i>Control House Construction and Wiring</i>	March 29, 2013	April 2, 2013
<i>Form and Pour Concrete Pad for Vehicle Decommission Building</i>	April 2, 2013	April 3, 2013
<i>Decommission Building Construction and Wiring</i>	April 4, 2013	April 8, 2013
<u><i>Phase 8 – Railway Extension</i></u>		
<i>Layout</i>	April 8, 2013	April 8, 2013
<i>Surface Preparation and Fine Grading</i>	April 9, 2013	April 12, 2013
<i>Laying Rail and Ties</i>	April 15, 2013	April 18, 2013
<u><i>Phase 9 – Front Area Improvements</i></u>		
<i>Clearing Existing Fence and Frontage Area</i>	April 17, 2013	April 18, 2013
<i>Layout</i>	April 19, 2013	April 19, 2013
<i>Demolition/Excavation/Grading at Existing Entrance</i>	April 22, 2013	April 23, 2013

<b>Construction Milestone</b>	<b>Estimated Start Date</b>	<b>Estimated Completion Date</b>
<i>Replace Top 4" of Compacted Gravel with Compacted Asphalt Tailings</i>	April 23, 2013	April 25, 2013
<i>Lay New Pavement/Reset Curb</i>	April 26, 2013	April 30, 2013
<i>Install Retaining Wall and Permanent Fence</i>	May 1, 2013	May 6, 2013
<i>Install Landscaping and Signage</i>	May 6, 2013	May 7, 2013
<u>General</u>		
<i>Cleanup</i>	May 7, 2013	May 8, 2013
<i>Remove Haybales</i>	May 8, 2013	May 8, 2013
<i>Loam &amp; Seed</i>	May 9, 2013	May 9, 2013
<i>Demobilization</i>	May 10, 2013	May 10, 2013

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

#### **Soil type(s):**

- The majority of the property's upland soil area is listed as Udorthents – Urban Land Complex. Along the southeastern border on the bank of the Providence River is a strip of Matunuck Mucky Peat. Neither of these soils have a listed erodibility hazard as listed in the Natural Resources Conservation Service Rhode Island Soil Survey Program (IV.E.1.e).

#### **Slopes:**

- Existing: The existing grade of the site slopes southeasterly from Allens Avenue toward the Providence River at grades of 2% or less.
- Proposed: The grading of the majority of the site will remain the same as the existing conditions. The proposed concrete slab will be graded to direct stormwater runoff towards the proposed catch basins and trench drain, at slopes of 2% or less.

#### **Vegetation/Impervious Area:**

- Existing: The majority of the site is packed gravel and unvegetated. Very sparse brush exists on the banks of the river, outside the facility's area of activity. Several small areas of cracked pavement and concrete currently exist around the site.
- Proposed: Approximately 116,000 square feet of the existing packed gravel area will be replaced with the proposed 8-inch thick concrete pad. The compacted gravel entrance area will remain, as well as the existing buildings and concrete pad along the south property line. The small area between the edge of the proposed concrete pad and the haybale erosion control line shall be replaced with loam and seed. Landscaping shall also be added to the front of the site along Allens Avenue.

### **Drainage Patterns:**

- Existing: Since there is no existing stormwater management system, runoff generally flows overland easterly and southeasterly from Allens Avenue into the Providence River. Much of the stormwater runoff from the gravel areas is infiltrated.
- Proposed: Runoff on the proposed concrete pad will be directed to the proposed catch basins and trench drain where it will be routed through the proposed stormwater management system before discharging on the southeasterly bank of the site into the Providence River. The area toward the front of the site that is to remain gravel will partially flow onto the pad and into the drainage system, and partially infiltrate as in the existing condition.

### **1.4 Construction Site Estimates**

The following are estimates of the construction site:

Total Project Area	5.80 acres (land) 5.65 acres (water)
Construction Site Area to be disturbed	2.67 acres
Percentage impervious area before construction	16.7 %
Runoff coefficient before construction	81
Percentage impervious area after construction	61.9 %
Runoff coefficient after construction	95

### **1.5 Receiving Waters**

List/description of receiving waters:

- All rainfall leaving the site will enter the Providence River which discharges to the Narragansett Bay.

List/description of separate storm sewer systems:

- No runoff from the site enters any separate storm sewer or drainage systems in the area.

List/description of 303(d)/TMDL waters and applicable TMDL requirements:

- Site runoff discharges to the Providence River (RI0007020E-01B), an impaired water as listed in the State of Rhode Island 2010 303(d) List of Impaired Waters. Identified impairments are total nitrogen, dissolved oxygen, and fecal coliform.

### **1.6 Allowable Non-Stormwater Discharges**

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

expected to be present and to be mixed with stormwater discharges, they must be specifically listed here. (IV.E.1.g)

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

Yes       No

*If yes, list the sources of allowable non-Stormwater discharge (be sure to include all dewatering activity discharges). If applicable, control measures must be documented in Section 2.12 &/or Section 3.4.*

List of allowable non-stormwater discharges:

- The use of water to control dust
- Dewatering associated with construction activity
- Lawn watering

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**

Are there known discharges from the project area?

Yes       No

Describe how this determination was made:

- Review of RI DEM Environmental Resource Map RIPDES Discharge Outfalls data layer as well as a site visit to verify that there are no outfalls/ discharges.

If yes, list discharges and locations:

- N/A

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

Yes       No

If yes, provide data:

- N/A

### **1.8 Natural Heritage Area Information**

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.

- The site is not within and doesn't directly discharge to a Natural Heritage Area as shown on the RIDEM NHA maps.

### **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 state or tribal review comments:

- There are no historic properties, cemeteries or cultural resources on or near the site as shown on the RIDEM Environmental Resource Map.

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 must be implemented to protect them:

- All proposed work to the site will occur in previously disturbed areas. A haybale erosion control barrier shall be installed at the limits of work to protect undisturbed and sensitive areas.

**1.11 Potential Sources of Pollution**

<b>Check All Those That Apply</b>	<b>Operation/ Location</b>	<b>Stormwater Pollutants</b>
<input checked="" type="checkbox"/>	Clearing, grading, excavating, and unstabilized areas	Sediment; Trash/Debris
<input checked="" type="checkbox"/>	Construction Entrance	Sediment
<input checked="" type="checkbox"/>	Soil Stockpiles	Sediment
<input type="checkbox"/>	Paving operations	Sediment; Trash/Debris
<input checked="" type="checkbox"/>	Concrete washout and waste	Heavy metals; pH; Trash/Debris
<input checked="" type="checkbox"/>	Structure construction/ painting/ cleaning	Nutrients; pH; Trash/Debris; Toxic chemicals
<input checked="" type="checkbox"/>	Demolition and debris disposal	Sediment; Trash/Debris
<input checked="" type="checkbox"/>	Dewatering operations	Sediment; Nutrients
<input checked="" type="checkbox"/>	Drilling and blasting operations	Sediment; pH; Trash/Debris
<input checked="" type="checkbox"/>	Material delivery and storage	Sediment; Nutrients; Heavy metals; pH; Pesticides/Herbicides; Oil/Grease; Trash/Debris; Toxic chemicals
<input checked="" type="checkbox"/>	Material use during building process	Nutrients; heavy metals; pH; pesticides/herbicides; oil/grease; trash/debris; toxic chemicals
<input checked="" type="checkbox"/>	Solid waste/ trash/ debris	trash/debris; toxic chemicals
<input type="checkbox"/>	Hazardous waste	heavy metals; pH; pesticides/herbicides; oil/grease; toxic chemicals
<input checked="" type="checkbox"/>	Contaminated spills	Nutrients; heavy metals; pH; pesticides/herbicides; oil/grease; toxic chemicals
<input type="checkbox"/>	Sanitary/septic waste	Nutrients; pH; Bacteria/Viruses; toxic chemicals
<input type="checkbox"/>	Vehicle/equipment fueling and maintenance	Oil/Grease; Toxic chemicals
<input checked="" type="checkbox"/>	Vehicle/equipment use and storage	Oil/Grease; Toxic chemicals
<input checked="" type="checkbox"/>	Landscaping operations	Sediment; Nutrients; Trash/Debris
<input type="checkbox"/>	Other:	
<input type="checkbox"/>	Other:	



### 1.12 SWPPP Site Maps

Two General Location Maps may be found in Appendix A. The first is a wide-view Locus map of the site and surrounding Providence Harbor area. This map is at a scale of 1 inch:2,000 feet, with the site itself highlighted in red at the center. The second is an aerial photograph recently taken of the site, set at a scale of 1 inch:150 feet. The site boundary is again highlighted in red.

Appendix B contains the 8-sheet Construction Period SWPPP Site Plans. This plan set was based off of the previously-submitted Materials Layout Plan by Garofalo and Associates, Inc. of Providence, R.I., dated February 2, 2012. The predominant amendment to these original plans is the redesign of the proposed stormwater treatment system. The level of detail was also raised, and the revised plans now contain a dedicated existing condition, proposed site layout, proposed grading and drainage, construction sequencing and erosion control, and multiple construction detail sheets.

#### The appended SWPPP Site Maps contain the following elements:

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

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

## SECTION 2: EROSION & 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 sediment from leaving the construction site and entering environmentally sensitive 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.

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

Include any applicable references to design specifications and any applicable maintenance requirements.

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

#### **2.1 Minimize Disturbed Area and Protect Natural Features and Soil**

As far as is practicable, existing vegetation shall be protected and left in place, in accordance with the extent of work shown on the approved Plans. Prior to any land disturbance activities commencing on the site, the Contractor shall physically mark limits of disturbance (LOD) on the site and any areas to be protected within the site, so that workers can clearly identify 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. Construction sequencing and timing of construction activities will include:

1. Installation of all erosion and sediment controls that are required to be in place and functional before any earthwork begins. This shall be done in accordance with the Rhode Island Soil Erosion and Sediment Control Handbook (as amended) or the RI Department of Transportation Standard Specifications for Road and Bridge Construction (as amended). Upon acceptable completion of site preparation and installation of erosion and sediment controls, site construction activities may commence. Routine inspection and maintenance

and/or modification of erosion and sediment controls while earthwork is being done are required.

2. Upon commencement of site construction activities, the operator shall initiate appropriate stabilization practices on all disturbed areas as soon as possible but not more than fourteen (14) days after the construction activity in that area has temporarily or permanently ceased, unless the activity is to resume within twenty one (21) days.
3. Final stabilization of any disturbed areas after earthwork has been completed.

### **2.3 Phased Clearing/Grubbing**

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

No undisturbed areas shall be cleared of existing vegetation after October 15th of any calendar year or during any period of full or limited winter shutdown. All disturbed soils exposed prior to October 15 of any calendar year shall be seeded or protected by that date. Any such areas that do not have adequate vegetative stabilization, as determined by the site operator or designated 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.

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

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

### **2.4 Monitoring Weather Conditions**

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

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

The weather gauge station and website that will be utilized to monitor weather conditions on the construction site is as follows:

- College Hill, Providence

### **2.5 Initiating Stabilization Practices**

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

### **2.6 Control Stormwater Flowing Onto and Through the Project**

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

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

### **2.7 Stabilize Soils**

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

- All disturbed areas not being replaced with crushed stone or concrete shall be loamed and seeded.

### **2.8 Protect Slopes**

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

If the slope stabilization BMPs fail and erosion occurs, then alternative control measures may be used, upon approval of the site owner, which may include compost filter socks, fiber rolls, gravel bag berms, erosion control mats/blankets, and temporary vegetative cover.

### **2.9 Protect Storm Drain Inlets**

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

Possible control measures that may be used include compost filter socks, fiber rolls, gravel bag berms, or catch basin inserts. (Please note: **Haybale/Silt Fence protection measures DO NOT work on paved roadways**)

- Siltsack catch basin inserts shall be used to protect storm drain inlets and remain in-place and maintained until construction is complete and site is stabilized. Refer to plans for details.

### **2.10 Protect Storm Drain Outfalls**

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

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

Possible temporary control measures that may be used include hay bale & silt fence protection, compost filter socks or fiber rolls.

- The proposed flared end section shall have riprap stone protection to capture any sediment and debris from flowing into the Providence River.

### **2.11 Establish Perimeter Controls and Sediment Barriers**

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

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

- Perimeter controls consisting of haybales are to be utilized for the project. Refer to plan set for location.

### **2.12 Retain Sediment On-Site and Control Dewatering Practices**

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

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

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

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

**2.13 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/ Reference	Maintenance Requirement	Phase Installed
Perimeter	<b>Straw/Hay Bales.</b> Chapter Five, Section F, RI Soil Erosion and Sediment Control Handbook.	Inspection should be made after each storm event and repair or replacement should be made promptly as needed.  Cleanout of accumulated sediment behind the bales is necessary if 1/2 of the original height of the bales becomes filled in with sediment.	Existing, VI, VIII, IX
Catch Basin and Trench Drain Inlets	<b>Haybale/Siltsacks</b>	Inspection should be made after each storm event for rips/tears and replacement should be made promptly as needed.  Cleanout of accumulated sediment in siltsack is necessary if sediment depth exceeds 6".	Phase IV

## **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.

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

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

#### **3.1 Off-site Tracking of Sediments**

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

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

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

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

- Construction exit is located at the site entrance to capture sediment from being tracked off-site. See plan set for detail of construction exit.

#### **3.2 Waste Disposal**

Building materials and other construction site wastes must be properly managed and disposed of to prevent the discharge of solid materials from wind and precipitation. All types of waste generated at the site shall be disposed of in a manner consistent with State Law and/or regulations. IV.E.2.c.ii

- A waste collection area shall be designated on the site that does not receive a substantial amount of runoff from upland areas and does not drain directly to a water body or storm drain.
- All waste containers shall be covered to avoid contact with wind and precipitation.
- Waste collection shall be scheduled frequently enough to prevent containers from overflowing.

- All construction site wastes shall be collected, removed, and disposed of in accordance with applicable regulatory requirements and only at authorized disposal sites.
- Equipment and containers shall be checked for leaks, corrosion, support or foundation failure, or other signs of deterioration. Those that are found to be defective shall be immediately repaired or replaced.

### **3.3 Spill Prevention and Control Plan**

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

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

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

- Refer to the Standard Operating Procedure: Oil & Hazardous Material Spill Response, located on site and on file with RI DEM for a complete description of spill response practices.

### **3.4 Control of Allowable Non-Stormwater Discharges**

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

*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.*

- Water to be used as dust control shall be completely captured on-site within the temporary haybale/silt fence perimeter during construction. Post-construction water for dust control shall drain to the proposed stormwater treatment train.
- Dewatering efforts during construction shall discharge back onsite into approved temporary dewatering basins.
- The watering of lawn areas shall take place within the site haybale/silt fence perimeter to minimize any off-site runoff.

### **3.5 Establish Proper Building Material Staging Areas**

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



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

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

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

### **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, shall be designated on the Approved Plans, or approved of by the site owner. Any concrete washout area shall not be within regulated wetlands or buffer zone areas, or within 50-feet of the storm drain system.

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

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

- Temporary concrete washout areas shall be located in upland areas on-site within the site perimeter haybale/silt fence line at all times. Washout areas shall be constructed of staked haybales and filter fabric, and approved by a designated Site Inspector.

### **3.7 Establish Proper Equipment/Vehicle Fueling and Maintenance Practices**

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

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

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

- Construction equipment/vehicle washing will take place off-site at a nearby vehicle washing facility.

**3.8 Dust Control**

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

Other techniques for controlling dust may be utilized upon approval by the site owner. Other Dust Control methods include 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) shall be done as necessary, or as directed by the site owner. When construction exits are not keeping construction site sediment from the roadway, sweeping shall be done on a daily basis. Disposal of collected sweeping material shall be done in a manner consistent with State Law and/or regulations.

**3.10 Additional BMPs**

**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/Reference	Maintenance Requirement	Phase
Construction Site Entrance/Exit	<b>Stone Stabilization Pad. Chapter Five, Section D – Construction Entrances, RI Soil Erosion and Sediment Control Handbook.</b>	The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public right-of-ways. This will require periodic top dressing with additional stone or additional length as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public right-of-ways must be removed immediately.	Phase I
Adjacent Roads	Public roads adjacent to a construction site shall be clean at the end of each day	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: PROTECTION OF POST-CONSTRUCTION BMPs**

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

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

### **4.1 Post-Construction BMPs**

- Refer to the Stormwater Pollution Prevention Plan for Stormwater Discharges Associated with Industrial Activity under the RIPDES Multi-Sector General Permit for the proposed project, dated December 28, 2012 located on site and on file with RI DEM for a complete outline of post-construction measures and BMP's to ensure the protection of the surrounding waterways from contaminated stormwater runoff and pollution.

## **SECTION 5: MAINTENANCE and INSPECTIONS**

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

#### **5.1 Maintenance**

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

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

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

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

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

**Note: It is recommended that the site operator designates a full-time, on-site contact person responsible for working with the site owner to resolve SWPPP-related issues.**

## **5.2 Inspections**

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

#### ***Minimum Monitoring and Reporting Requirements***

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

#### ***General Notes***

- A separate inspection report will be prepared for each inspection.
- The Inspection Reference Number shall be a combination of the RIPDES Construction General Permit No - consecutively numbered inspections.  
ex/ Inspection reference number for the 4<sup>th</sup> inspection of a project would be:  
RIR100###-4
- Each report will be signed and dated by the Inspector and must be kept onsite as required by Part II.D of the RIPDES Construction General Permit.
- Each report will be signed and dated by the Site Operator and returned to the Inspector within 24 hours of receipt.
- It is the responsibility of the site operator to maintain a copy of the SWPPP, copies of all completed inspection reports, and amendments as part of the SWPPP documentation at the site during construction.

## **5.3 Corrective Actions**

### **RIPDES Construction General Permit – Section II.C**

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

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

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

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

## SECTION 6: Amendments

### RIPDES Construction General Permit – Section IV.D

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

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

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

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

Attach a copy of the Amendment log

- Please see Appendix G – Construction SWPPP Amendment Log

## SECTION 7: Recordkeeping

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

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

- A copy of the fully signed and dated SWPPP, which includes:
  - A copy of the General Location Maps  
INCLUDED AS APPENDIX A
  - A copy of all Construction SWPPP Site Maps  
INCLUDED AS APPENDIX B
  - A copy of the RIPDES Construction General Permit  
INCLUDED AS APPENDIX C
  - A copy of the signed and certified Construction NOI form  
INCLUDED AS APPENDIX D
  - A copy of any regulatory permits (RIDEM Freshwater Wetlands Permit, CRMC, RIDEM Water Quality, etc.)  
INCLUDED AS APPENDIX E
  - Completed Inspection Reports w/Completed Corrective Action Logs  
INCLUDED AS APPENDIX F
  - Construction SWPPP Amendment Log  
INCLUDED AS APPENDIX G

## SECTION 8: Party Certifications

### RIPDES Construction General Permit – Section V.G

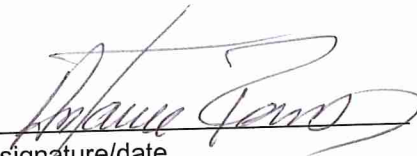
All parties working at the project site are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that is performed on-site. The site owner, site operator, contractors and sub-contractors are encouraged to advise all employees working on this project of the requirements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

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

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

Site Owner:

ACR Realty LLC  
Antonio Ramos, Sole Member  
15 Branch Pike  
Smithfield, RI 02917  
(401) 232-2040

  
signature/date



Site Operator:

Rhode Island Recycled Metals (RIRM)  
Edward Sciaba, Jr.  
P.O. Box 73265  
Providence, RI 02903  
(617) 293-8700, e.sciaba@rirecoveredmetals.com

\_\_\_\_\_  
signature/date



Designated Site Inspector:


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

*All inspector information to be determined at a later date*

\_\_\_\_\_  
signature/date

Subcontractor SWPPP Contact:

Coneco Engineers & Scientists  
Shane M. Oates, Senior Project Manager  
4 First Street  
Bridgewater, MA 02324  
(508) 697-3191, soates@coneco.com

  
signature/date

## **APPENDICES**

### **Appendix A – General Location Maps**

- Site Locus Map
- Site Aerial Photo

### **Appendix B – Construction SWPPP Site Plans**

### **Appendix C – RIPDES Construction General Permit**

### **Appendix D – Copy of RIPDES Notice of Intent**

### **Appendix E – Copy of Regulatory Permits**

- OWR Water Quality Certification
- CRMC Application for State Assent
- OAR Application to Install Air Pollution Control Equipment

### **Appendix F – Inspection Reports and Corrective Action Log**

### **Appendix G – SWPPP Amendment Log**

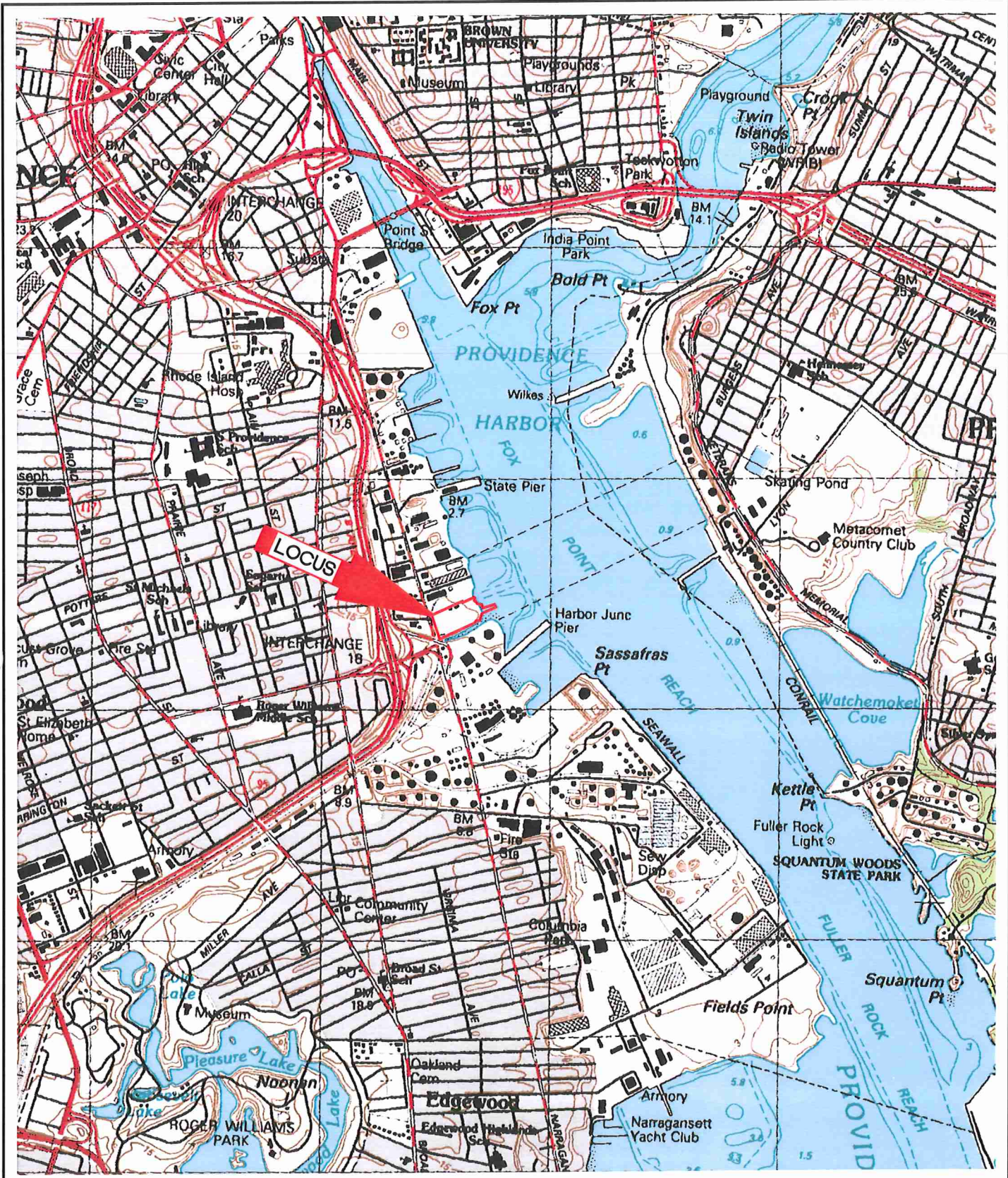
### **Appendix H – Facility Standard Operating Procedures**

- Oil & Hazardous Materials Spill Response
- Previously Submitted Soil Management Plan


## **APPENDIX A GENERAL LOCATION MAPS**

- Site Locus Map
- Site Aerial Photo





GENERAL LOCATION MAPS

 <p><b>CONECO</b> Engineers, Scientists &amp; Surveyors 4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS 02324 PHONE 508-697-3181 • 800-549-3355 • FAX 508-697-5996 EMAIL: Admin@coneco.com • WEB SITE: http://www.coneco.com</p>	PREPARED FOR: <b>RHODE ISLAND          RECYCLED METALS, INC.</b>		PLAN SET: <b>CONSTRUCTION SWPPP</b>	
	SCALE <b>1"=2000'</b>	DATE <b>12/28/2012</b>	PROJECT NO. <b>7400.0</b>	TITLE: <b>RIRM SITE          LOCUS</b>





GENERAL LOCATION MAPS

PREPARED FOR:		RHODE ISLAND RECYCLED METALS, INC.		PLAN SET:		CONSTRUCTION SWPPP	
SCALE	DATE	PROJECT NO.	TITLE:				
1"=150'	12/28/2012	7400.0	RIRM SITE AERIAL (2011)				


**C O N E C O**  
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**APPENDIX B**  
**CONSTRUCTION SWPPP SITE PLANS**

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5. During site work, the appropriate precautions will be taken to restrict unauthorized access to the property.
6. During all site/earth work, dust suppression (i.e. watering, etc) techniques must be employed at all times. If it is anticipated due to the nature of the contaminants of concern that odors may be generated during site activities, air monitoring and means to control odors will be utilized, as appropriate (i.e. odor-suppressing foam, etc).
7. In the event that an unexpected observation or situation arises during site work, such activities will immediately stop. Workers will not attempt to handle the situation themselves but will contact the appropriate authority for further direction.
8. In the event that certain soils on site were not previously characterized, these soils are presumed to be regulated until such time that it is demonstrated to the Department, through sampling and laboratory analysis that they are not regulated. (For example, presumptive remedies or locations of previously inaccessible soil.)
9. The excess soil generated/excavated from the property will remain on-site for analytical testing, to be performed by an environmental professional, in order to determine the appropriate disposal and/or management options. The soil will be placed on and covered with polyethylene/plastic sheeting during the entire duration of its staging and secured with appropriate controls to limit the loss of the cover and protect against storm-water and / or wind erosion (i.e. hay bales, silt fencing, rocks, etc).
10. Excavated soils will be staged and temporarily stored in a designated area of the property. Within reason, the storage location will be selected to limit the unauthorized access to the materials (i.e., away from public roadways/walkways).
11. In the event that stockpiled soils pose a risk or threat of leaching hazardous materials, a proper leak-proof container (i.e. drum or lined roll-off) or secondary containment will be utilized.
12. Soils excavated from the site will not be re-used as fill on residential property. Temporarily excavated fill material will be backfilled or redeposited on-site following completion of earthwork activities.
13. Although it is not anticipated at this time, site soils that are to be disposed of off-site will be done so at a licensed facility in accordance with all local, state, and federal laws. Copies of the material shipping records associated with the disposal of the material will be maintained by the site owner and included in the annual inspection report for the site.
14. Best soil management practices will be employed at all times and regulated soils will be segregated into separate piles (or cells or containers) as appropriate based upon the results of any necessary analytical testing for reuse on-site.

15. All non-disposable equipment used during the soil disturbance activities will be properly decontaminated as appropriate prior to removal from the site. All disposable equipment used during the soil disturbance activities will be properly containerized and disposed of following completion of the work. All vehicles utilized during the work shall be properly decontaminated as appropriate prior to leaving the site.
16. At the completion of site work, all exposed soils will be recapped with Department approved engineered controls (2 ft of clean fill or 1 foot of clean fill underlain with a geotextile liner) consistent or better than the site surface conditions prior to the work that took place. These measures will be consistent with the Department approved ELLUR recorded on the land records. The clean fill material brought on site will meet the Department's Method I Residential Direct Exposure Criteria or be designated by an Environmental Professional as Non-Jurisdictional under the Remediation Regulations. The Annual Inspection Report for the site, or Closure Report if applicable, will either include analytical sampling results from the fill demonstrating compliance or alternatively include written certification by an Environmental Professional that the fill is not jurisdictional.

#### Groundwater Management

In accordance with the ELLUR, groundwater under the property will not be used for potable purposes. The temporary excavation necessary to install the bulkhead tie-back system is estimated to reach an approximate depth of 5' below grade and should not affect groundwater. However, any unanticipated pumping of groundwater, which may be necessary for de-watering, will be discharged into sediment traps consisting of a minimum of stacked hay bale rings enclosing crushed stone or trap rock of a size sufficient to disperse inflow velocity. Hay bales enclosing these traps will be recessed 4 to 6 inches into the soil and maintained.

#### Worker Health and Safety

To ensure the health and safety of on-site workers, persons involved in the excavation and handling of the material on site will wear a minimum of Level D personal protection equipment, including gloves, work boots and eye protection. Workers will also be required to wash their hands with soap and water prior to eating, drinking, smoking, or leaving the site.

# STORMWATER MANAGEMENT PLAN

## STORMWATER MANAGEMENT PLAN

434/444 Allens Avenue (Plat 47, Lot 601; Plat 55, Lot 10), Providence, RI

This Stormwater Management Plan has been prepared to establish procedures that will be followed during the bulkhead installation and dredging activities at 434 & 444 Allens Avenue in Providence, Rhode Island. These proposed projects require the need to manage stormwater runoff from the project site. In order to determine Best Management Practices (BMPs) for the project, Coastline Consulting & Development, LLC reviewed the Rhode Island Stormwater Design and Installation Standards Manual. According to Section 300.6.A.8 this project qualifies as a small project. As such, Section 300.6.B.4 states that the project must meet the standards contained in Section 300.6.E.3.

### 300.6.H.5 Best Management Practices

Following a review of the Stormwater Design and Installation Standards Manual, it was determined that the most appropriate BMP to mitigate stormwater runoff would be the use of an infiltration type trench along the landward face of the proposed bulkhead. In order to determine the appropriate trench size, the following calculation was applied, as per the manual:

$$\text{Trench Size} = \text{Water Quality Volume} \times (1/\text{void space fraction})$$

To determine the Water Quality Volume, one must multiply the area of impervious surface by 1 inch. Therefore it was first necessary to determine the anticipated area of impervious surface. The total impervious surface of the property is anticipated to be approximately 58,085 square feet. As such, the Water Quality Volume for the site is anticipated to be 58,085 square feet  $\times$  (1 foot / 12 inches) = 4,840 cubic feet.

The void space was determined to be 30 percent, as per the manual. Therefore, the final calculation is as follows:

$$\text{Trench Size} = 4,840 \text{ cubic feet} \times (1/0.30) = 16,133 \text{ cubic feet}$$

The trench has been designed to measure approximately 10 feet deep, 5 feet wide and 355 feet in linear length, resulting in 17,750 cubic feet of trenching. As such, the proposed trench will be sufficient to properly mitigate the stormwater at the site.

### 300.6.H.7.i Coastal Wetlands

The proposed bulkhead has been specifically designed as to avoid impacts to coastal wetlands. Stormwater on the property as a whole will continue to runoff as sheetflow towards the boundaries of the property over existing topography or naturally infiltrate into existing soils. Any stormwater in the area of the proposed activities will either naturally infiltrate into existing soils or collect in the infiltration trench on the landward side of the bulkhead. The proposed trench will properly treat any stormwater runoff, therefore avoiding impacts to the nearby wetlands. No additional runoff is anticipated and the proposed infiltration trench will mitigate the stormwater runoff equal to or better than the current site conditions. Therefore, the project is not anticipated to have any negative impacts to coastal wetlands.

#### 300.6.B.7.ii Changes In Salinity

The proposed bulkhead will not incorporate any measures which will increase or decrease the salinity of the filtered stormwater. As such, the project is not anticipated to change the salinity of the receiving waters.

#### 300.6.B.7.iii Thermal Impacts

The proposed bulkhead will not incorporate any measures which will increase or decrease the temperature of the filtered stormwater. As such, the project is not anticipated to cause any thermal impacts the receiving waters.

#### 300.6.B.7.iv Effects on Low Dissolved Oxygen Concentrations

The project location is currently stabilized with riprap stones. The constant crash of the waters along the riprap shore causes extensive surface turbidity. The surface turbidity serves to oxygenate the water. As such, there is no evidence that the project location has significantly low dissolved oxygen, and therefore the project will not cause adverse impacts.

#### 300.6.B.8.1 Erosion and Sediment Loss

The project is located within Type VI waters which do not provide important water quality benefits. The surrounding shoreline is extensively stabilized with either bulkheads or riprap, and is therefore not particularly susceptible to erosion or sediment loss.

#### 300.6.B.8.2 Impervious Surface Areas

The proposed project will consist of the removal of impervious surface areas in the form of riprap stones. As such, the project will have a net decrease in impervious areas.

#### 300.6.B.8.3 Land Disturbance Activities

The project has been minimized to the greatest extent possible. Concurrent with the Standards set forth in the Coastal Management Resource Program, the project consists of minimal soil disturbance in order to accomplish the project goal. Finally, there will be no filling of tidal waters as part of this proposed project.

#### 300.6.B.8.4 Natural Drainage Features and Vegetation

The project location is currently stabilized with riprap stones and has little vegetation in the area. As a result, the natural drainage features will not be significantly impacted.

#### 300.6.C.3.a TSS Loadings

In order to determine a Best Management Practice (BMP) for the project, Coastline Consulting & Development, LLC reviewed the Rhode Island Stormwater Design and Installation Standards Manual. The project has been designed to meet all applicable Standards set forth in the Manual. According to the Rhode Island Stormwater Design and Installation Standards Manual, the infiltration trench should reduce TSS by 90%.